

وزارة التعليم العالي والبحث العلمي
MINISTERE DE L'ENSEIGNEMENT SUPERIEUR ET DE LA RECHERCHE SCIENTIFIQUE
ⵎⵏⵉⵎⵉⵔ ⵏ ⵉⵏⵙⵉⵎⵉⵏⵜ ⵏ ⵉⵏⵙⵉⵎⵉⵏⵜ ⵏ ⵉⵏⵙⵉⵎⵉⵏⵜ
ⵍⵓⵎⵓⵔ ⵏ ⵎⵓⵎⵎⵉⵔ ⵏ ⵜⵉⵣⵓⵣⵓ
ⵍⵓⵎⵓⵔ ⵏ ⵎⵓⵎⵎⵉⵔ ⵏ ⵜⵉⵣⵓⵣⵓ
ⵍⵓⵎⵓⵔ ⵏ ⵎⵓⵎⵎⵉⵔ ⵏ ⵜⵉⵣⵓⵣⵓ

UNIVERSITE MOULOUD MAMMERI DE TIZI-OUZOU
FACULTE DES LETTRES ET DES LANGUES
DEPARTEMENT D'ANGLAIS



جامعة مولود معمري - تيزي وزو
كلية الآداب واللغات

**Thesis Submitted in Candidacy for the Degree of
Doctorate in English**

Option: Didactics

Title

**Algerian EFL Students' Reading Practices in the
Digital Era:
A Sociocultural Approach**

Presented by

Ms. Kamila AMMOUR

Board of Examiners

Mr. Hamid AMZIANE; Professor; Mouloud Mammeri University of Tizi-Ouzou; Chair
Mr. Mohamed Sadek FODIL; Professor, Mouloud Mammeri University of Tizi-Ouzou; Supervisor
Ms Naima HAMLAOUI; Professor, Badji Mokhtar University of Annaba; Examiner
Ms. Nacéra HOCINE, Professor; Badji Mokhtar University of Annaba; Examiner
Ms. Fatma Zahra NEDJAI, Professor; École Supérieure des Beaux-Arts d'Alger; Examiner
Ms. Souryana YASSINE; Doctor; Mouloud Mammeri University of Tizi-Ouzou; Examiner

Discussed on: 7th March 2020

To all those who light up my life and make my smile brighter...

Acknowledgments

I owe a special debt of gratitude to my supervisor Prof. Mohamed Sadek FODIL for his constructive suggestions and insightful comments on various drafts of the thesis. I am also incredibly thankful to my friends and colleagues for their encouragement and moral support as I struggled to produce this work.

My heartfelt appreciation goes to my life-long English language teacher Mr. Hamid HAMI for having read some parts of the final script of the thesis.

A word of thanks goes to the panel of examiners who have accepted to read and examine my work.

I would also like to express my deepest gratitude to all the Algerian EFL Students who kindly accepted to participate in the empirical study. Last but not least, I gratefully thank those who have given permission to reproduce adaptations of copyright material.

Abstract

Algerian EFL students live in an increasingly digital era leading to changes in their reading habits. The purpose of the present thesis is to explore and compare the Algerian EFL students' reading practices in digital and print-based environments in terms of gender differences, geographical location, and mother tongue. Accordingly, the leading approach to the raised issues is sociocultural wherein reading is perceived as a social practice. Inspired by the sociocultural approach, a model of EFL reading proficiency is suggested. It is defined as a triadic entity encompassing reading attitudes, reading strategies, and formal schematic knowledge. These three elements relate to the three dependent variables of the study. To attain the objective of the research, the mixed-methods approach was adopted, qualitative and quantitative data collection and data analysis procedures being combined to yield the validity and reliability of the results. The population targeted was composed of students in two Algerian universities: Mouloud Mammeri University of Tizi-ouzou and Ali Lounici University of Blida. Starting from the assumption that they are heavy-readers, 733 Master students were selected as participants in the different phases of the empirical study. In order to account for the participants' practices including their strategies and attitudes towards print and digital reading, a questionnaire was used. In addition, two reading comprehension experimental tests were designed to compare the participants' reading abilities on paper and on screen. They were selected from Cambridge English Language Teaching for advanced learners. In order to get better insights about the participants' reading strategy-use, a reading survey was designed: SODPRS. The interview is another data collection tool used in an attempt to understand how the participants read various types of texts. The collected data were analysed by means of qualitative content analysis, critical discourse analysis, and statistical analysis that combines descriptive statistics (cross tabulation, mean, and standard deviation) and inferential statistic procedures (chi-square test, correlation, independent samples t-test, paired samples t-test, and ANOVA). Findings indicate that Algerian EFL students show teleological perceptions and ambivalent attitudes towards reading in print or digital environments. A discrepancy in comprehension across paper and screen is revealed in terms of cognitive focus and critical comprehension. As regards gender differences, unexpectedly, while female students outperform their male counterparts in digital reading, male students score higher in print-based reading. In addition, girls are depicted as holistic readers, while boys hold an atomistic approach to reading. Concerning the urban-rural dichotomy, a slight difference in terms of pre-reading strategy-use is noticed. 'Anticipating' and 'activating formal schemata' are depicted as rural-specific reading strategies. Since the differences between the two groups are not indicative, the urban-rural divide is claimed to be shallow in the Algerian context. Lastly, divergent reading practices are noted among Arabic and Berber speakers, for Arabic speakers perceive reading as a way of developing cognitive abilities while Berber speakers view it as a cross-cultural practice. In addition, unlike their Arabic counterparts who have an inclination for descriptive texts, Berber speakers tend to read narrative texts. By the same token, digital literacy is depicted as an echo of freedom and a continuum of oral tradition among Berber speakers. To put it in a nutshell, the sociocultural peculiarities of the Algerian society make of the Algerian EFL students distinct learners who show particular reading practices in print or digital environments. Since the findings hold several implications for EFL reading instruction in the Algerian context, some possible directions for future research are suggested.

Key-words

Algerian EFL Students; Attitudes; Berber-Arabic Dichotomy; Digital Reading; Formal Schematic Knowledge; Male-Female Dichotomy; Print-based Reading; Reading Strategies; Sociocultural Approach; Urban-Rural Dichotomy.

List of Abbreviations

ANOVA: Analysis Of Variance

CDA: Critical Discourse Analysis

CERIST: Centre de Recherche sur l'Information Technique

D- reading: Digital reading

D-environment: Digital environment

D-texts: Digital texts

EFL: English as a Foreign Language

FL: Foreign Language

Hp: Hypothesis

ICTs: Information and Communication Technologies

L1: Mother Tongue/ First Language

L2: Second Language

MSA: Modern Standard Arabic

NLS: New Literacy Studies

OSORS: online Survey Of Reading Strategies

P-environment: Paper /Print-based environment

P-reading: Paper/Print-based reading

P-texts: Paper/Print-based texts

P-value: Probability of the result

QCA: Qualitative Content Analysis

QDCA: Qualitative Directive Content Analysis

RQ: Research Question

SCT: Sociocultural Theory

Sig.: Statistical Significance

SLA: Second Language Acquisition

SODPRS: Survey Of Digital and Print-based Reading Strategies

SORS: Survey of Reading Strategies

List of Figures

Figure 1. Model of Literacy Practices	55
Figure 2. Sociocultural EFL Print and Digital Reading Practice Model.....	268

List of Tables

Table 1. Identification of the Participants	130
Table 2. Parents' Education	132
Table 3. Parents' Reading	133
Table 4. Parents' Encouragement	134
Table 5. Story Reading	135
Table 6. Reading Stories Vs. Telling Stories	136
Table 7 . Future Reading Practices	137
Table 8. Reading in Different Languages	139
Table 9. Time Online /Day	140
Table 10. Purpose (s) for Accessing Internet	142
Table 11. Digital or Print-based Libraries	145
Table 12. Access to Digital Libraries	144
Table 13. Lack of Access to D-libraries	146
Table 14. Reaction to Hyperlinks	147
Table 15. Exploiting Hypertexts' Characteristics for Understanding	148
Table 16. D-text Reading Frequency	149
Table 17. P-text Reading Frequency	150
Table 18. Print Vs. Digital	151
Table 19. Printing texts	152
Table 20. Types of P-texts	153
Table 21. Types of D-texts	154
Table 22. Liking or Disliking P-reading	156
Table 23. Enjoying Reading Classes	157
Table 24. Motivation in Reading Classes	158
Table 25. Novel Vs. Movie	159
Table 26 . Liking or Disliking D-reading	160
Table 27. Reading D-Texts	161
Table 28. D-Text Vs. P-Text	162
Table 29. Spare Time Activities	163
Table 30. Motivation to read D-texts	164
Table 31. Describing D-Reading in Academic Context.....	165
Table 32. Enjoying D-reading in Academic Context.....	167

Table 33. Strategies for Hypertext	168
Table 34. Digital Vs. Print Reading Ability	169
Table35. Experience in Digital Reading	172
Table 36 Identification of the Participants	173
Table 37 .1 Paper-based Strategies: Contend Directive Analysis & Independent T-tests	174
Table 37 .2 Digital-based Strategies: Contend Directive Analysis & Independent T-tests	175
Table 37. 3 Paper-based Vs. Digital-based Reading Strategies: Paired samples T-tests	175
Table 38 .1 Paper-based Strategies: Contend Directive Analysis & Independent T-tests	176
Table 38 .2 Digital-based Strategies: Contend Directive Analysis & Independent T-tests	178
Table 38. 3 Paper-based Vs. Digital-based Reading Strategies: Paired samples T-tests	179
Table 39 .1 Paper-based Strategies: Contend Directive Analysis & Independent T-tests	180
Table 39 .2 Digital-based Strategies: Contend Directive Analysis & Independent T-tests	180
Table39. 3 Paper-based Vs. Digital-based Reading Strategies: Paired samples T-tests	181
Table 40 .1 Paper-based Strategies: Contend Directive Analysis & Independent T-tests	181
Table 40 .2 Digital-based Strategies: Contend Directive Analysis & Independent T-tests	182
Table40. 3 Paper-based Vs. Digital-based reading Strategies: Paired samples T-tests	183
Table 41 .1 Paper-based Strategies: Contend Directive Analysis & Independent T-tests	184
Table 41 .2 Digital-based Strategies: Contend Directive Analysis & Independent T-tests	186
Table 41. 3 Paper-based Vs. Digital-based Reading Strategies: Paired samples T-tests	187
Table 42 .1 Paper-based Strategies: Contend Directive Analysis & Independent T-tests	187
Table 42 .2 Digital-based Strategies: Contend Directive Analysis & Independent T-tests	188
Table42. 3 Paper-based Vs. Digital-based Reading Strategies: Paired samples T-tests	188
Table 43 .1 Paper-based Strategies: Contend Directive Analysis & Independent T-tests	189
Table 43 .2 Digital-based Strategies: Contend Directive Analysis & Independent T-tests	190
Table 43. 3 Paper-based Vs. Digital-based reading Strategies: Paired samples T-tests	190
Table 44 .1 Paper-based Strategies: Contend Directive Analysis & Independent T-tests	191
Table 44.2 Digital-based Strategies: Contend Directive Analysis & Independent T-tests	193
Table 44. 3 Paper-based Vs. Digital-based Reading Strategies: Paired samples T-tests	194
Table 45 .1 Paper-based Strategies: Contend Directive Analysis & Independent T-tests	194
Table 45 .2 Digital-based Strategies: Contend Directive Analysis & Independent T-tests	195
Table 45. 3 Paper-based Vs. Digital-based Reading Strategies: Paired samples T-tests	195
Table 46 Identification of the Participants	197
Table 47 .1 Paper-based Reading Comprehension Tests: ANOVA	197
Table 47.2 Digital-based Reading Comprehension Tests: ANOVA	197

Table 48 .1 Paper-based Reading Comprehension Tests: ANOVA	198
Table 48.2 Digital-based Reading Comprehension Tests: ANOVA	199
Table 49 .1 Paper-based Reading Comprehension Tests: ANOVA	200
Table 49.2 Digital-based reading Comprehension Tests: ANOVA	200
Table50. Identification of the participants	201

Contents

Dedication	
Acknowledgments	
Abstract	
List of Abbreviations	
List of Figures	
List of Tables	
Contents	
General Introduction	01
Part One: Theoretical Premises: Review of the Related Literature	
Chapter 1: Reading in EFL Contexts	16
Introduction	16
1.1 Reading Theories and Models	16
1.1.1 Reading as a Decoding Process: Bottom-up Models	20
1.1.2 Reading as a Psycho-Cognitive Process: Top-Down Models	22
1.1.3 Reading as a Socio-Constructivist Process: Interactive Models.....	26
1.1.3.1 Rumelhart's Model	27
1.1.3.2 Bottom-Interactive Model.....	28
1.1.3.3 Stanovich's Compensatory Model	29
1.1.3.4 Bernhardt's Constructivist Model	30
1.2 From Scrolls to Hypertext: an Overview of the History of Reading.....	30
1.3 From Print to Digital: New Considerations	34
1.3.1 Literacy and Digital Literacy	34
1.3.2 Reading P-Texts and D-Texts.....	37
Conclusion	39
Chapter 2: Sociocultural Theory and its Implications for the Study	40
Introduction	40
2.1. Origins of Sociocultural Theory and its Scope	40
2.2. Major Constructs of SCT as Applied to SLA	44
2.2.1 Mediation & Regulation	44
2.2.2. Internalisation & Appropriation.....	47
2.3. Sociocultural Approach to Literacy	48
2.3.1. Literacy as Social Practice.....	50
2.3.2. Critical Literacies	54
2.3.3. Multiliteracies	55

2.4. Readers in the Light of the Sociocultural Approach	55
2.4.1. Code Breakers.....	55
2.4.2. Meaning Makers and Text Users	55
2.4.3. Text Critics and Text Analysts	56
2.5. A Model of Reading as a Sociocultural Practice: a Circumscribed Analytical Framework	57
2.5.1 Attitudes.....	58
2.5.2. Reading Strategies	60
2.5.2.1. Types of Reading Strategies	63
2.5.2.1.1 Cognitive Reading Strategies	63
2.5.2.1.2 Metacognitive Reading Strategies.....	67
2.5.2.2.Digital Reading Strategies	68
2.5.3. Formal Schematic Knowledge: Schema Theory	70
Conclusion	75
Chapter 3: EFL Reading in the Algerian Context	77
Introduction	77
3.1 An Overview of the Algerian Linguistic landscape	77
3.2 English as a Foreign Language in Algeria	80
3.3 Sociocultural Factors Shaping EFL Reading Practices	82
3.3.1 Gender Differences: Male-Female Dichotomy.....	83
3.3.2 Geographical Location: Urban-Rural Dichotomy	87
3.3.3 Mother Tongue (L1): Berber-Arabic Dichotomy	89
Conclusion	93

Part Two: Empirical Study

Chapter 4: Research Design.....	95
Introduction	95
4.1 Research Paradigm	95
4.2 Research Strategy	100
4.3. Context of the Study	104
4.3.1 Setting	104
4.3.2 Population and Sample	104
4.4 Procedures of Data Collection	106
4.4.1. Questionnaire	106
4.4.1.1 Questionnaires in Social Sciences	106
4.4.1.2 Description of the Questionnaire	107
4.4.1.3 Piloting the Questionnaire	110

4.4.1.4 Administering the Questionnaire	111
4.4.2 Survey Of Digital and Print-based Reading Strategies (SODPRS).....	111
4.4.2.1 Surveys in Social sciences	111
4.4.2.2 Description of the Survey	112
4.4.2.2.1 SORS	112
4.4.2.2.2 OSORS	113
4.4.2.2.3 SODPRS	114
4.4.2.3 Administering the Survey	117
4.4.3 Experimental Reading Comprehension Tests.....	117
4.4.3.1 Reading Comprehension Tests in Social Sciences	117
4.4.3.2 Description of the Experimental Test	117
4.4.3.3 Conducting the Experimental Test	118
4.4.4 Interviews.....	119
4.4.4.1 Interviews in Social Sciences	119
4.4.4.2 Description of the Interview	121
4.4.4.3 Conducting the Interview.....	121
4.5. Procedures of Data Analysis	122
4.5.1 Statistical Analysis.....	122
4.5.2 Critical Discourse Analysis	124
4.5.3 Qualitative Directive Content Analysis	126
4.6 Limitations of the Study	127
Conclusion	128
Chapter 5: Findings	129
Introduction.....	129
5.1 Analysis & Results of the Questionnaire	130
5.1.1 Demographic Characteristics of Participants	130
5.1.2 Participants' Background and their Reading Practices.....	132
5.1.3 Digital Reading	138
5.1.4 Attitudes towards P/ D –Reading.....	156
5.2 Analysis and Results of SODPRS	173
5.2.1 Participants' Profile	173
5.2.2 Reading Strategies & Gender	174
5.2.2.1 Pre-reading Strategies	174
5.2.2.2 While-Reading Strategies	176
5.2.2.3 Post-reading Strategies	180
5.2.3 Reading Strategies & Geographical Location	181
5.2.3.1 Pre-reading Strategies	181
5.2.3.2 While-Reading Strategies	184
5.2.3.3 Post-reading Strategies	187

5.2.4 Reading Strategies & Mother Tongue	189
5.2.4.1 Pre-reading Strategies	189
5.2.4.2 While-reading Strategies.....	191
5.2.4.3 Post-reading Strategies	194
5.3 Analysis and Results of the Experimental Reading Comprehension Test	196
5.3.1 Participants' Profile	197
5.3.1 Reading Comprehension Tests & Gender	197
5.3.2 Reading Comprehension Tests & Geographical Location	198
5.3.3 Reading Comprehension Tests & Mother Tongue	200
5.4 Analysis and Results of the Interviews	201
Conclusion	207
Chapter 6: Discussion of Findings and Implications	208
Introduction	208
6.1. Answer to Research Question # One: Print Vs. Digital	209
6.1.1. Teleological Perceptions & Ambivalent Attitudes	209
6.1.2. Comprehension across Paper and Screen: Cognitive Focus, Cognitive Maps &Critical Comprehension	215
6.1.3. Algerian EFL Students' Digital Literacy	222
6.1.4. Students' Awareness about P- & D-Texts' Generic Structure	229
6.2. Answer to Research Question # Two: Gender Differences.....	231
6.2.1 Male & Female Reading Habits: Gender Gap	231
6.2.2 Digital Reading as a 'Female Territory'	233
6.2.3 Gendered Reading Strategies: Holistic vs. Atomistic Approaches to Reading	235
6.3 Answer to Research Question # Three: Urban Vs. Rural	238
6.3.1 Rural-Urban Divide in the Algerian Context	238
6.3.2 Anticipating' & 'Activating Formal Schemata' as Rural-Specific Strategies	240
6.4 Answer to Research Question #Four: Mother Tongue & EFL Reading	243
6.4.1 Algerian EFL Students' Linguistic Background & their Reading Habits	243
6.4.2 Digital Literacy as an echo of Freedom and a Continuum of Oral Tradition	247
6.4.3 A Limited Repertoire of Text Types: Descriptive & Narrative.....	249
6.5 Pedagogical Implications & Suggestions	251
6.5.1 Adopting a Sociocultural Approach to EFL Reading Instruction	251
6.5.2 Implementing Genre-based Instruction	253
6.5.3 D- & P- Strategy-based Instruction	256

6.5.4 Raising Students' Metacognitive Awareness	259
6.5.5 Suggestions for Reading Instruction and Curriculum Design	260
Conclusion	263
General Conclusion.....	264
Reference List	275
 Appendixes	
Appendix A: Questionnaire	
Appendix B: SODPRS	
Appendix C: The Interview	
Appendix D: Print-based Reading Comprehension Test	
Appendix E: Digital-based Reading Comprehension Test	
Appendix F: Formal Permissions to Reproduce Copyright Material	

General Introduction

Statement of the Problem

In today's world, technology has a great influence on people's life and time. Back in the early 19th century, when electronic devices had not been invented, people could only use the printed word such as books, posters, newspapers or magazines, to study, to read for pleasure, to get informed, or to learn. Later, in the mid 20th century, the use of computers helped people to do so more easily. Now, in the 21st century, with the creation of the internet, we are able to access gigabytes of information just with the click of our mouse. The internet has made it possible for us to get answers for almost all of the questions that we ask, and it has alleviated the access to information to almost every topic imaginable. However, this state of affairs has given rise to a controversial debate opposing reading the printed word to browsing the internet.

Of the four traditional language skills, reading represents one of the major channels through which learners can keep in touch with a foreign language (henceforth FL) and the culture of the country where it is spoken. In EFL (English as a Foreign Language) learning contexts, educationists testify to the fact that reading is by far the most important of the four skills. More to the point, reading is viewed as the most crucial skill for knowledge acquisition and academic accomplishment. This is mainly the case in the era of digital information in which learners are overwhelmed by the amount of information at their disposal. Accordingly, EFL reading requires a specific interest from the part of teachers, educationists as well as researchers.

A growing demand for English language proficiency has been apparent in every corner of the globe (Crystal, 2003), and Algeria is no exception. A good mastery of English is no longer a question of luxury but that of necessity. This is why reading remains an unavoidable means for Algerian learners to have access to English and one of the most important challenges in contemporary education. Like other students in most parts of the world,

Algerian university learners are living in a digital era, spending more and more time at reading online. Indeed, a remarkable rush upon the use of the new technologies for learning purposes among teachers and students alike is noticed, they are more and more resorting to digital devices for the teaching/learning process. Therefore, it is worth taking a closer look at the way Algerian University EFL learners engage themselves in print-based reading (henceforth P-reading) and digital reading (henceforth D-reading).

Technological progress triggers a variety of discussions over electronic reading practices. Many studies have attempted to explore reading in the digital era by examining how people read different texts (e.g. Eco, 2003; Holleran & Murphy, 2004; Jabr, 2013). These studies are useful since they provide us with insights into the reading behaviour. Nonetheless, it is important to note that the focus of most current research has been directed towards cognitive aspects of reading, namely electronic reading strategies (e.g., Coiro & Dobler, 2007). Few studies have focused on the biological, affective or sociocultural factors that are likely to influence the development of reading skills. Unfortunately, most studies in this field have focused only on the very early stage of discovering changes in reading patterns in the digital environment, and less attention has been given to empirical studies in various contexts to provide a broad picture of D-reading by taking into account sociocultural variables.

Starting from the assumptions stated above, the present research is an attempt to investigate the P- and D-reading practices of Algerian EFL learners. Its primary concern is reading as a social practice for academic purposes in digital and print-based environments (henceforth D- and P-environments) among English university students in Algeria, a country where the learners are non-native speakers of English. Its claim is that the sociocultural features of the Algerian society are reflected in the learners' reading practices. Starting from the point that their challenge is twofold - reading in a foreign language and reading in a digital

era, my major aim here is to explore the peculiarities of Algerian EFL learners' reading practices.

My interest in the way Algerian EFL leprint-based and digital texts (henceforth P-texts and D-texts) arises from many factors. First, I have already conducted a research study in the field of reading from a cognitive perspective as part of the requirements for the Magister degree in English. Therefore, extending the scope of the study to embrace the sociocultural perspective of reading within the digital age could not be but of great interest. Second, my experience as a teacher at Mouloud MAMMERRI University of Tizi-Ouzou has allowed me to notice an alarming decline in students' reading motivation, which is likely to be attributed to a serious disconnection between the reading tasks learners perform in the classroom and the media they are accustomed to outside school. Third, research has revealed that learners interact and engage with the use of the Information and Communication Technologies (henceforth ICTs) in the EFL classroom is a significant issue all over the world, especially in terms of its strong relationship to reading (Coiro, 2007). Yet, very few studies have been conducted on this fundamental issue in Algeria.

Since reading is the result of the interplay of a variety of cognitive, psychological and sociocultural factors functioning together, understanding the reading process is a real challenge for researchers. Various views and perceptions have emerged during the last decades as an attempt to bring a systematic definition of the reading process. The traditional perception that considers reading as a decoding process has been broadened to include the psychological, the cognitive and even the sociocultural dimensions of reading. The reading process is no longer viewed as a set of skills and strategies used by readers to decipher texts. It is rather regarded as an interwoven and complex process that readers go through to achieve comprehension.

Given the complexity that surrounds ‘reading’ and the variety of definitions it has been given, I find it an obligation to start by providing a working definition for the sake of consistency. As the approach adopted in the present research is sociocultural, reading is defined as a social practice. For practical purposes, a model of EFL reading proficiency is suggested. It is composed of three elements related to three levels of investigation: readers’ attitudes, reading strategies, and readers’ formal schematic knowledge. The suggested model views the reading practice as a triadic entity involving three interrelated parts. In my view, these three components are at the core EFL reading proficiency. First, attitudes relate to the psychological aspect of the process: learners’ attitudes determine their readiness to learn any subject, and reading is no exception. Second, reading strategies represent the cognitive part of the reading practice. It has been reported in the literature that successful readers are those who use appropriate reading strategies. Third, formal schematic knowledge is related to the linguistic and rhetorical knowledge needed for an efficient reading of a variety of texts. Because each text type has some formal characteristics requiring the use of specific strategies from the part of readers, EFL learners should not approach different texts in the same way.

Prominent among affective factors is the learners’ attitudes towards reading. This factor relates to the first level of my investigation. It is the level of deciding whether or not to read. Attitudes may be defined as a set of feelings related to learning which are likely to influence the learners’ behaviour (Gardner, 1985). A great deal of research has been devoted to the correlation between learners’ attitudes and their language learning. Indeed, related literature supports the fact that learners having positive attitudes are most likely to develop appropriate reading strategies. Besides, the attitude is identified as a crucial factor in determining reading abilities. It is responsible for the development of the reading skills of the learner. In this context, Logan and Johnston (2009, p. 200) assert that “*positive attitudes to reading have consistently been found to be associated with higher reading achievement*”. It is

indeed a central explanatory variable in this field of research (McKenzie, 2010). Accordingly, it is crucial to take into account reader's attitudes when one investigates into reading from a sociocultural perspective in a real-world context.

The second level of my investigation is students' reading strategies. My interest in this area stems from the assumption that success in learning to read depends on appropriate reading strategy-use in P- and/or D-environments. In the P-environment, Carol Hosenfeld (1977) and Ellen Block (1986) explored the issue of learners' use of reading strategies and their impact on learners' reading success or failure. Hosenfeld studied US high school students' reading abilities in French, German, and Spanish. As for Block, she conducted an experimental research on non-proficient readers in order to find out the characteristics that differentiate the more successful from the less successful readers. Their results show that non-proficient readers either do not possess knowledge about reading strategies, or simply engage in bottom-up strategies, which are not always conducive to meaning construction. Besides, there have been several similar case studies focusing on the relationships that lie between various reading strategies and successful or unsuccessful FL reading (Devine 1984; Hauptman, 1979; Knight, Padron & Waxman, 1985; Sarig, 1987; Carrell, 1998).

As for reading in the D-environment, its peculiarity lies in the fact that, in order to construct meaning from D-texts, readers need develop appropriate cognitive and metacognitive reading strategies. The use of such strategies has developed over time as the readers learn which ones are best suited to aid in comprehension (Pressley, Wharton-McDonald, Mistretta-Hampston, & Echevarria, 1998). Their roles as readers undergo important changes related to the nature of the digital documents. As it has been recognised by many researchers (Coiro, 2003; Coiro & Dobler, 2007), proficient readers make use of several cognitive and metacognitive reading strategies while reading on-screen. It has also been

shown that learners who use metacognitive strategies while reading on-screen retain more information and comprehend better (Huang et al. 2009).

An appreciable amount of research (e.g. Coiro, 2003; Anderson, 2003; Hamdan *et al.* 2010) has been devoted to understanding the correlation between the new technologies and learners' reading practices whose aim is mainly to attempt to understand how learners develop the needed strategies to comprehend online texts. Some scholars believe that the strategies and the skills "*required for the study of printed texts are [...] the same for electronic texts*" (Hanrahan & Madsen, 2000, p.03). These strategies include, among others: critical skills and analysis of texts, sensitivity to generic conventions, awareness of how different social and cultural contexts affect the nature of language and meaning, the understanding of how cultural norms and assumptions influence questions of judgment, etc. (Lee, as cited in Hanrahan & Madsen, 2006, p. 58). Other scholars, on the other hand, counter this view and contend that unlike P-texts, hypertexts provide readers more opportunities to interact with the text; hence, electronic reading requires different strategies (Lawless, Brown, Mills, & Mayall, 2003; Nowak, 2008; Chen et al., 2011).

The third level of my investigation is formal schematic knowledge. This level relates to the textual features that readers work with in order to construct meaning. The theoretical ground of this claim is 'schema theory'. It assumes that texts provide readers with directions as to how they should construct meaning (Rumelhart, 1980). Three types of schemata are suggested in the literature: formal, content and linguistic schemata. As a teacher at Mouloud Mammeri University, I have noticed that, as readers, most students suffer from the lack of awareness about the rhetorical characteristics of texts. Therefore, of the three types, my focus is put on formal schemata. Indeed, I do believe that the lack of such kind of knowledge is likely to have a considerable impact on reading comprehension, mainly in EFL contexts.

Proficient readers do not read different types of texts in the same way. Different genres have different structures. A newspaper article, a novel, or a scientific text cannot be read in the same way. Readers need to recognise each text as a piece of communication rather than a mere group of sentences. Each text has some formal features designed to fulfil a specific communicative function for a specific purpose. In a word, readers should be aware of the various differences that lie between genres and how they can interact with each of them. John Swales (1990, p. 53) defines genres as socially-determined by describing them as “*communicative events which are socio-culturally recognizable*”. It is in the light of this sociocultural conception of texts that the present research considers the way Algerian EFL learners interact with various P- and D-texts. To put it in a nutshell, to engage in an EFL reading as a literacy practice, EFL learners ought to be psychologically ready to read, be equipped with appropriate reading strategies, and hold adequate formal schematic knowledge of various types of texts. My claim is that these three components are determined and shaped by sociocultural factors.

It has been reported in the literature that reading is an interactive process through which readers’ background knowledge interacts with information retrieved from text to construct meaning (Carrell, 1988). This interactive process is not innate; it is acquired and developed through habit formation. Furthermore, reading does not take place in isolation, but it is rather socioculturally sensitive. In other words, within the framework of the sociocultural approach, EFL reading is perceived as a process which is mediated by sociocultural symbolic means resulting in a social practice. My aim, then, is to explore the extent to which the sociocultural characteristics of Algerian EFL readers are likely to have a profound impact on their reading practices.

As applied to Second Language Acquisition (SLA), the sociocultural approach relates to an umbrella-term that gathers a set of theoretical constructs about learning. ‘Mediation’ and

‘internalisation’ are selected as a theoretical framework for the empirical study since they suit the purposes of my research. Their basic tenet is the combination of cognitive and social factors during the learning process. The sociocultural approach, as applied to literacy, overlaps three major perspectives: literacy as social practice, multiliteracies, and critical literacy. Investigating the three perspectives together goes beyond the scope of my research, which focuses only on literacy as a social practice as it fits the objectives of the study.

Throughout the present thesis, three sociocultural factors - embodied in literacy as social practice and rooted in the Algerian sociocultural context - have been selected to form the frame backing the empirical investigation. The three independent variables are: gender differences, mother tongue (L1), and the geographical location of readers. It is worth noting that these three variables have been selected on purpose; they are grounded in the sociocultural tissue of the Algerian society.

Starting from the assumption that the reading process may differ from one person to another and from one sex to another, I have adopted gender differences as a first variable of the study. In this regard, Downing & Che (1982) assert that one of the biological factors that may lead to different reading practices is ‘sex’. An important empirically- based literature suggests that, as compared to their male counterparts, girls are most likely to take interest in reading. Indeed, disparity between the two genders may be found in terms of strategy-use and reading performance (Oxford & Nyikos, 1989; Biigel & Buunk, 1996; Chavez, 2001). It has also been demonstrated that girls show a more positive attitude to reading (Swalander & Taube, 2007).

Gender issues have been investigated from several perspectives in the Algerian context. Yet, no empirical study targeting comparison between reading practices of male and female Algerian EFL students has been reported in the literature. Accordingly, one of the aims of the present study is to scrutinize this issue from a sociocultural perspective rather than

on biological considerations. This stems from the fact that Algeria is living profound social and cultural changes in terms of women's position in society (Addi, 2004; Smail Salhi, 2010). The Algerian society has always been qualified as conservative and male-oriented, though women are gaining more and more ground (Rohloff, 2012). Therefore, I find it of great necessity to find out whether the sociocultural characteristics that surround gender differences are echoed in Algerian EFL literacy practices in P- and D-environments.

The second variable relates to the impact of the mother tongue (L1) on Algerian EFL learners' reading practices. It revolves around a core question: whether the participants' cultural schemata embedded in their different mother tongues influence their reading practices. To this end, participants from two Algerian universities located in two different linguistic environments have been selected. The two universities are Mouloud Mammeri University of Tizi-ouzou, where the L1 of the majority of the students is Tamazight, and Ali Lounici University of Blida, where most students' L1 is Algerian Arabic. The choice for this variable is motivated by the fact that each community has its own historical, linguistic and sociocultural characteristics (Boukra, 2012). Therefore, I have thought it is a profitable academic contribution to scrutinize the Berber and Arabic EFL students' distinct reading practices in the light of the historical and cultural differences that lie between the two communities.

The third variable is the geographical location of the learners - more precisely, the differences in reading between learners who live in town and those who come from rural areas. In the Algerian context, the distinction between urban and rural populations is particularly significant for research in social sciences. Yet, few studies reported in the literature have investigated these differences in academic contexts (e.g. Fezzioui, 2013). It is worth mentioning that some previous studies focused on linguistic variation, but little research has taken this factor into consideration, though its impact on EFL learners' reading

practices is not negligible. Accordingly, the dichotomy ‘urban/rural’ is going to be used for sociocultural comparison and contrast.

Aims of the Study

The present research seeks to undertake an exploratory and explanatory investigation of the Algerian learners’ reading practices in P- and D-environments. The research is conducted within the framework of the sociocultural approach to reading by considering three independent variables namely gender differences, students’ mother tongue, as well as students’ geographical location. It aims at addressing a research gap revealed in previous studies, namely the correlation between reading practices and sociocultural variables in EFL contexts.

Knowing that the new technologies revolutionise how information can be conceived, conveyed and received, the present study attempts to bring to light the way Algerian learners interact with P- as well as D-texts. Specifically, it aims at identifying and highlighting the possible impact of various sociocultural factors on learners’ reading attitudes, strategy-use and formal schematic knowledge of various types of texts. As a matter of fact, my strong belief is that understanding the reading behaviour of Algerian EFL learners within the sociocultural characteristics of the Algerian society would enable a better understanding of the reading process and develop more effective reading instruction methods.

Significance of the Study

The present study is an attempt to explore Algerian EFL students’ reading practices in the light of the sociocultural approach. To best fit the context and the aims of the study, a new working-model of reading practice is suggested. Indeed, much of the previous reading research either in P- or D-environments has been performed from a cognitive perspective, as it has been mentioned earlier. More to the point, the studies concerned with the comparison of P- and D-reading target only reading strategies and skills. Consequently, a considerable

amount of work is still needed in the investigation of P- and D-reading from a sociocultural perspective. It is worth noting that no previous study reported in the literature treated the issue with focus on the three variables mentioned above. The CERIST (Centre de Recherche sur l'Information Technique) dissertation abstract database does not mention any study conducted in Algeria that explores or compares the way Algerian EFL learners interact with P- and D-texts.

The studies carried out so far about D-reading have mainly been conducted in western contexts with much focus on reading online. A large portion of the more recent research regarding D-reading has been done in the United States or Asia aiming mainly at finding out the D-reading strategies used by EFL learners. Accordingly, the originality of the present study is the attempt to analyse learners' D-reading practices in a 'third world' culture. Besides, D-reading is not limited to online reading; it includes any reading on an electronic screen.

Finally, it is worth noting that the number of published works and investigations in the field of reading from various perspectives in a variety of contexts reflects the importance attached to it by scholars. From this standpoint, my study may be seen as a further attempt to contribute to the bulk of investigations carried out in the area of reading in general and D-reading in particular. Since increased amounts of research make progress possible, the present research may aid achieving new insights in the issue and ultimately the improvement of reading instruction practice.

Research Questions and Hypotheses

The present study attempts to probe the extent to which sociocultural factors influence the Algerian EFL students' reading practices in P- and D-environments. It addresses the following questions:

RQ1. Are there any differences in the way Algerian EFL students read P- and D- texts?

RQ2. Are there any significant differences between male and female students' reading practices?

RQ3. Are there any significant differences between rural and urban Algerian EFL students in terms of reading practices?

RQ4. Does the Algerian EFL students' mother tongue influence their reading practices?

And in an attempt to answer these questions, I advance the following hypotheses:

Hp1. Algerian EFL learners do not approach D-texts and P-texts in the same way.

Hp2. There is a disparity between male and female learners' reading practices.

Hp3. The geographical location of EFL learners is a determining factor in their reading practices.

Hp4. Algerian EFL students' mother tongue has an impact on their reading practices.

All these hypotheses are grounded in my assumption that reading, be it in P- or D-environments, is socioculturally constructed. The point is that, some sociocultural factors are likely to have a significant lifelong impact on EFL learners' reading practices.

Research Techniques and Methodology

In order to account for the issue raised above, most of the analytic categories are borrowed from the sociocultural approach to reading. It offers a framework which allows an investigation of the reading practice as an interactive process without isolating it from social context (Lantolf, 2004). Reading is no longer viewed as a decoding process; it is rather a complex activity in which various elements interweave for the sake of constructing meaning from texts. As for the sake of gathering the appropriate data needed to explore and compare/contrast the participants' reading strategy use, attitudes, and their formal schematic knowledge, a multi-method design is adopted. Various instruments are used to collect and analyse data.

In order to account for the participants' practices, including their reading strategies and attitudes towards P- and D-reading, a questionnaire is used (appendix. A). The latter is a research technique which is likely to help to gather as much information as possible about the participants' opinions and most importantly their representations of reading. It also helps to gain some empirically-based insights about their reading practices.

In order to get some reliable information about the participants' reading strategy-use, a reading survey is designed: SODPRS (Appendix B). It aims at depicting and comparing/contrasting the strategies used by EFL students in P- and D-environments. It is an adapted version of two surveys available in the literature. The two surveys are adapted with permission from the authors of the original works (Appendix F). The first is the Survey of Reading Strategies (SORS) designed by Kouider Mokhtari & Ravi Sheorey (2002). The second is the Online Survey of Reading Strategies (OSORS) designed by Neil J. Anderson (2003). The objective of combining the two surveys together is to get a clear idea about the way the participants use different strategies to fulfil different reading academic tasks in different contexts.

Two reading comprehension tests are used to compare the participants' reading abilities on paper and on screen. The two reading comprehension tests are selected from Cambridge English Language Teaching for advanced learners (Appendix C & D). Each test is divided into five items: cloze test, key-word transformation, literal comprehension, inferential comprehension, and critical comprehension.

The interview (Appendix E) is another data collection tool used in an attempt to understand how the participants read various types of texts. It is a well-known research technique employed in qualitative research to report the participants' perceptions, opinions as well as practices. It attempts to get an in-depth exploration of the different types of schemata used by Algerian EFL learners while reading different types of texts.

Once the data are gathered, they are subjected to quantitative and qualitative data analysis tools. The quantitative data gathered from the closed-ended items of the questionnaire, the reading comprehension tests, and the reading survey are analysed by means of statistical analysis. On the other hand, the qualitative data generated by open-ended items of the questionnaire, and the interviews are analysed relying on Critical Discourse Analysis and Qualitative Directive Content Analysis.

Structure of the Thesis

In addition to a general introduction and a general conclusion, the thesis comprises two parts. Each part is composed of three chapters.

The first part is labelled **Theoretical Premises: Review of the Related Literature**. It is devoted to the theoretical underpinnings of the work as it reviews all the appropriate concepts related to the issue. It is divided into three chapters.

Chapter One is entitled **Reading in EFL Contexts**. It provides an overview of research into reading theories and models, a glance at the history of reading, as well as reading in the digital era by scrutinising the shift from traditional to new literacy with much focus on P-texts and D-texts. Chapter Two is entitled: **Sociocultural Theory and its Implications for the Study**. It attempts to circumscribe the sociocultural approach and its scope in education as well as some of its implications on EFL reading. Then, much focus is put on the designed-working definition of reading that best suits the needs of the present study. Reading is defined as a social practice including the interplay of attitudes, reading strategies and formal schematic knowledge. The following chapter treats **EFL Reading in the Algerian Context**. It describes the Algerian society as multilingual. It draws a clear picture of the status of English as a foreign language in Algeria. Then, attention is focused on reading as a sociocultural practice in the Algerian context. More to the point, it emphasises the impact of gender, mother tongue, and geographical location on EFL readers' reading practices.

The second part, as its title indicates, reports the **Empirical Study**. The aim of this part is to describe and explain the research design of the study, the findings and their interpretation with regard to the research questions and the hypotheses. Accordingly, it is divided into three chapters. Chapter Four is devoted to **Research Design**. It describes the research paradigm, the research strategy, data collection tools, research procedure, as well as data analysis tools. In addition, it maps out the procedure of the empirical study. Chapter five reports the **Findings** resulting from the analysis of data. It is respectively devoted to the description and the analysis of the results of the questionnaire, the reading comprehension tests, the reading surveys, in addition to the interview. Chapter six, **Discussion of the Findings and Implications**, is concerned with the interpretation of the findings of the study as well as the discussion of the results in relation to previous research and the hypotheses set in the introductory section of the dissertation. It also provides some suggestions for further research, since “*all progress is born of inquiry, and inquiry leads to invention*” (M. Hudson).

Six appendices are included at the end of the work for easy reference.

Part One

Theoretical Premises: Review of the Related Literature

Chapter 1
Reading in EFL Contexts

Introduction

In an EFL context, reading is a skill that requires a specific interest, for it represents a source of input for language learning and an end in itself as a skill to use outside the classroom as well. The present chapter revolves around some key concepts recapped in P- and D-reading within the sociocultural approach. In order to gain a better understanding of the reading process, one needs to review the different models and theories of reading along with tracing back the history of reading from the first seeds of communication when symbols became signs, through to reading hypertext of nowadays. Much focus is put on the new considerations resulting from the shift from P- to D-reading.

1.1 Reading Theories and Models

Being variable not absolute, reading cannot be defined easily. In its simplest definition, reading is the process of making sense of written symbols. It is a complex cognitive process of decoding and interpreting symbols in order to construct meaning. What makes defining reading not an easy task is the fact that it is a complex, cognitive, internal and invisible activity that takes place inside the mind of the reader (Bernhardt, 1991). Grabe (1991) believes that reading is a process which is not completely understood, so a simple definition is not likely to be constructed. Still, understanding the characteristics of the reading process and what it entails is crucial for any researcher in the field of reading. A better understanding of the reading process implies a clearer picture of the way reading can be taught and measured (Barnett, 1989).

Reading received substantial attention of different scholars leading to considerable insights. It involves two processes: a physiological and a higher-order neuropsychological processing. The neuropsychologist André Roch (as cited in Fisher, 2003, p.329) describes the process of reading as a sequence of 'seeing' and 'considering'. Unlike the higher-order neuropsychological processing, the physiological processing seems to be better understood. In

the 19th C, the French ophthalmologist Emile Javal (as cited in Fisher, 2003, p. 330) explained that while reading, the reader's eyes "*jump three or four times a second at a speed of around 200° per second. As this rapidity hinders perception, true 'reading' only occurs during brief pauses between movements*".

In an attempt at providing a systematic definition of reading, researchers have been concerned with what happens in the readers' eyes and mind when they are reading. This is what comes to be known as the 'model of the reading process'. Put differently, in order to understand the nature of the mental activities involved in comprehending texts, reading specialists have created reading processes models.

Early definitions of reading focused on grasping the author's message by understanding the main idea of the text. Reading is viewed by Widdowson (1979) as a product by defining it as a process of getting linguistic information via print. In a word, reading is a decoding process of reconstructing the author's intended meaning (Carrell, 1988). Shaw (1959) states that reading is a communicative activity in which the reader is "*thinking with the author, absorbing his ideas*" (p. viii). However, more recent definitions emphasise the individual interpretation of texts (Carrell et al., 1988; Grabe, 2009). Urquhart and Weir believe that reading is a language and a cognitive activity involving "*inference, memory, relating text to background knowledge, as well as decoding, and obvious language aspects as syntax and lexical knowledge*" (1998, p. 18).

One cannot endeavour into research in reading without appropriate knowledge of models and theories of reading that represent a necessary foundation and a strong theoretical basis for systematic research. With a conscious knowledge and a better understanding of the multiple reading theories and models, researchers and practitioners alike can make more informed decisions regarding literacy instruction (Tracey & Morrow, 2006, p. 13)

It seems that a disagreement among scholars is noticed concerning the use of the concepts ‘model’ and ‘theory’. Some scholars are in favour of making a distinction between the two concepts. Ruddell, Ruddell, and Singer (1994) clearly differentiate between theories and models by stating that:

Remember that a theory is an explanation of a phenomenon (such as the reading process), while a model serves as a metaphor to explain and represent a theory. This representation often takes the form of a depiction of the interrelationships among a theory’s variables and may even make provisions for connecting the theory to observations. The theory is thus more dynamic in nature than the model but describes the way the model operates; the model is frequently static and represents a snapshot of a dynamic process. (as cited in Tracey & Morrow, 2006, p. 09)

Put differently, theories are confined to verbal descriptions, while models represent ideas in terms of charts or diagrams. Theories are explanations of phenomena while models are metaphors used to explain theories. A model of reading may be defined as a representation of what goes on in the eyes and the mind when the reader is understanding or misunderstanding a text (Davies, 1995, p. 57). In addition, a reading model illustrates the processes involved while reading, the factors influencing these processes and the interplay among them (Kucer, 2005, p. 123).

Others prefer to use the two concepts interchangeably since they believe that no clear-cut distinction between the two terms has been found. For example, Rosenblatt (1994) does not distinguish between models and theories and view the two as similar by claiming that “*a theoretical model by definition is an abstraction, or generalized pattern devised in order to think about a subject*” (as cited in Tracey & Morrow, 2006, p. 09).

In addition to models and theories, other scholars use other terms to refer to the same concepts such as ‘perspective’ and ‘approach’. Indeed, they reject the exclusive use of ‘models’ or ‘theories’ by claiming that a single theory or model could not comprehensively

explain reading in all its details. Woolfolk (1999) sustains that “*Few theories explain and predict perfectly. . . . Because no one theory offers all the answers, it makes sense to consider what each has to offer*” (as cited in Tracey & Morrow, 2006, p. 11). Each theory offers a valuable explanation of reading, so the term approach seems to be more appropriate as it encompasses different models from the same perspective.

Furthermore, in an education context, one classroom reading activity may be used to reflect multiple theories or models. Pressley and McCormick (1995) believe that “*none of [these theories] offers a conception that can stand alone, but that all of them offer perspectives that complement one another*” (as cited in Tracey & Morrow, 2006, p. 11). So, reading researchers and practitioners should maintain a flexible stance when dealing with reading issues.

Accordingly, and for the sake of being systematic, I am going to align myself, all along the present work, with the authors who use the terms interchangeably by adhering to the authors’ own practices. Said differently, if an author uses the term model, theory, perspective or approach, I likewise use that concept.

Presenting an exhaustive examination of all the reading theories seems impossible since reading issues are situated within multiple contexts. In addition, reviewing all the theories and models goes beyond the scope of the present study. Yet, the models that I believe are the most meaningful, and have the greatest relevance for informing the present study have been selected.

It is important to emphasise that different reading theories and approaches are grounded in a variety of disciplines, including linguistics, psychology, education, sociology, neuroscience among others. There is no black-and-white line dividing different theories and establishing a clear-cut chronological separation between models is difficult.

There is a long history in psycholinguistic literature of attempts to conceptualise reading through the formulation of abstract models of the reading process. Disputes over reading resulted in three main models: bottom-up, top-down, and interactive models. Before examining these different models, it is worth pointing at the fact that the first attempts to understand the L2 reading process were highly influenced by L1 models of reading. This stems from Kenneth Goodman's assumption that some processes are universal. In fact, many Second Language (henceforth L2) reading researchers such as Coady (1979), Jolly (1978) and Rigg (1977) support Goodman's contention that L1 and L2 reading involve similar processes.

1.1.1. Reading as a Decoding Process: Bottom-up Models

Also known as 'part to whole' models, bottom-up reading models emphasise a single direction (from bottom to top) processing of text. Developed during the 1940's and the 1950's, they are closely related to behaviourism. They describe the reading process in terms of serial steps in which "*the direction of processing is from 'bottom-level' features of text to 'higher levels' "*" (Davies, 1995, p. 169). Stated differently, the bottom-up models of the reading process perceive reading as a decoding process which involves reconstructing the author's meaning via recognising the letters and words (Gough 1972; Widdowson, 1979 ; Carrell et al, 1988).

At the heart of the bottom-up models is the idea that visual information is initially sampled from the printed page and the information is transformed through a series of stages with little (if any) influence from general world knowledge, contextual information and higher order processing strategies (Pollatsek & Rayner, 1989, pp. 464-465). According to David Nunan (1991), in this view, reading is basically a matter of decoding a series of written symbols into their aural equivalent for the sake of creating meaning from texts (as cited in Vaezi, 2005). The writer is perceived as a transmitter of a message, the reader as a receiver of

that message, while the visual system is viewed as a communication channel through which the message is transmitted (Emerald, 1991, p. 12)

Many models have been proposed as being bottom-up models, such as those suggested by Massaro (1975), Laberge and Samuels (1974), and Mackworth (1972). I consider that the most influential one is the model proposed by Philip B. Gough in 1972. This model draws from laboratory studies of adult readers engaged in letter and word recognition tasks (Davies, 1995, p. 60). According to this model, reading starts by a recognition process “*operating serially across the display so that processing is letter by letter*” (Pollatsek & Rayner, 1989, p. 465). The second stage is the comprehension that occurs by making use of syntactic and semantic rules.

One of the weaknesses of Gough’s bottom-up model, recognised by Gough himself, is that the model does not really deal with higher-order comprehension. As a matter of fact, Gough calls this comprehension device (higher-order skills) “Merlin” to show that it has magical properties or at least that the properties are difficult to specify (Pollatsek & Rayner, 1989, p. 465). Despite the weaknesses of Gough’s model, it deserves credit for having stimulated research on the nature of the reading process.

The major limitation of bottom-up models, in general, is the lack of flexibility attributed to the reader. The latter is perceived as a passive recipient of the information in the text. In addition, bottom-up models have been under attack for their over-reliance on the formal features of language. Yet, what must not be neglected is the fact that language knowledge, or more precisely, knowledge of linguistic features of texts, is also necessary for comprehension to take place.

1.1.2. Reading as a Psycho-Cognitive Process: Top-Down Models

Psycholinguistics “*provides insights into how we assemble our own speech and writing and how we understand that of others; into how we store and use vocabulary; into how we manage to acquire a language*” (Field, 2004, p. ix). It is of a cross-disciplinary nature wherein the study of the language system meets the study of how humans acquire and use knowledge. Psycholinguistics and cognitive psychology have a noteworthy impact on reading research. In this respect, Carrell (1988, p. 245) states that the major and most serious theoretical progress in reading research is the adaptation of “*a cognitive psychological perspective which views reading as a process or set of processes involving complex mental operations and interactions between the reader and text, and within the reader*”. In the same vein, Bernhardt (1991, p. 6) believes that the reading process should be viewed as “*an interpersonal problem-solving task that takes place within the brain’s knowledge structure*”.

The educational psychologist Merlin C. Wittrock explains textual comprehension as a sophisticated cerebral process by asserting that while reading,

readers create images and verbal transformations to represent its meaning. Most impressively, they generate meaning as they read by constructing relations between their knowledge, their memories of experience, and the written sentences, paragraphs and passages (as cited in Fisher, 2003, p. 331).

Indeed, many cerebral activities are involved in the reading process. Reading comprehension cannot be limited to the simple perception of black graphemes on white pages or computer screens.

From the standpoint of psycholinguistics, reading is primarily viewed as a language process. By relying on language cueing systems including syntactic, semantic and grapho-phonetic, readers attempt to read and understand texts. It is suggested that the more the text is consistent with the reader’s expectations and knowledge about a topic, the easier and the more fluid the reading process is. As Heilman, Blair, and Rupley (1986) state, according to

Psycholinguistic Theory “*the more familiar a reader is with a given topic, the less she needs to rely solely on the printed text. The readers’ knowledge of the topic and her language competence allow her to predict information and rely less on print*” (as cited in Tracey and Morrow, 2006, p. 58). Accordingly, reading is a process of making and testing hypotheses. The reader’s objective is to construct a meaningful and coherent interpretation of the text.

Developed within the framework of psycholinguistics, top-down models of the reading process define reading as a psycho-cognitive process. Fluent readers first anticipate the meaning of text before checking the available syntactic and graphic clues. To these models, the reader, rather than the text, is at the heart of the reading process. They emphasise the reader’s interpretation of texts by guessing the meaning on the basis of their background knowledge. In opposition to bottom-up models, they describe the processing sequence proceeding from predictions about meaning (Top) to attention progressively to smaller units of texts (Down).

The best known top-down models of the reading process are those suggested by Kenneth Goodman (1970) and Frank Smith (1971). Goodman’s model is the most frequently cited in both L1 and L2 literature. It was initially developed on the basis of his experience with beginning readers, yet he claims that the process is basically the same for more skilled readers (Pollatsek & Rayner, 1989, p. 462). Goodman’s approach to reading is highly influenced by psycholinguistics, with its emphasis on how we make sense of our world through the use of language. Meaning construction is called by Goodman ‘psycholinguistic guessing game’, because when readers approach a text, they have in advance a hypothesis of what the text might be about. Then they test their hypothesis and confirm or reject it as they read through the text (Reid et al., 2003, p. 03). Reading, to borrow Goodman’s words (as cited in Carrell et al., 1988, p.12), is:

a psycholinguistic process in that it starts with a linguistic surface representation encoded by a writer and ends with meaning which the reader constructs. There is thus essential

interaction between language and thought in reading. The writer encodes thought as language and the reader decodes language to thought.

Goodman describes the reading process by dividing it into four cycles “*between the visual input supplied by the eyes to the brain and the meaning constructed by the brain: visual, perceptual, syntactic and semantic*” (as cited in Carrell et al., 1988, p.12). His aim is to create a model explaining the reading behaviour which may be taken as a basis for reading instruction effectiveness (as cited in Carrell et al., 1988, p. 11). The model is perhaps best explained by Kenneth Goodman (1973) himself as a process in which “*the reader does not use all the information available to him. Reading is a process in which the reader picks and chooses from the available information only enough to select and predict a language structure which is decidable. It is not in any sense a precise perceptual process*” (as cited in Carrell et al., 1988, p. 74).

Though it provides important insights into the nature of the reading process, Goodman’s model has been criticised on the basis that it does not provide explicit explanation of some cognitive procedures required for understanding , nor “*does it give any hint as to how the meaning is assimilated with the reader’s background knowledge*” (Pollatsek & Rayner, 1989, p. 464). Another major limitation of Goodman’s “guessing game” concerns its pedagogical implication to reading classes. In the words of Barbara Birch (2002) , instruction about sounds and letters is sometimes neglected by teachers and syllabus designers as well.

Patricia Carrell (1988) thinks that even though the psycholinguistic model of reading describes reading as an interaction of language and thought, it has generally failed to give sufficient emphasis to the role of the reader’s background knowledge (p. 75). Simply put, the top-down view of the reading process, still, defines reading as a receptive skill

In addition, a great deal of evidence has shown the guessing hypothesis to be false. For instance, from eye movement data, evidence shows that skilled readers, while reading

relatively easy texts, pay attention to every letter in every word in the text. More importantly, no evidence has been observed confirming that advanced readers sample, predict, or guess what words will come next, while they read (Carver, 2000, p. 316). Researchers have also found that it is the poorer reader who has to do more guessing and predicting, instead of the better one (Stanovich, 1986 in Carver, 2000).

In fact, many reading researchers think that not Goodman's model only, but all the models that rely so heavily on top-down mechanisms to explain the reading process, suffer from the lack of precision. This is partly due to the lack of knowledge about how higher-order processes work (Carver, 2000, p. 317). Another major limitation of the top-down models to reading is that *"for many texts, the reader has little knowledge of the topic and cannot generate predictions"* (Kamil & Samuels, as cited in Carrell et al., 1988, p. 33). Furthermore, sometimes it is easier for a skilled reader to simply recognise words in a text than to try to generate hypotheses and predictions. David Eskey, for his part, criticises the top-down models on the basis that they tend to deemphasise the perceptual and decoding dimensions of the reading process. (as cited in Carrell et al., 1988).

Despite all the critics addressed to top-down oriented models, one cannot deny the powerful impact of the top-down approach on EFL reading as it has led to extensive research on how higher-level processes and background knowledge affect the reading process.

All in all, one may say that the major difference between bottom-up and top-down models lies in the fact that *"bottom-up models start with the printed stimuli and work their way up to higher-level stages, whereas the top-down models start with hypotheses and predictions and attempt to verify them by working down to the printed stimuli"* (Kamil & Samuels, as cited in Carrell et al., 1988, p. 31). As for the interactive models, they seem, in the words of David Eskey, to strike a balance among bottom-up and top-down models of the reading process.

1.1.3. Reading as a Socio-Constructivist Process: Interactive Models

In opposition to the previous views of reading, presented so far, which consider comprehension as the outcome of exclusive bottom-up or top-down processes, current research in the field of L2/FL reading is oriented towards a ‘multi-layered Interactive Approach’. The latter focuses on the various kinds of knowledge that the reader employs for the sake of understanding texts.

The roots of the interactive approach go back to a theory developed by David. E Rumelhart in the late 1970’s, wherein he demonstrates that reading is a “bi-directional” perceptive and cognitive process, involving both the reader and the text (as cited in Davies, 1995, p. 63). In simpler words, getting meaning from a text is the result of the interaction of the information presented in the text and the reader’s background knowledge and experience.

According to the interactive approach, texts do not “contain meaning”, they rather have “potential for meaning” (Wallas, 1992, p. 39), or “affordances” as borrowed from multimodal theory. This potential is realised only in the interaction between text and reader. That is, meaning is created in the course of reading as the reader draws both on their existing linguistic and schematic knowledge and the input provided by the printed or written text (Wallas, 1992, p. 39). Furthermore, the interactive approach suggests that the most successful readers are both skilful ‘bottom-up’ processors and skilful ‘top-down’ processors of texts. In other words, “*they can convert the language on the page into the information it represents both rapidly and accurately*”, at the same time “*they can relate this new information to the relevant knowledge they already have to construct a plausible meaning for the text*” (Eskey, 1997). Moreover, the advocates of the interactive approach claim that successful readers experience the two processes simultaneously; they decode and interpret as they read. This is the reason why it is technically called “parallel processing approach” by Florence Davies

(1995) and David Eskey (1997), drawing a synthesis of the top-down and bottom-up processes and stressing both what is written on the page and what the reader brings to it.

Barbara Birch (2002) states that the reading process is interactive in three ways. One, the different processing strategies, both top and bottom, along with the knowledge base, interact with each other to accomplish the reading. Two, the reader's mind interacts with the written text so that the reader can understand the message. Three, the reader interacts indirectly with the writer of the text across time and space because it is the writer who is communicating information to the reader, but it is the reader who must grasp the information from the writer.

Before examining the most notorious interactive models prevailing during the last decades, it is worth mentioning that though each model emphasises a specific element of the process, all of them share the basic principle of the interactive approach. The latter refers to the fact that the most efficient processing of text is interactive, a combination of top-down and bottom-up processing modes. Top-down processing relates to the process of prediction, confirmation or rejection on the basis of prior knowledge, as it is mentioned earlier. Conversely, bottom-up processing relates to the building of textual meaning from the smallest to the largest units on the basis of the information encountered in the text.

1.1.3.1 Rumelhart's Model

Rumelhart's model represents the first of a number of interactive models of reading. Developed from laboratory research on fluent skilled readers, it proposes the combination of both decoding and interpreting processes in order to reach understanding. For Rumelhart (1977), the process of reading

begins with a flutter of patterns on the retina and ends (when successful) with a definite idea about the author's intended message. Thus reading is at once a 'perceptual' and 'cognitive' process. Moreover, a skilled reader must be able to make use of sensory ,

semantic and pragmatic information to accomplish his task. These various sources of information appear to interact in many complex ways during the process of reading.

(as cited in Davies, 1995, p. 64)

Rumelhart describes the reading process as an interactive process in total opposition to what he calls “linear models”, that is, bottom-up and top-down models. According to him, linear models are deficient because they describe reading as an information flow passing along in one direction, and thus do not account for the interaction between lower and higher levels of meaning processing. (as cited in Carrell et al., 1988, p. 27). In this respect, Pollatsek and Rayner explain that “*Rumelhart’s primary goal was to provide a framework for the development of models that are alternatives to the serial flow-chart models and that place more emphasis on highly interactive parallel processing mechanisms*” (1989, p. 468). In a word, Rumelhart’s model sustains that efficient reading entails decoding and interpreting texts to create meaning.

1.1.3.2 Bottom-Interactive Model

Like Rumelhart’s model, the bottom-interactive model proposed by Rayner and Pollatsek, draws on laboratory studies of fluent adult readers. Rayner and Pollatsek state that their model is “*primarily bottom-up, but top-down processes do interact with bottom-up processes*” (as cited in Davies, 1995, p. 69). Their objective has been to gain insight into the relationship between eye movement and cognitive processing. Unlike schema-driven models, the bottom-up interactive model emphasises the importance of the processing of visual information in meaning construction.

1.1.3.3 Stanovich’s Compensatory Model

Keith Stanovich (1988) claims that readers draw on both bottom-up and top-down processes when reading. He argues that “*readers use information simultaneously from different levels and not necessarily begin at the graphic (bottom-up) or the context (top-down)*

level” (as cited in Reid et al., 2003, p. 04). Moreover, he suggests that because the different processes interact, the reader’s weaknesses are compensated for by his /her strengths. That is the reason why he describes the reading process as an “interactive compensatory model”. The basic premise of the latter is that “*reading involves an array of processes. Readers who are weak in one strategy will rely on other processes to compensate for the weaker process.*” (Grabe, as cited in Carrell et al., 1988, p. 61).

Furthermore, Stanovich states that “*a deficit in any knowledge results in a heavier reliance on other knowledge sources regardless of their level in the processing hierarchy*” (as cited in Carrell et al., 1988, p. 32). For example if a beginning reader comes upon a new word he does not know, he may use sentence, context, and his background knowledge on the topic to deduce the meaning of the word. Notwithstanding, if a skilled reader (on word recognition) comes upon a text that he does not know much about the topic, he may rely more on his bottom-up processes to understand the text.

In this context, James Coady (1979), in discussing Goodman’s psycholinguistic model of reading, suggests that background knowledge may compensate for certain syntactic deficiencies. He explains:

The subject of reading materials should be of high interest and relate well to the background of the reader, since strong semantic input can help compensate when syntactic control is weak. The interest and background knowledge will enable the student to comprehend at a reasonable rate and keep him involved in the material in spite of its syntactic difficulty.

(as cited in Carrell et al., 1988, p. 75).

1.1.3.4 Bernhardt’s Constructivist Model

In 1986, Bernhardt proposed what she called a “constructivist model” of L2/FL reading to describe how an L2/FL reader interacts with a text to construct meaning. The model that she proposed is interactive and multidimensional involving some text-based (word recognition, phonemic/graphemic decoding...) and extra text-based components (intratextual

perception, prior knowledge and metacognition). Several or all components work together to achieve the meaning intended or unintended by the author (Upton, 1998). Bernhardt states that “*the reader recognises words and syntactic features, brings prior knowledge to the text, links the text elements together, and thinks about how the reading process is working (metacognition)*” (as cited in Barnett, 1989, p. 47).

All in all, one may say that a core feature of reading research within the framework of the interactive approach is the shift in attention ‘*from a focus on the product of reading (such as a score on reading comprehension test) to an emphasis on determining the strategies that readers use in various reading contexts*’ (Anderson, 1991, p. 466). Reading is a purposeful process requiring from readers to use their background knowledge, language abilities and reading strategies to reach understanding.

1.2. From Scrolls to Hypertext: an Overview of the History of Reading

One cannot understand what reading is today or how it may empower the world in future without getting a better understanding of what reading used to be in the past. Initially, it was viewed as the simple faculty of extracting information from texts through decoding signs to grasp meaning. More recently it has included the process of extracting information from electronic texts. “*And reading’s definition will doubtless continue to expand in future*” (Fisher, 2003, p. 12).

Primitive reading was different and complex for many reasons. The systems used comprised codes known only to a small group of people. In addition, different types of significations were regarded as reading, although in a primitive sense. For instance, “*early Homo Sapiens read notches on bones signalling something that was meaningful to them.*” (Fisher, 2003, p. 15). In addition, the graphic stories that primitive tribes draw on caves is also considered as a form of reading as they bear meaningful information. Many other early

societies such as the Incas and Ancient Polynesians used symbolic messages that conveyed a known significance “*whether an action (as in cave art), numerical value (as in tallies and knots) or spoken name (as in notches and strings) , without fulfilling , however, the criteria for complete writing*” (Fisher, 2003, p. 15).

In Europe, what characterised reading during the mediaeval period was the interpenetration of writing and orality, reading and listening. Before 1300, private and individual reading was not common among readers. With some exceptions, reading during the middle ages was a collective experience. Bible passages were read aloud at church services. For a certain period, reading was adapted to oral practice. More to the point, the term ‘reading’ in many mediaeval European languages relates to ‘reading aloud’. Listening was part of reading.

Since its inception, reading has undergone many changes. According to Robert Darnton, up until the third or fourth century A.D, Europeans ‘had to unroll a book to read it’. Later on, scrolls evolved into codex (folded pages gathered together) then books.

The idea of using codex instead of scrolls arose from the early Christians need to hide their spiritual texts from roman authorities. Reading was considered as a religious activity practiced in monasteries. The early Christians read out spiritual texts to themselves. It is until the ninth century that silent reading was required by monastic regulations. The shift from reading aloud to silent reading reflects the cognitive abilities required while reading.

In the middle of the 15th century, reading witnessed a substantial social shift thanks to the printing revolution (1450). The first printed versions of the bible were produced. The printed book transformed the world by reaching a wider audience and stimulating new kinds of reading. It became increasingly cheaper in its price and widespread in its distribution.

The first page was printed in 1450 by Gutenberg in Mainz, Germany. Accordingly, reading practices began to change. Indeed, “*the invention announced one of the world*

history's greatest social and intellectual ruptures" (Fisher, 2003, p. 205). During the second half of the 15th C, readers became increasingly active readers. The act of reading started to become individual and silent. In comparison to handwritten parchment, the printed page was relatively cheaper resulting in the mass-produced book. The solitary physical book which was monopolised by some wealthy classes became 'intellectual property' that may be shared by different people. A new intellectual community emerged breaking with the church's monopoly on learning.

The act of reading had undergone a significant change between the 17th and the 18th C. Indeed, since individuals were able to purchase different books, the reading purpose shifted from intensive reading to extensive reading. In the eighteenth century, and more precisely during the height of the industrial revolution, "*reading became a widespread leisure activity in Europe and north America*" (Barry, 2013).

During the 19th C, as a result of the social changes caused by different revolutions, reading became much easier. In this way "*the new technology was an enormous impetus to literacy as well*" (Fisher, 2003, p. 273). In his book: *The Legacies of Literacies* (1987), Harvey Graff describes the nineteenth century as a key century for literacy. Its spread reached new heights as a result of industrialization, urbanization, commercial development, political developments, and technological advances along with related aspects of social change. The major social transformations are seen as, to borrow Graff's words, forces promoting the development of schools, at least in the long run.

Early attempts to scientifically scrutinise the reading process go back to 1870's when reading was studied within the framework of behaviourism from the standpoint of perception. The German psychologist Wilhelm Wundt and his assistant the American J. M. Cattell were the first scholars who attempted to explain some aspects of the reading process by using the scientific method in psychology laboratory. They focused on letter and word recognition as

well as reading speed. At the same time, Javal, at the University of Paris, conducted a study in order to explain the eye movements during the reading process. Hiebert and Raphael (1996, as cited in Tracey and Morrow, 2006, p. 23) summarise the advances made during the structuralist period of reading research:

From the late 1800s through the early 1900s, psychologists focused on reading as a perceptual process, primarily measuring perception of print (i.e., single letters, words) through reaction time studies, or focused on areas such as eye–voice span, speed of reading, and lip movements during silent reading [...] no attention was paid to whether or not the readers had comprehended the text— either because connected text was not used or because meaning construction was beyond the purview of the study.

By the beginning of the 20th century, reading was no longer considered as an ‘elitist accessory’, rather an integral part of individuals’ daily life. The spread of formal schooling, well-organised literacy development campaigns, in addition to societal changes helped the spread and the expansion of literacy development in different parts of Europe. It is worth noting that Historical information about literacy development in other parts of the world, mainly the countries that were under colonial rule, is limited (Barrett & Frank, 1999).

During the 1970’s, communication in general and reading in particular knew a fascinating development known as pictographic reading. The latter relates to the use of *“universally obvious pictograms (bus, taxi, woman, man) to communicate essential facilities at airports, ports, train stations, hotels and other places worldwide”* (Fisher, 2003, p.317). As a result, the traditional perception of reading has been challenged to embrace a new dimension most notably visual language.

Communication today is unlimited and cheap. People are overwhelmed by information; a phenomenon known as ‘infobesity’. Online journals and books are available to a global audience at a mouse-click. However, the challenge of nowadays reading is not to have access to information, rather to manage information through selection, analysis and

understanding, in other words, turning information into knowledge. With the overspread of electronic devices, a new reading standard comes into being, ‘D-reading’. Readers should be aware of the transformations in reading practices which are occurring or likely to occur in the near future.

1.3. From Print to Digital: New Considerations

Considered as a crucial aspect of the new literacy, D-reading has stimulated the interest of many researchers. The increase of technology usage by learners all over the world has urged scholars to switch much of their attention to D-reading practices. The impact of the new technologies on reading practices has been the object of many empirical studies in a wide range of disciplines notably education, literary studies and library and information sciences. Reviewing all the studies and approaches goes beyond the scope of the present study. Nevertheless, I think that some aspects of digital literacy deserve closer attention. The concerned aspects are the shift from literacy to digital literacy, and a comparison between P-texts and D-texts.

1.3.1. Literacy and Digital Literacy

To make sense of the present research, it is important to start by answering the question: what is literacy? The latter is likely to enlighten the way the sociocultural approach can be applied in terms of literacy use in general and reading practices in particular.

Literacy has been defined from two different perspectives namely; literacy as a mastery of the written medium and literacy as a social practice. Traditionally, literacy was narrowly considered as a set of reading and writing skills. Accordingly, to be literate means to be able to encode and decode the written language. However, from a sociocultural perspective, literacy is considered as a broad concept which is grounded in social practice. These two perspectives “*correspond to two different ways of viewing a stretch of written*

language as text or as discourse. Each one has a different relation to the cultural context in which it is produced and received” (Kramsh, 1998, p. 57)

Within the digital era, the conception and the definition of literacy become broader. New formats of literacy are emerging as a result of the influence of new technologies on reading comprehension. Different scholars conceptualise the term in different ways. As a result, a range of terms emerge to refer to this ‘new literacy’. For the sake of illustration, I may mention: 21st century literacy, internet literacy, e-literacy, digital literacy, new media literacy, ICT literacy, and computer literacy etc.

Scholars in the field of digital literacy are divided into two groups: those who consider the New Literacy as a psycholinguistic process, and those who view it as a social practice. The first approach is grounded in psycholinguistics. It is supported by many specialists such as Donald Leu, Julie Coiro, O’Byrne, Zawilinsky, Mc Verry etc. They consider literacy as a set of strategies and skills required for effective D-reading and learning. At the heart of the second approach lies the sociocultural theory. The latter is supported by Gee, Hayes, Lankshear, Knobel and others.

Different scholars hold different views about the impact of the new technologies on literacy. On the one hand, some scholars such as Walter Ong believe that “*while digital literacy constitutes an entirely new medium for reading and writing, it is but a further extension of what writing first made of language*” (Ong, 1982, p. 78). In other words, digital literacy is a historical continuity of print literacy; accordingly a part of it rather than a radical or great transformation. On the other hand, other scholars (Donald Leu, Labbo and Reinking etc.) do believe that a radical transformation of information and knowledge processing is brought about the emergence of digital literacy. Elizabeth Daley (2003as cited in Hanrahan & Madsen, 2000, p. 59) claims that the notion and the definition of literacy have been revolutionised by the new technologies. In addition, those who are truly literate in the twenty-

first century will be those who learn to both read and write the multimedia language of the screen.

As regards D-reading, which is the focus of the present study, a wide range of definitions are reported in the literature. Some scholars (e.g.; Wolf, 2007) relate D-reading to the use of the internet. However, since ‘digital’ means to convey electronically what is read and written as binary strings of ones and zeros, through this thesis, I am going to use the concept D-reading in a broader sense to refer to screen-based texts and hypertext alike. Put differently, D-reading is the process of reading any document displayed on a digital device in contrast with P-reading. This definition is more appropriate to the Algerian context since using the internet for academic purposes is still at its outset in Algeria.

Many researches and studies are to be found in the literature relating to the process of reading printed texts (Aebersold and Field, 1997; Anderson, 1991; Bernhardt, 1991; Carrell, 1998; Davies, 1995; Grabe & Xiangying, 2007). These studies and others contributed to highlighting the way readers interact with texts to construct meaning. However, in the D-environment, *“little empirical evidence has been gathered, particularly among adolescents, to support the claims that printed and digital texts are distinctly different media requiring different cognitive processes”* (Coiro & Dobler, 2007. p. 214).

A major issue explored in D-reading is the comparison of comprehension across hypermedia and paper. Different results are reported in the literature. Some studies report no significant difference, others such as Lehto, Zhu, and Carpenter (1995) report an advantage for hypermedia as it *“enables a number of modes of visual comparison not supported in the print context”*. In addition to comprehension, it has been noticed that motivation is much more significant while reading hypermedia materials. Conversely, in terms of cognitive focus and critical reading, some scholars consider the use of digital devices as a threat for brain activation. Umberto Eco (1996) and Maryanne Wolf (2007) are among the scholars who are

rather pessimistic about the impact of the digital devices on brain activation. In her work *Proust and the Squid: the Story and Science of the Reading Brain*, Wolf offers a biological analysis of the history of reading. She expresses her concern about the future of reading. She states that digital readers, who have immediate access to online information, run the risk of inhibiting their brain ability.

1.3.2. Reading P-Texts and D-Texts

At the heart of D-reading lies the D-text. As it has been claimed earlier, the D-text may refer to screen-based text or hypertext. The former refers to any document which is displayed in a digital device not necessarily available online. Accordingly, any document download and stored in a memory card is perceived as a D-text. as for the latter, it refers to Web pages and other kinds of on-screen content that employ hyperlinks (Farkas, 2004).

Studies on hypertext go back to the 1940's with two key-scholars in field: Vennevar Bush and Ted Nelson (Farkas, 2004). The essence of hypertext is linking and sharing documents. It contributes in changing the role of readers in the reading process since they become participants in the meaning construction process. It is a matter of choice and freedom to decide what the reader is going to experience next.

Various definitions of hypertext are generally elaborated against the notion of P-text. It suggests a non-linear form of access to information by using personal computers, laptops, mobiles or other technological devices. In opposition to the P-text which is described as linear, bounded and fixed. Delaney & Landow (1991, p. 3) define the hypertext as "*the use of computer to transcend the linear, bounded and fixed qualities of the traditional written text*". Unlike the text which is fixed, the hypertext is fluid as it is likely to be amended by readers.

The reading process of hypertext is considered non-linear since the reader selects highlighted or coloured words that lead them to another page suggesting further explanations of the selected item. Within the new screen, the reader may also select other screens by

clicking on other hyperlinks. In this view, reading is a continuous process through which the reader discovers new interests as they go through from one hyperlink to another. It is worth mentioning that the reader may forget about the initial goal they stated before starting reading by accessing new information and discovering new interests. Schmar-Dobler (2003) notes that D-texts mainly Internet pages have blinking graphics, vivid colour, and lots of eye catching phrases that can guide or distract from reading.

Reading D-texts represent an issue that needs a thorough investigation and examination in the field of reading research. The ultimate goal of the few studies on D-reading is to investigate in order to explain the way readers read various digital materials with much focus on online documents (Anderson, 2002; Coiro & Dobler, 2007). Some of the differences between the two reading environments are to be found in the literature. To explain the difference between P-texts and D-texts, Lanham (1995) asserts that:

In the world of print, the idea and its expression are virtually one. The meaning takes the form of words; words generate the meaning. Digital literacy works in an inherently different way. The same digital code that expresses words and numbers can, if the parameters of expression are adjusted, generate sounds and images [...] a role it could never play in print.

While the different modalities of information transmission are separated in a P-text, they can be present simultaneously in a D-text.

Several scholars (Birkerts, 1994; Liu, 2005) argue that the fragmentary nature of hypertext is threatening in-depth reading. Alternatively, other scholars think that the shift from in-print reading to screen-based reading reflects a shift from traditional literacy to a new form of literacy. In this context, Bolter (1991) states:

The shift from print to the computer does not mean the end of literacy itself, but the literacy of print, for electronic technology offers us a new kind of book and new ways to write and read (as cited in Liu, 2005, p. 701).

It is argued that D-reading is characterised by immediacy of accessing information, non-linearity and interactivity that may be considered as powerful advantages.

Conclusion

The aim of this chapter has been the elucidation of ‘reading’, the history of reading and ‘D-reading’. It has been shown that reading can be examined from a myriad of perspectives. A variety of definitions from various perspectives are suggested by scholars resulting in the conception of various reading models. Each model is grounded in a specific field of study. Bottom-up models focus on the linguistic aspect of reading. Top-down models emphasise the psycholinguistic characteristics of reading. As for interactive models, they combine the two perceptions together. In addition, they offer a socio-constructivist aspect to reading.

Any attempt to define reading cannot go without having an overview of the history of reading. The latter undergoes various changes and revolutions through time. The brief historical glance leads me to say that the history of reading is characterised by three significant changes. Accordingly, it may be divided into three major phases. The first is the shift from oral to silent reading during the Middle Ages. The second is the shift from intensive to extensive reading during the Renaissance as a result of the invention of the printing press. The third phase is related to the arrival of digital technology which is likely to redefine reading and literacy.

The third section of this chapter has been devoted to D-reading. A special focus was put on D-reading for the purpose of highlighting its characteristics as well as its differences from P-reading. The use of technological devices in reading brought about changes in perceptions and practices. D-reading caught the attention of several scholars who explored it mainly from a cognitive perspective aiming to depict differences between P- and D-reading.

Chapter 2

Sociocultural Theory and its Implications for the Study

Introduction

Since most of the analytical categories are borrowed from the sociocultural approach, a particular attention is paid to the central issue of the research namely, sociocultural theory (SCT henceforth) and its implications for the study. This chapter aims at presenting a brief overview of the crucial theoretical claims of SCT with special attention to the way it relates to Second Language Acquisition (SLA henceforth). It starts by elucidating SCT, its main constructs which are of valuable relevance to the issue, namely ‘mediation’ and ‘internalisation’. Then, a sociocultural approach to reading is presented by focussing on literacy development in sociocultural contexts as well as the different roles of readers.

This chapter ends with a designed analytical framework: ‘a sociocultural model of a reading practice’. It is composed of three components: learners’ attitudes towards reading, their reading strategy-use and their formal schematic knowledge. These three components are claimed to be at the core of EFL reading proficiency.

2.1. Origins of Sociocultural Theory and its Scope

During the last decades, various approaches have emerged to discuss the process of SLA combining theories of language borrowed from linguistics, and theories of learning developed mainly in psychology. The most influential ones are behaviourism, cognitivism, and the sociocultural approach. By ignoring inaccessible mental processes and focussing on observable behaviour, Skinner (1957), the key figure of behaviourism, holds that language learning “*occurs through a series of stimuli and response and that all learning is the establishment of habits as a result of reinforcement*”. This view has been challenged by Noam Chomsky who suggested a nativist and a cognitivist view to language learning. Even though Chomsky’s theory offers a coherent explanation of the learning process and a valuable theoretical support for language teaching, it ignores the sociocultural aspect of language

learning. Accordingly, the sociocultural approach to SLA emerges to combine the cognitive and the social characteristics of language learning.

SCT is one of the various theories incorporated within the social learning perspective. It is used by multiple research communities to relate to several issues. The scope of SCT is so broad; the elaboration and the implications of the theory are so various that one cannot review all the suggested theories and models. Yet, a common agreement among all the scholars working within the field of SCT as applied to SLA is reached holding that the development of human higher mental processes comes from social interactions. Its basic tenet is the interdependence of social and individual processes to construct knowledge by stressing the crucial role of sociocultural factors in human's cognitive development. SCT maintains that biological, cultural, and social factors interweave during the learning process.

It has been claimed in the literature that SCT emerged directly from the research of the Russian psychologist Vygotsky and his colleagues some years after the Russian revolution (John-Steiner & Mahn, 1996; Lantolf, 2000; Min 2006). Much later after his death in 1934, his theory became known and his book was translated into various languages among them English in 1962. One of Vygotsky's claims is that right from their early stages of language learning, children through their interaction with other members of a given culture engage in a process of meaning making and knowledge construction. It is worth mentioning that this approach has also been called Cultural-Historical Approach.

SCT has been highly inspired by social constructivism and its application to language acquisition research. It explains the learning process as socioculturally organised. It is mainly based on the causal relationship between social interaction and cognitive development. The strong connections between culture, language, and cognition have been investigated within social sciences for over a century.

According to Vygotsky & Cole (1978), many factors such as social, cultural and historical contexts are involved in the learning process. Social interactions, learners' cultural background and historical context are factors which are likely to influence the mental functioning of the individual and the learning process including language learning. The learner interacts with the physical and social environment while learning. Through social activity, learners are likely to develop their cognition. In this context, Lantolf (2000) claims that L2 learning is a semiotic process linked with participation in social activities. Social interaction influences the learner's learning process.

Lantolf & Thorne (2006) are among the first pioneers who applied the principles of SCT as a theory of learning to SLA. Indeed, the first attempts to adopt a Vygotskian sociocultural approach to SLA go back to the mid-1980s (Frawley & Lantolf, 1985). In the mid-1990s, the *Modern Language Journal* devoted a special issue to the various claims of SCT and L2 learning (Lantolf, 1994). The same year, an edited book entitled *Vygotskian approaches to second language research* (Lantolf & Appel, 1994) was published. This boosted a multiplying conference presentations and publications within the framework of SCT applications to SLA.

Unlike cognitive theories, no unified sociocultural theory has been provided. So, different scholars tend to use the term 'sociocultural approach' which encompasses all the sociocultural perspectives. In this context, Lewis, Enrico and Moje (2007) argue that "*the word sociocultural has taken on both great prominence, and, we would assert, some lack of clarity in application*" (as cited in Perry, 2012, p. 51). Similarly, in *Lenses on Reading* published in 2006, Tracey and Morrow show how sociocultural theories can be undifferentiated. Kristen Perry (2012), in turn, claims that it is "*more appropriate to speak of sociocultural perspectives as a collection of related theories that include significant emphases on the social and cultural contexts in which literacy is practised*" (p. 51).

Within the framework of the sociocultural approach, learning in general and language learning in particular goes beyond knowledge acquisition. It is rather a process of developing abilities to learn through different cultural tools. These tools relate to different things including language and computers among others. The sociocultural approach suggests a large perspective to the study of L2 and FL developmental processes and pedagogies including the combination of ‘cognition’ and ‘social context’. Cognitive development is influenced by individuals’ participation in culturally-organised practices as well as their daily activities. James P. Lantolf (2004) explains that

despite the label “sociocultural” the theory is not a theory of the social or of the cultural aspects of human existence... it is, rather, ... a theory of mind ... that recognizes the central role that social relationships and culturally constructed artifacts play in organizing uniquely human forms of thinking.

(as cited in Lantolf & Thorne, 2006, P. 01)

In an attempt to provide a broad conception of the term, James Paul Gee (1990) states that several variables are likely to influence language learning: social relations, cultural models, power and politics, values, attitudes and things and places in the world. In other words, language learning is shaped and determined by sociocultural factors and the context where learning takes place. According to Hall & Walsh (2002), language learning is a result of the participation of individuals in different sociocultural activities. To put it in a nutshell, the aim of sociocultural perspectives as applied to language learning is to elucidate the correlation existing between cognitive processes and social and cultural contexts where learning takes place.

2.2. Major Constructs of SCT as Applied to SLA

SCT as first designed by Vygotsky includes a set constructs attempting to elucidate the learning process within social contexts. These constructs include mainly: Zone of Proximal Development (ZPD), Inner Speech, Activity Theory, Mediation, and Internalization among others. They have been explored in several contexts of SLA by teachers and researchers as well. A considerable amount of case studies are reported in the literature investigating the impact of SCT on SLA with much focus on ZPD. Conversely, to meet the aims of the present study ‘mediation’ and ‘internalisation’ are emphasised. They are viewed as greatly relevant to the issues raised in the present research.

2.2.1 Mediation & Regulation

Mediation relates to a crucial aspect of SCT. It is a metaphor suggested to explain the relationship between the learners’ cognitive development and their surroundings. This means that, to borrow Lantolf’s words, the individual does not establish a direct relationship with the world, but that this relationship is mediated through the use of tools (2001).

In their daily life, human beings make use of physical tools to improve their conditions, to bring about changes in their environment, to give them more power by acting more effectively. A simple example of physical mediation is the use of a hammer for driving in nails or beating metals. Similarly, in order to regulate and mediate their higher level functioning system, individuals use symbolic tools or artifacts. Williams and Burden point out that mediation is achieved through tools which are *“used in order to help solve a problem or achieve a goal. The most important of these tools is symbolic language..., the use of meditational language to help learners move into and through their Zone of Proximal Development (ZPD) is of particular significance”* (1997, p. 65).

At the core of mediation lies the term symbolic ‘tool’ or ‘artifact’ that acts as a link between an individual and the environment and mediates between the person and their

social/physical world (Lantolf and Thorne, 2007). Lantolf (2000, p. 4) states that these symbolic artifacts are culturally- constructed and target establishing an indirect or mediated relationship with the world, and the role of psychologists and researchers is explain how the world of human beings is affected through the use of various culturally constructed artifacts. It is worth mentioning that the concept of ‘tool’ has been borrowed from Hegel and Marx (Vygotsky & Cole, 1978, p. 54). Marx focuses on working tools that individuals make use of to fulfil their personal goals. Similarly, during the learning process, individuals use a variety of tools as mediators.

In an attempt to draw a clear cut distinction between physical and symbolic mediation tools, James P. Lantolf (1994) states that the difference “*resides in their relative directionality. The former are outwardly directed toward objects, while the latter are inwardly directed toward subjects*”. This means that individuals control the physical tools; conversely higher mental functions are controlled by symbolic artifacts. Vygotsky and Cole (1978) maintain that the influence the sociocultural context on children’s cognitive abilities becomes visible once they start integrating symbols as auxiliary means of mediation into their physical and mental activity.

Mediation can be explained as a process of introducing an auxiliary device into an activity that links individuals to the world of mental behaviour (Lantolf, 1994). The symbolic artifacts foster the individuals’ abilities to organize and regulate their mental processes. A well-investigated example of mediation tools is mediation through technology (e.g. Warschauer, 1997; Fotos, 2004; Li, 2005; etc.). During the 1990’s, software was introduced to enhance interactive learning and stimulate learners’ motivation and critical thinking (Fotos, 2004). In 1997, Warschauer wrote an article entitled *Computer-mediated collaborative learning: theory and practice*. He explored the concept of mediation as first coined by Vygotsky in the field of computer language learning and Computer-Mediated Communication

(CMC). Nowadays, the internet seems boosting this role in the process of language learning as it provides learners with opportunities to make more integrative use of computers as mediation tools for language learning. In the same vein, Li (2005, p. 16) claims that using computers has greatly contributed in reshaping “*the thinking, writing, and revision processes of people who have adapted their composing abilities to the new writing medium*”. This revolution that technology brought about to the way learners think is similar, to borrow Li (2005) claims, to the revolution made thanks to the written system.

Lev Vygotsky classified mediation tools into three categories: material tools, psychological tools, and other human beings (Kozulin,1998). According to Vygotsky and Cole (1978), anything the human being has invented to master nature may be considered as a part of the material kind of tools. As for psychological tools, they are used to mediate between the learners’ mind and the abstract world. They are also known as “*symbolic tools*” (Lantolf, 2000) or “*higher intellectual processes*” (Vygotsky & Cole, 1978), and they are exclusively used by human beings. The arithmetic systems, art, language, and music are examples of symbolic tools. The third type of mediation is achieved through other human beings. Vygotsky & Cole (1978) explains this type of mediation by providing an example of a child who cannot reach an object. The child’s mother plays the role of the mediator who helps the child to reach their goal by showing him/her the way to reach it. So, she has helped her kid to create a relationship between their mental representations and the external world.

All in all, SCT can be divided into different themes related to the way children or learners can construct knowledge. One of its major themes is that the learning process is mediated by several tools such as language, schemes, calculators, or computers. These semiotic tools are used to mediate between the individual’s mind and the world and they can be of different forms. They are used for the aim of facilitating the knowledge construction

process as well as the process of internalisation leading to future independent problem solving activity.

2.2.2. Internalisation & Appropriation

Internalisation is another notion developed within the framework of SCT. It, as its name indicates, relates to the process of internalising new cognitive functions resulting from social interactions in real situations. Vygotsky (in Vygotsky & Cole, 1978, p.75) explains internalisation as a process of transforming and turning inwards intermental functioning in the form of social relations among individuals and interaction with socially constructed artifacts into intramental functioning. He claims that cognitive development within individuals appears at two sociocultural levels: first, between individuals (inter-psychology) and then inside the learner or the child (intra-psychology).

Leontiev (1981), a colleague of vygotsky, used the term “*appropriation*” to characterise this process of internalisation and he explains it as the way learners or children make use of what they have acquired in new situations. “*The child has only to come to an understanding that it is adequate for using the culturally elaborated object in the novel life circumstances he encounters*” (Leontiev, 1981 as cited in Scott & Palincsar, 2013).

By conceptualising this construct, Vygotsky’s aim is to combine and link together the external and the internal facets of the learning process. It goes beyond the individualistic perception of learning to embrace to sociocultural aspect of learning. The latter is viewed as “*the transformation of socially shared activities into internalized process*” (John-Steiner & Mahn, 1996, p. 193). In the same vein, Gibbons (2002, p. 8) explains learners’ development as the result of their social and cultural experience.

Through their experience in society and their interaction with individuals around them, children or learners make use of a variety of tools to mediate between their cognitive abilities and the external world. Then, they internalise or appropriate these tools by farming their

higher mental functioning. Put differently, the learners' sociocultural background provides them with tools which are likely to determine their perceptions, their attitudes and their way of thinking.

Through decades this construct has been applied in a various way in the field of SLA. Some of the issues explored include the role of learners, the role of teachers as well as the interaction between teachers and learners. The sociocultural aspect of human learning opened new horizons for teachers, education policy makers, and researchers as "*in the last few decades there has been increasing interest in this theory and its implications*" for research on teaching and learning (Steiner & Mahn, 1996, p. 191).

2.3. Sociocultural Approach to Literacy

The application of Vygotskian ideas is not new to education. As it has already been mentioned, the first attempt to apply SCT to SLA started to appear in the mid- 1980's. Soon, various ways in which the theory can be used have been reported in the literature (e.g. Lantolf, 2001; Kramsch, 2002). Based on Vygotsky's theory, sociocultural approaches to literacy conceive the language learning process as a social process, and emphasise the importance of interaction with peers or with more advanced users of the language.

It is worth noting that his theory has been widely explored by various researchers in the field of L2 learning. Bronfenbrenner (1979 as cited in Tracey & Morrow, 2006, p. 105) suggests that child's development is influenced by three layers of influence: the microsystem, the mesosystem and the exosystem. He explains the three layers as follows:

The microsystem, the first and innermost level of influence, is the child's immediate environment, his home and/or classroom. *The mesosystem*, the second level of influence, is the layer of interaction that exists between the child's home and school life. *The exosystem*, the third level of influence, is the child's parents' work situations.

Based on the work of Bronfenbrenner, other scholars, like AU (1997), have attempted to elaborate the sociocultural approach. She broadens the scope of influence to include language and culture. According to her, the sociocultural approach investigates the link between literacy learning and the cultural and the social influences of learning. She asserts that *“a socio-cultural perspective begins with the assumption that reading, like other higher mental functions, is essentially social in nature”* (p.184) she adds:

School literacy learning is seen as a social process, affected not only by present but historical circumstances. Learning to read cannot logically be separated from the particular milieu in which it takes place. When children learn to read, or fail to learn to read, they do so in a particular social, cultural, and historical environment. Their success or failure in reading cannot be understood apart from that environment. (AU, 1997, p. 184)

The implications of SCT for education are broad-ranging. This includes curriculum design, assessment, and the four language skills including reading, among others. The sociocultural approach with regards to reading suggests that literacy learning and practices are influenced by cultural and historical factors as well as the social community in which the students live. *“Understanding that students’ different approaches to reading are connected to their social and cultural backgrounds can allow teachers to provide more personalized assistance”* (Hall, 2005).

Vygotsky’s theory has been elaborated and refined by different theoreticians (e.g. Leontiev, 1982; Chaiklin and Lave, 1993). In addition, implications for specific language skills have been elaborated resulting in sociocultural models of literacy and literacy learning. The latter moves beyond considering reading and writing as narrow skills, to become *“a wide range of literacy practices and activities carried out for a range of purposes and occurring in a range of social and cultural contexts”* (Hamer, 2005, p.70).

Traditionally, literacy was viewed narrowly as a set of reading and writing skills and literacy learning was limited to the development of adequate reading and writing strategies.

However, from a sociocultural perspective, literacy becomes a broad concept grounded in social practice. It is contextually-based as literacy learning relates to the acquisition of reading and writing strategies as well as “*attitudes and understandings about the forms, functions and purposes of literacy*” (Hamer, 2005, p.70).)

The sociocultural approach to literacy in general and reading in particular permits the broadening of our understanding of how FL learners read. Because knowledge is embedded within sociocultural practices, learners are viewed as inseparable from the social context. Barratt-Pugh (2002) states that a sociocultural model of literacy and literacy learning moves beyond a narrow set of skills and processes of reading and writing “*to become a wide range of literacy practices and activities carried out for a range of purposes and occurring in a range of social and cultural contexts*” (as cited in Hamer, 2005, p.70)

Scholars investigating literacy from a sociocultural perspective such as Street (1984), Barton and Hamilton (1998) among others are mainly interested in the way people use literacy in their everyday life. Their objective is to create a link between school and society by making literacy instruction meaningful and relevant.

The sociocultural approach to literacy emphasises the different usages of literacy in context. It overlaps three major perspectives: literacy as social practice, multiliteracies, and critical literacy. Yet, it is worth noting that the analytical framework of the present study is borrowed from ‘literacy as social practice’.

2.3.1. Literacy as Social Practice

Within this perspective, literacy is conceptualised as a set of practices (as opposed to skills) that are grounded in specific sociocultural contexts. It challenges the conceptualisation of literacy grounded in psychology. During the last decade, literacy as social practice has been widely investigated and developed by many scholars based at the Lancaster Literacy Research Centre in the United Kingdom (Perry, 2012, p. 54).

This approach in considering the nature of literacy is also called ‘New Literacy Studies’ (NLS) (Gee, 1991; Street, 1993). It draws upon ethnographic perspectives and anthropological theory. According to Brian Street (1984), this approach does not focus much on literacy as a set of skills or as a ‘technology of the mind’, to borrow Jack Goody’s words; it rather views literacy as a social practice that may vary according to time and space.

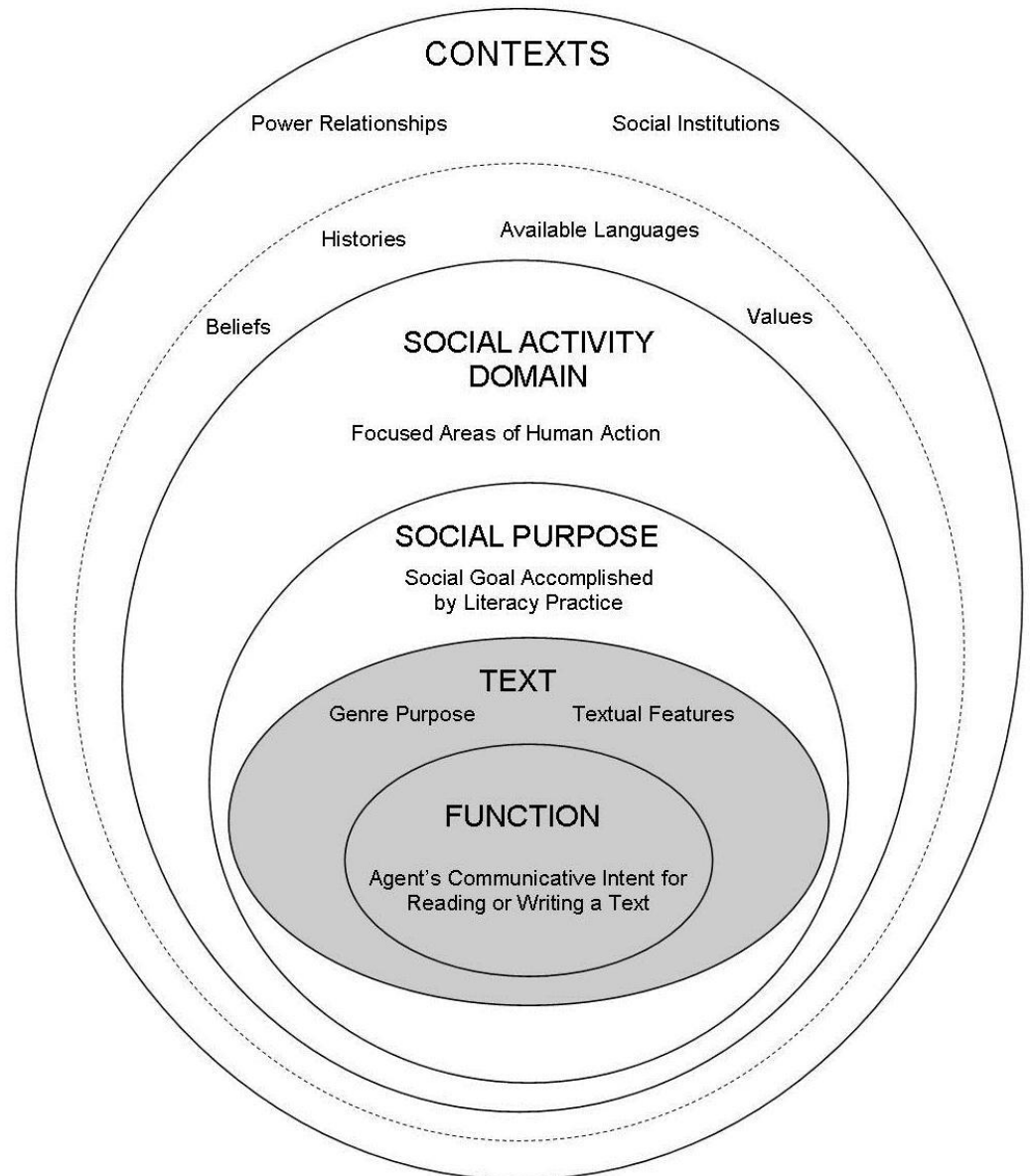
To draw a distinction between NLS and traditional approaches to literacy, Brian Street (1984) makes a distinction between two models of literacy: ‘Autonomous model’ & ‘Ideological model’. The autonomous model assumes that literacy “*in itself –autonomously– will have effects on other social and cognitive practices*”. Literacy is viewed as neutral and universal. The ideological model, on the other hand, suggests that literacy varies from one sociocultural context to another. To borrow Brian Street’s words, “*the ideological model of literacy offers a more culturally sensitive view of literacy practices as they vary from one context to another*”. It permits the shift of focus from the ‘universal’ view of literacy to the ‘local’ one.

At the core of literacy as social practice lies the distinction between ‘literacy events’ and ‘literacy practices’. In this context, Barton and Hamilton (2000, p.8) describe events as “*observable episodes which arise from practices and are shaped by them. The notion of events stresses the situated nature of literacy [...] it always exists in a social context*”. As for literacy practices, they describe them as “*the general cultural ways of utilizing written language which people draw upon in their lives. [...] literacy practices are what people do with literacy*” (p. 8). Put simply, literacy event is the actual act of reading, but literacy practice is broader since it includes the reader’s values, attitudes, feelings and social relationships that shape and determine the reading event. In order to provide a detailed explanation of the nature of literacy and draw a difference between literacy events and literacy practices, Barton and Hamilton (2000, p.8) outlined six propositions:

- Literacy is best understood as a set of social practices; these can be inferred from events which are mediated by written texts.
- There are different literacies associated with different domains of life
- Literacy practices are patterned by social institutions and power relationships, and some literacies become more dominant, visible and influential than others
- Literacy practices are purposeful and embedded in broader social goals and cultural practices
- Literacy is historically situated
- Literacy practices change, and new ones are frequently acquired through processes of informal learning and sense making.

These propositions elucidate literacy as social practice by emphasising the role of a variety of factors in determining the reading events. The text is a mediator of the reading process. The sociocultural- historical background of the readers shapes the reading event. In addition, literacy is not absolute since it is likely to change to suit the circumstances.

Similarly, Purcell-Gates Perry, and Adriana Biseno (2011) have developed a model representing the theoretical relationship between literacy events and literacy practices.



Model of a Literacy Practice

The areas shaded in gray represent an observable *literacy event*, while the unshaded areas represent inferred aspects of the larger *literacy practice* that contextualize and shape the event.

Figure 1. Model of a literacy practice.

The reader’s communicative purpose or intention is at the heart of the reading process, and then comes the text itself. The reader’s intentions together with the text represent the observable literacy event. The latter moderates the reader’s purpose for engaging in the event (to carry on reading or not). “*This immediate goal is shaped by larger domains of social activity (such as schooling) which in turn are shaped by other contextual layers.*” (Perry,

2012, p. 55). Various sociocultural variables are likely to have an impact on the reading process. For example, the reader's background knowledge, his/her beliefs or values as well as power relationships. The reading event is framed by all these sociocultural factors that make of reading a social practice.

In addition to explaining the reading process and accounting for the different variables which can influence it, the theory of literacy as social practice describes the different types of knowledge needed in order to effectively engage in literacy practices. In this context, Kristen Perry (2009) identifies three types of knowledge that readers need to reach effective understanding:

- Lexico-syntactic and grapho-phonetic knowledge: it is related to the bottom of the reading process consisting of knowledge of vocabulary and syntax.
- Cultural knowledge: it is related to the reader's background knowledge shaping his/her beliefs, values, attitudes as well as expectations.
- Genre knowledge: it is related to the reader's background knowledge of particular features of texts. Genre can be referred to as a set of some organised steps that are necessary to go through in order to reach a particular communicative purpose.

2.3.2. Critical Literacies

The roots of the theory of critical literacy go back to the work of Paulo Freire 'pedagogy of the Oppressed' where literacy is perceived as a process of reading the word and the world. Literacy acquisition goes beyond the development of cognitive skills to include issues of identity, and power relationships. Freire (2001, as cited in Perry, 2012, p. 60) explains critical literacy as follows:

To acquire literacy is more than to psychologically and mechanically dominate reading and writing techniques. It is to dominate these techniques in terms of consciousness; to understand what one reads and to write what one understands; it is to *communicate* graphically. Acquiring literacy does not involve memorizing sentences, words, or syllables

– lifeless objects unconnected to an existential universe – but rather an attitude of creation and re-creation, a self-transformation producing a stance of intervention in one’s context.

2.3.3. Multiliteracies

The theory of multiliteracies emphasises the real-world contexts in which people practice literacy. In addition, it “*focuses on modes of representation much broader than language alone*” (Cope and Kalantzis, 2000, as cited in Perry, 2012, p. 58). In other words, it focuses on multiple communication channels. Accordingly, multiliteracies are often associated with the term multimodality. The latter implies that the process of comprehension or meaning-making is a result of various modes of expression including spatial patterns, visual, audio and linguistic modes of meaning.

2.4. Readers in the Light of the Sociocultural Approach

The process of reading for comprehension is divided into various levels requiring different roles from readers. It has been claimed that “*comprehension, or the understanding of what the author has written , takes place at different levels of complexity according to the nature of the materials and the purpose for which the reading is intended*” (Zints, 1980, p. 230). Many factors make of reading a journey towards comprehension starting from the literal level moving to the critical one requiring more cognitive abilities and readers’ involvement. Starting from this assumption, Peter Freebody and Allan Luke (as cited in Freebody, 1992) define different roles for the reader while reading: code breakers, meaning makers, text users, text critics, and text analysts.

2.4.1. Code Breakers

The Code Breaker reader is able to successfully recognise the text by decoding and encoding the symbols of texts be them written or visual. This includes the alphabet, spelling, letter-sound relationships, grammar, punctuation, text structure, as well as visual codes such

as images. Determining the connotation of words beyond their literal meanings is not involved. Reading is limited to the receptive level involving retrieving information from texts.

2.4.2. Meaning Makers and Text Users

The meaning maker or text participant reader engages in the reading process to make meaning from written texts. This includes the interpretation of words and visual codes, the use of background knowledge to construct meaning, as well as the comparison of personal experiences with the ones presented in texts. It is not enough to just decipher the words; the reader has also to struggle to make sense of what the writer is saying.

The text user reader takes part in social activities in which the written text plays a major part (Freebody, 1992). This includes understanding the impact of cultural and social contexts in the way texts are structured and organized for specific purposes and convey particular meanings. Readers also have to know how to use texts; they can be used for pleasure, for gathering information, for writing essays, for decision making etc. As far as FL learning context is concerned, learners should learn how to exploit a variety of linguistic, sociocultural, and cognitive sources during the reading process. This cannot be done without using appropriate cognitive reading strategies.

2.4.3. Text Critics and Text Analysts

Because written and visual texts are not neutral, no matter how factual or neutral the texts seem to appear, readers should be text critic or text analyst (Freebody, 1992). This requires from readers developing critical competence allowing them recognise that texts influence people's opinions and understand that texts are written according to the views and interests of the author. Furthermore, as text analysts, students need to gain text awareness, observing how language is used within different genres to achieve different purposes. They also need to develop a 'suspicious eye' detecting bias, and identifying the author's stance (Wallace, 1992).

These three roles of readers are related to the three levels of comprehension: literal, inferential, and critical. Readers decode a text, interpret it by relating what is read to their background knowledge, and then move to critical and evaluative levels. Durrell (1949, p. 203) claims that core skills are required to develop readers' critical competence namely, judging suitability of material for particular purposes, distinguishing between facts and opinions, and discovering evidence of bias of prejudice and other evaluative skills.

2.5. A Model of Reading as a Sociocultural Practice: a Circumscribed Analytical Framework

As it has been shown so far, defining reading is so complex that providing a single and a common-agreed definition is almost impossible. Indeed, reading has been defined differently by different researchers from a variety of perspectives. In order to meet the needs of the present study, the theoretical categories have been borrowed from the sociocultural approach to literacy. In the light of this approach, reading is perceived a social practice combining both the cognitive and the sociocultural dimensions of reading.

In order to get a higher and a systematic profile of the analytical framework, a circumscribed model of EFL reading proficiency is designed. The model is triadic combining three major elements: readers' attitudes, readers' strategy-use, and their formal schematic knowledge. These three elements have been suggested on purpose.

Reading is an interactive process resulting from the interaction between texts' elements and readers' background knowledge. Indeed, this interaction is surrounded by a myriad of factors that positively or negatively influence the reading process. First, the way readers perceive EFL reading, or their attitudes towards reading are likely to motivate or to inhibit the process of reading. Second, reading strategy-use plays a vital role in the success or failure of reading. Third, because reading is socioculturally constructed, readers do not

approach various texts in the same way. Accordingly, their formal schematic knowledge is a fundamental part of the reading practice. Indeed, each element represents a specific aspect of reading. Attitudes represent the psychological side, strategies relate to the cognitive aspect, and formal schematic knowledge relates to discourse and rhetoric knowledge which are not of less importance during the reading process.

2.5.1. Attitudes

Although the focus of most current reading research has been directed towards cognitive aspects of reading, researchers are beginning to examine the ways in which affective factors impact the subsequent development of reading skills (Gentile & McMillan, 1987; Lipson & Wixson, 1986; Paris, Wasik, & Turner, 1991; Williams & McGee, 1994). Prominent among the affective factors is the learners' attitudes towards reading. Indeed, Attitudes have been and continue to be the focus of a great deal of research throughout the social sciences (McKenzie, 2010). Edwards (1999) describes attitudes as the most pervasive concept in modern social psychology.

Providing a clear definition of such significant concept in social sciences is not that simple since various definitions are to be found in the literature. Attitudes have been defined from different angles according to different theories (McKenzie, 2010). Indeed, the first definitions of attitudes were limited to feelings and emotions. Allport (1935, p. 810) describes attitudes as "*mental and neural state of readiness to respond to organised thought experience, exerting a directive and/or dynamic influence upon the individual's response to objects and situations with which it is related*". Similarly, an attitude is viewed by Good (1973) as a "*predisposition ... to react specifically towards an object, situation, or value [which is] usually accompanied by feelings and emotions*" (as cited in Watkins & Kush, 1996). So, it can be understood that attitude is a feeling of liking or disliking of an object which is likely to

determine a person's behaviour. In the same vein, Fishbein and Ajzen (1975) explain attitudes as predispositions to behave in a particular way.

More recent definitions are oriented towards an evaluative perspective with some degree of like and dislike encompassing feelings, cognition, and behaviour (Lind, 1984; Zanna & Rampel, 1988; Maio & Haddock, 2010). Gardner (1985, p. 5) perceives attitudes as “*evaluate reaction to some referent or object inferred on the basis of the individual's beliefs or opinions about the referent*”. What Gardner refers to as referent can be related to many things. It can be the target language, the language community, the language course, the language teacher, the language classroom, or the language skills. In the language of social psychology, entities which are evaluated are known as ‘attitudinal objects’ and encompass attitudes towards objects, individuals, institutions, events and abstract ideas (McKenzie, 2010).

In the same vein, Bohner and Wanke (2002, p.05) define an attitude as “*a summary evaluation of an object or thought*”. As for Ajzen & Fishbein (2005), they estimate that an attitude is a complex and dynamic concept which encompasses three variables namely, feeling, cognition, and behaviour. Defining attitudes from an evaluative perspective make of it “*a hypothetical construct*”, that is to say; it is not directly observable but can be inferred from observable responses (Eagly and Chaiken, 1993, p. 2).

Attitudes in SLA are generally investigated from two psychological approaches: the behaviourist and the cognitive view. “*Both theories consider that individuals are not born with attitudes but that they are learned, particularly over the course of socialisation during childhood and adolescence*” (McKenzie, 2010, p.23). So, both views hold a sociocultural stance. The behaviourist approach perceives attitudes as behaviours that may be inferred from the various responses on individuals in social situations. In contrast, the cognitive approach, which is most commonly used, views attitudes as “*internal state of readiness*” and they “*are*

not directly observable but can only be inferred from respondents' introspection" (McKenzie, 2010, p.24).

As far as attitudes towards reading are concerned, they are defined by Smith (1990) as a *"state of mind, accompanied by feelings and emotions, that make reading more or less probable"* (as cited in Watkins & Kush, 1996). Attitudes represent a significant factor in the learning process (Ajzen & Fishbein, 1975). They are socioculturally constructed and have a crucial impact on learners' behaviours and actions (Rivalland, 2007). Their fundamental function is to *"to contribute to knowledge organisation and to guide approach and avoidance strategies"* (Perloff, 2003, p.74). They foster the learners' cognitive schema. This suggests that they provide learners with structures which are likely to help them categorise and cope with an otherwise complex and ambiguous environment (McKenzie, 2010, p.24).

2.5.2. Reading Strategies

The traditional linguistic view to literacy has been challenged in the last three decades by the psycholinguistic-cognitive theories (Johns, 1997, p. 08). The core element of the alternative view of literacy is "text-processing", i.e., meaning construction is the result of the interaction of the reader with the text. On the basis of the latter theory, the pedagogical focus shifts from the text to the interactive process between the text and the reader. This interaction cannot be achieved without some kind of processing mechanism. The processing component, also known as procedural knowledge, consists of a variety of strategies and skills that allow the reader to take the text as a source of information, and drawing on his/her background knowledge as another source, to make sense of what is on the printed page (Birch, 2002, p. 02). Theorists and practitioners believe that literacy may be acquired through developing reading strategies for text processing (Carrell et al., 1989, p. 648).

Because of the potential vagueness and varied interpretations that may surround the use of the term 'strategy', an operational definition of the term should be conveyed. Reading

strategies may be defined as the various perceptual and cognitive processes that the readers engage in during their reading process for the sake of reaching understanding (Carrell, 1989; Block, 1986). Garner (1987) defines reading strategies as “*generally deliberate, planful activities undertaken by active learners, many times to remedy perceive cognitive failure*” (1987, p. 50). Another definition is provided by McNamara who states that a reading strategy is “*a cognitive or behavioural action that is enacted under particular contextual conditions, with the goal of improving some aspect of comprehension*”. Similarly, for Stephen Kucer and others (2005), reading strategies refer to “*information processing procedures [...] driven by print, background and purpose, guide the reader’s transaction with print and the construction of meaning*” (p. 131). In simpler words, one can say that reading strategies refer to the different procedures that the reader appeals to for the sake of constructing meaning from texts. By “*using the various strategies, the reader builds a web of meaning (deep structure) from the print (surface structure).*” (Krashen, 2002, p. 131).

Even though some scholars believe that reading strategies can be distinguished from reading skills, it can nevertheless be assumed that no clear-cut distinction between the two concepts can be agreed upon. An important point of dispute among reading researchers revolves around the extent to which reading strategies/skills involve conscious or unconscious behaviours. In this regard, Cohen (1986) and Pritchard (1990) note that: ‘strategy’ refers exclusively to conscious behaviour (in Davies, 1995). A similar viewpoint is shared by other researchers in this field, such as Paris, Lipson, and Wixon (1983) who consider skills as “*cognitive processes that are executed automatically, without the reader’s conscious attention or choice*”. In contrast, strategies are “*deliberately chosen and applied to a reading situation*” (as cited in Hayes & Stahl, 1997, p. 14). Paris, Wasik and Turner (1991, as cited in Carrell, 1988) define ‘strategies’ and ‘skills’ as follows:

Skills refer to information-processing techniques that are automatic, whether at the level of recognizing grapheme-phoneme correspondence or summarizing a story. Skills are applied

to a text unconsciously for many reasons including expertise, repeated practice, compliance with directions, luck, and naive use. In contrast strategies are actions selected deliberately to achieve particular goals. An emerging skill can become a strategy when it is used intentionally. Likewise, a strategy can "go underground" [...] and become a skill. Indeed strategies are more efficient and developmentally advanced when they become generated and applied automatically as skills. Thus, strategies are "skills under consideration."

Notwithstanding, Marva Barnett, Barbara Birch, and Florence Davies, among others counter this view and consider both processes as 'reading strategies'. Marva Barnett uses only the term 'reading strategy' to cover both meanings of strategy and skill. Barbara Birch explains that the processing strategies may operate automatically (unconsciously) without the reader's awareness or "*kick in selectively because of our attention to something we perceive*" (Birch, 2002, p. 03). As for Florence Davies (1995, p. 50), she states that a strategy may be a conscious or an unconscious behaviour according to the purpose of reading. She explains that in ordinary reading, readers use many strategies unconsciously, but when readers are "*put in a position where they are required to report on their thought processes*", reading strategies are likely to become conscious behaviours. She defines a reading strategy as "*a physical or mental action used consciously or unconsciously with the intention of facilitating text comprehension and / or learning*". Thus, she concludes that "*consciousness or unconsciousness*" cannot be taken as a systematic variable to draw a clear-cut distinction between the two concepts.

For our purposes, the term reading strategy is used throughout this study to include any of a wide array of procedures that readers use to engage in and comprehend texts. By doing so, we are siding with Patricia Carrell and Marva Barnett, among others, for whom the term reading strategy refers to reading skill too.

2.5.2.1 Types of Reading Strategies

In order to categorise the different reading strategies, researchers in the field have tried to develop different taxonomies. For example, Block (1986) categorises them only into top-down, or general comprehension strategies, and bottom-up or text-based strategies (in Fotovatian & Shokrpour, 2007).

A further distinction between the different strategies of reading has been provided by Hossein Nassaji (2003) in regard to the learners' literacy level. He distinguishes between two component processes: higher-level and lower-level skills. According to him, lower-level skills involve word recognition processes (such as orthographic and phonological abilities) which enable decoding print. This category of reading capabilities can be activated and taught to beginning learners, with a relatively elementary literacy level. As regards higher-level skills, they involve syntactic, semantic and discourse skills, leading to the integration of ideas in the learner's global knowledge. They are, most of the time, integrative and transferable strategies, activated by skilled readers, with an advanced proficiency level.

Another categorisation to be found in the literature (Sheorey & Mokhtari, 2001) is the classification of strategies according to the purpose of the reader. The strategies used to plan and regulate reading are called 'Global reading strategies'. The strategies that readers use to overcome comprehension difficulties are 'problem-solving strategies'. When problem-solving strategies are not sufficient for achieving comprehension, readers may use 'support strategies' such as using dictionaries.

The most current categorisation agreed upon by many researchers, is the binary division of reading strategies as cognitive and metacognitive processes.

2.5.2.1.1 Cognitive Reading Strategies

The cognitive reading strategies range from 'concrete strategies', such as guessing the meaning of unknown words from context, to more 'abstract strategies', such as relating what

is being read to the reader's background knowledge. Concrete and abstract strategies are also called respectively, 'bottom-up' and 'top-down' reading strategies (Coady, as cited in Mackay et al., 1979, p. 07). These two types of strategies work together in parallel in such a way to construct meaning from the P-text.

- ***Concrete (Bottom Processing) Strategies***

The 'bottom processing' of the interactive model contains knowledge about language as well as bottom-processing mechanisms. Bottom-up processing relates to the recognition of letters and words. Therefore, bottom-up strategies refer to the skills that the reader uses in processing information at the word and sentence level. They permit the transformation of "*squiggles on the page into meaningful symbols*" (Birch, 2002, p. 02). They are also known as word attack strategies. This category consists of some strategies like:

- Rereading text to find additional clues to the word.
- Skipping unknown words (Carrel, 1988). Michael Pressly (1994) suggests that if the learners are given the option of skipping unknown words, they will learn that it is acceptable to read more challenging materials.
- Classifying the words into grammatical categories.
- Reference: it refers to making use of cohesive devices to understand a passage or a text.
- Inference: It refers to making use of "*syntactic, logical and cultural clues to discover the meaning of unknown elements*" (Grellet, 1981, p. 14). It goes beyond the word level to include active interaction among sentences in order to comprehend texts. According to Nuttall, it is the technique that readers make use of in order to draw implications and certain conclusions from facts, opinions and arguments stated in the text.
- Guessing the meaning of unfamiliar words: one of the difficulties of FL reading is the identification of unfamiliar words in texts. Rather than checking meanings of

unfamiliar words in dictionaries, researchers in the field of reading (Grellet, Carrel, and Smith) suggest drawing inferences from the rest of the text in order to guess their meanings. Patricia Carrell defines this strategy in terms of making contextual guesses about the meanings of unknown words. The more readers attempt to infer the meaning of unknown words from their contexts, the more they develop their abilities to interpret textual information.

- ***Abstract (Top-Processing) Strategies***

The ‘top’ represents the reader’s background knowledge. Generally speaking, it relates to the influence of what the reader brings to the text in terms of prior knowledge. Therefore, top-processing strategies relate to high-level processing strategies thanks to which meaning for big pieces of text, like sentences and paragraphs, is constructed.

Unlike the bottom-up, the top-down strategies refer to a higher level of information processing, wherein the reader attempts to understand how the different pieces of information fit together. The reader may do so by getting the gist of the reading selection, making predictions about what the text is going to be like, inferences about the motivations of the characters, etc. This category consists of some strategies like:

- Associating information in text to background knowledge
- Predicting: Considered as basic to the process of reading, predicting relates to making use of the grammatical, logical and cultural clues to guess what is to come next (Grellet, 1981, p. 17). It is a strategy that turns reading into an active process. Through prediction, readers relate textual information to their background knowledge about a specific topic.
- Anticipating: Anticipating what might be upcoming in a text on the basis of structure and content clues. Consciously or unconsciously, before starting reading any text, readers use some clues to prepare themselves for the reading process. At first sight, it seems

that anticipating and predicting are similar. However, Françoise Grellet draws a significant distinction. For her, anticipation is psychological sensitising, i.e., the aim is simply to create the need and wish to read as well as to familiarise the learners with some of the ideas they will come across in the text. As for prediction, she considers that it relates to more detailed guessing of the text's content.

– Previewing: It is a very specific reading strategy involving the use of “*the table of contents, the appendix, the preface, the chapter and paragraph headings in order to find out where the required information is likely to be*” (Grellet, 1981, p. 18).

– Skimming: It refers to going quickly through the text “*to get the gist of it, to know how it is organised, or to get an idea of the tone or the intention of the writer*” (Grellet, 198, p. 19). In other words, it is a reading strategy used to quickly identify the main idea of the text by focusing on transition markers and key words according to the objective of the reader. A simple way to practice skimming is to read, as quickly as possible, the first few sentences of every paragraph and the last few sentences of every paragraph for the sake of getting the main ideas rather than finding out specific pieces of information. “*establish a general sense of the text, establish quickly macropropositional structure as an outline summary, and decide the relevance of texts to establish needs*” are the three purposes of this strategy as stated by Urquhart and Weir (1998, p. 213).

– Scanning: E, Lunzer and K, Gardner consider that scanning is “*a kind of skimming to see if a particular point is present or to locate it*” (as cited in Davies, 1995, p. 137). In other words, scanning allows readers to look attentively at a text in an attempt to locate specific information. It involves letting our eyes wander over the text without following the linearity of the passage “*to find what we are looking for, whether it be a name, a date or a less specific piece of information*” (Grellet, 1981, p. 19). It is a strategy that we often use when looking up particular words in reading materials.

– Elaborating: it relates to linking ideas contained in new information, or integrating new ideas with old information. (Fotovatian & Shokrpour, 2007).

– Setting a purpose: It is important to have an authentic purpose for any reading task. This will increase the learners' motivation and engagement.

2.5.2.1.2 Metacognitive Reading Strategies

According to Block (2002), there is now no more debate on “*whether reading is a bottom-up, language based process or a top-down knowledge based process*” (as cited in Vaezi, 2005). Research has gone further to define the control that readers execute on their ability to understand a text. She refers to this control as metacognition. The latter involves thinking about what one is doing while reading. (Saltail & Akyel, 2002). As early as 1978, Jhon Flavell defined metacognition as “*knowledge that takes as its object or regulates any aspect of cognitive behaviour*” (as cited in Carrell, 1988).

Metacognition is the ability to control the reader's cognitive processes including the use of reading strategies (O'Malley & Chamot, 1990). It contributes to the explanation of the reading process by investigating the way comprehension occurs and how can various strategies be used to facilitate understanding.

In the mid- 1970's, Flavell (1976) and Brown (1978) started to get interest in metacognition. They investigated the way children become able to be aware of their own cognitive processes and how they can control them. Studies in metacognition with regard to the reading process started in response to the findings of Durkin during the 1970's revealing that traditional directed reading lessons do not help learners become autonomous readers (as cited in Tracey & Morrow, 2006, p. 61)

One of the outcomes of research in metacognition as related to reading is that proficient readers use various metacognitive reading strategies. For example, they tend to use

‘fix-up’ strategies most notably, slowing down, looking up word meanings while struggling with unknown words or rereading (Pressley, 2002).

Metacognitive strategies can be defined as strategies that control and guide the reading process. O'Malley & Chamot (1990) define them as “*higher order executive skills that may entail planning for, monitoring, or evaluating the success of a learning activity ...*”. In accordance with this definition, the following strategies can be categorised as metacognitive: (1) Checking the outcome of any attempt to solve a problem; (2) Testing the effectiveness of a strategy used; (3) Planning; (4) Self-Monitoring: As they are reading, readers think about what they are reading to ensure that they are constructing the appropriate meaning; (5) Evaluating: Checking comprehension after the completion of a reading activity; (6) Setting a goal for reading; (7) Self-questioning; (8) Visualising during the reading experience; (9) Overviewing the text; (10) Reading selectively; (11) Making association to ideas presented.

Cohen (1998) categorised the metacognitive strategies into: (1) Pre-reading Strategies (planning); (2) While-reading strategies (monitoring); (3) Post-reading strategies (evaluating).

Of the advantages of metacognitive reading strategies is the fact that readers become aware of their cognitive reading strategies and the way they can regulate their thinking while they are reading. This process is often referred to as ‘metacognitive awareness’. Developing the learners’ metacognitive awareness is of paramount importance, because the learners need to know the kind of reading and thinking required from them to understand different types of texts (Carrell, 1988).

2.5.2.2. Digital Reading Strategies

In order to make D-reading more efficient, the reader has to develop some strategies and skills across different genres. Learners use various strategies to read and process texts. Some reading strategies, to be found in the literature, are specific to D-reading such as: using keyword search, reading a web page, activating hyperlinks, making use of graphic and multi-

media elements, knowing how to use a research engine to locate information, reading search engine results etc.

Unlike P-reading strategy research that go back to the late 1970's, D-reading strategy research is relatively still at its early stages. The studies conducted focused on investigating the differences between P-reading and D-reading . Their aim was mainly to attempt to identify online reading strategies and understand how learners develop the needed strategies to comprehend online texts. In this context, Tim Berners-Lee (2000, p.01) states that reading online is an endless process of *“anything being potentially connected with anything”*. Accordingly, researchers have been mainly interested in depicting the D-reading strategies used by learners.

According to the *English Benchmarking Statement*, the strategies and the skills *“required for the study of printed texts are assumed to be the same for electronic texts.”* (Hanrahan & Madsen, 2006, p. 03). These strategies include, among others: (1) Critical skills and analysis of texts; (2) Sensitivity to generic conventions; (3) Awareness of how different social and cultural contexts affect the nature of language and meaning; (4) Understanding of how cultural norms and assumptions influence questions of judgment; (5) Awareness of the relevant research by which they may be better. It is suggested that these strategies could apply equally well to text in any form be it printed or electronic.

However, in their study, Coiro and Dobler (2007) reveal that the cognitive processes of readers in online and offline reading are different. Accordingly, a proficient offline reader is not necessarily a proficient online reader. Similarly, Leu (2002) claims that offline reading strategies are not sufficient for successful online reading.

In order to reach understanding, separate skills and strategies are required. In this context, many scholars suggest different types of strategies. Leu et al (2007) identify five

major strategies: (1) Identifying important questions; (2) Locating information; (3) Analysing information; (4) Synthesising information; (5) Communicating information.

As far as metacognitive reading strategies are concerned, the first study to investigate online metacognitive reading strategies reported in the literature is the study of Anderson (2003) who compared EFL and ESL students' use of metacognitive reading strategies. To reach his purposes, he designed the Online Survey of Reading Strategies (OSORS) based on the survey of reading strategies (SORS) designed by Mokhtari in 2002.

All in all, the findings of various empirical studies show two main perceptions of D-reading strategies. While some scholars believe that the strategies are the same for both environments; others suggest that new skills and strategies are required for successful online reading. All the studies revealed that proficient readers use various strategies in an attempt to reach comprehension. Yet, they do not provide any plausible explanation for the reasons why students tend to use some categories of strategies more than others, nor do they relate the results to any sociocultural factor of the participants.

2.5.3. Formal Schematic Knowledge: Schema Theory

“Immanuel Kant claimed as long ago as 1781, new information, new concepts, new ideas, can have meaning only when they can be related to something the individual already knows” (as cited in Carrell et al., 1988, p. 73). The idea expressed by Immanuel Kant during the Enlightenment era becomes at the heart of current theories in comprehension processes in general and reading comprehension in particular.

Reading is a complex process that involves the use of many elements together such as the communicative purpose, the linguistic features (knowledge of vocabulary and grammar), context and discourse conventions along with metacognitive awareness. This process of interaction between texts components and readers' background knowledge is modelled in a well-known theory in the reading literature which is schema theory.

Schema theory reflects the shift of emphasis of comprehension processes from exclusively focused on the language to be comprehended, to include the comprehender, that is, the reader. In his book *S/Z*, Roland Barthes (1970) draws a distinction between ‘readerly’ and ‘writerly’ texts. *Readerly* texts are presented in a familiar, linear, and traditional manner. Meaning is fixed and pre-determined by the writer and the role of the reader is to passively receive the information. The text is structured and organised in such a way to hide any elements that would open up the text to multiple meanings. Conversely, *writerly* texts are controlled by readers who play an active role in the process of meaning making. The readers’ background knowledge interacts with the text’s characteristics in order to uncover and construct meaning.

Schema Theory is a theory of knowledge representation which has a pervasive influence on current thinking about text comprehension. It explains how readers use their prior knowledge comprehend and learn from texts (Rumelhart, 1980). Within the framework of this theory, reading comprehension is viewed as a comprehension process involving an interaction of text-based processes and knowledge-based processes. Based on readers’ creation of meaning, schema theory is considered as a constructivist theory. While reading, readers use their existing schemas for content, reading strategies, types and genres of texts to reach comprehension by constructing and revising their schemas. One of the tenets of schema theory is that the more we know about something, the more the schema is elaborated. So, knowledge structures are constantly changing and everyone’s schemas are individualised. In addition, learners’ learning styles are influenced by their existing schemas.

Schema-driven models of reading assert that the reader’s background knowledge of the text’s topic and context affect his/her reading process and comprehension. Efficient comprehension requires the ability “*to relate the textual material to one’s own knowledge*” as Anderson and others point out that “*every act of comprehension involves one’s knowledge of*

the world as well” (as cited in Carrell et al., 1988, p. 76). At the heart of these models are schemata, more often referred to as background knowledge.

According to cognitive scientists, schemata relate to *“the building blocks of cognition”* (Rumelhart, 1980). Put differently, schemata are complex structures of information that represent the individual’s past encounters with the world. The term schema, as it is used in education nowadays, was first used in psychology by Bartlett in 1932 as “an active organization of past reactions or experiences” (1932, p.201). Rumelhart (1980, P.34) defines schema as *“a data structure for representing the genetic concepts stored in memory”*. Anderson and Pearson (1984, p.42) define it as *“an abstract knowledge structure”*. They contain readers’ knowledge of objects, situations, and events as well as *“knowledge of processes, such as reading, washing clothes, or home buying”* (Kucer, 2005). In simpler words, background or prior knowledge relates to the world understanding that learners bring to school. Similarly, Nuttall (1996) states that schema is *“a mental structure. It is abstract because it does not relate to any particular experience”*

Schemata might best be conceptualised as *“packets of information stored in memory representing general knowledge about objects, situations, events, or actions”* (Cohen et al., 1993). It means that knowledge stored in the individual’s mind is organised in the form of maps wherein each location represents a concept or an idea with *“roads from one location to the next signifying conceptual linkages”* (Cohen et al., 1993). In simple words, schemata refer to “cognitive maps” or mental structures organising knowledge stored in memory.

The term schemata was applied to reading research by Rumelhalt (1980), Carrell (1981) and Hudson (1982) when discussing the important role of background knowledge in reading comprehension. In this context, schemata refer to the reader’s pre-existing concepts about the world and about the text to be read. Though many researchers use the terms Schemata and background knowledge interchangeably, a slight difference between the two

concepts may be drawn. Following Patricia Carrell (1988), background knowledge refers to the reader's previously acquired knowledge, whereas schemata relate to the reader's previously acquired knowledge structures. One of the applications of the schema theory to the reading process, according to Anderson and Pearson (1984), is that readers approach texts with three types of knowledge notably; schemas for content, for reading strategies as well as generic features of texts.

The value of background knowledge to reading lies in its support to the construction of interpretation for the print being encountered. Words and sentences retrieved from a text stimulate the reader's mind and activate their schemata to understand the printed materials (Cook, 1989, p. 69). When a reader comes upon new information, during the reading process, they evaluate the relevance and the appropriateness of his/her background knowledge being used to support the understanding of the text. In other words, the reader evaluates the degree to which new meanings cohere with past meanings and to make adjustments as required. Marva Barnett (1988) explains this process by stating that *"if new textual information does not fit into a reader's schemata, the reader misunderstands the new material, ignores the new material, or revises the schemata to match the facts within the passage"*. In this context, Frank Smith (1988) notes that the good reader is the one whose comprehension approximates the information level that the writer encodes in print. He explains: *"just because meaning has to be brought by the reader [to the text] does not mean that any meaning will do"* (as cited in Emerald, 1991, p. 11).

Three types of schemata are generally referred to in the reading literature namely; linguistic, content and formal schemata.

– ***Linguistic Schemata***

Linguistic schemata refer to the reader's linguistic knowledge and language proficiency. They relate to knowledge of phonology, morphology and syntax, in a word,

linguistic proficiency at the word and sentence level. Readers cannot approach texts without adequate linguistic schemata which are likely to help them decode texts. The more readers possess linguistic schemata, the faster and easier is their decoding of texts. This is mainly true in a foreign language reading context.

– ***Content Schemata***

Content schemata relate to the content knowledge that a reader has about the topic of the passage at hand. They comprise readers' cultural background and personal experience. Being familiar with a text topic is likely to enhance reader's understanding of texts as their prior knowledge is closer to the text content. When a reader approaches a text with sufficient content schemata, this will help him/her to understand and recall more than does a reader less familiar with text content.

– ***Formal Schemata***

Formal schemata relate to the reader's knowledge of the textual features and rhetorical patterns of different genres. It refers to "*background knowledge of the formal, rhetorical organizational structures of different types of texts*" (Carrel and Eisterhold, 1983, p.79). Similarly, Richard C. Anderson (1994) indicate that formal schemata account for the organization of a text or discourse. Each text or discourse is characterised by the way in which the topic, propositions, and other information are linked together to form a coherent body.

Formal schemata define the reader's expectations about how pieces of textual information will relate to each other and in what order details will appear. This encompasses the reader's knowledge of characteristics of different text types and genres. More to the point, textual organisations include, among others, cause and effect, argumentation, listing, comparison and contrast etc. For example, in a narrative text, the reader could expect the following steps: introduction, the climax and the resolution. Patricia Carrell (1985) claims that "*the rhetorical organisation of a text interacts with the ESL reader's formal schemata (i.e.*

higher background knowledge and experience with textual organization) to affect reading comprehension”.

Good readers look closely to any piece of writing during the reading process. The way a text is structured and the rhetoric moves used by the writer are explored to reach better understanding. This suggests the fact that readers pay close attention to the text genre. Genre is closely related to the use of specific language structures and rhetoric moves in a variety of communicative settings.

Reading involves the use of any piece of information available in the text. In simple words, any text should be viewed as a written discourse. Accordingly, readers engage in a process of interaction and exchange of ideas with the writer via the text. This exchange cannot be successful without an appropriate involvement of readers’ prior knowledge and More importantly, their formal schematic knowledge.

Conclusion

This chapter has presented the basic analytical framework of the study namely the sociocultural approach and all related concepts. Knowing that knowledge of different theories and models is crucial for understanding literacy development and practices, this part started by offering an overview of the reading component of literacy. In fact, *“knowledgeable use of models and theories significantly strengthens the value of reading investigations”* (Creswell, 2002 as cited in Tracey & Morrow, p. xii).

The Sociocultural approach has its origins in the works of the Russian Psychologist Vygotsky and his colleagues. Its basic tenet is that sociocultural factors play a significant role in the development of higher mental functioning. Learning is perceived as a social practice resulting from interaction between learners and their environment without rejecting the neurobiological factors.

A considerable bulk of research during the last decades has been devoted to the implications of SCT to SLA. Yet, it is worth mentioning that much attention has been directed towards the way some of SCT's constructs could be put into practice. Put differently, various teaching techniques and strategies have been discussed to help learners develop their linguistic proficiency. As far as reading research is concerned, the zone of proximal development received much attention from the part of researchers aiming to emphasise the role of 'more knowledgeable persons' in the process of reading instruction.

Unlike the previous studies, my aim through this research is to emphasise two SCT's constructs, namely 'mediation' and 'internalisation'. The point is not to design adequate reading instruction techniques, rather to depict the impact of learners' sociocultural background as symbolic means for mediating learners' higher reading cognitive abilities.

In the last section of this chapter, I have suggested a working model of reading practice. It is composed of three components. In addition to reading strategies that represent the cognitive component of reading practice, two other components: attitudes and formal schematic knowledge are suggested as crucial parts of the reading practice. My aim is to explore the impact of sociocultural factors that are rooted in the Algerian society in shaping the learners' reading strategies, attitudes that represent a 'psychological component' and learners' formal schematic knowledge that represents a 'linguistic rhetorical component'.

Chapter 3

EFL Reading in the Algerian Context

Introduction

This chapter looks at the Algerian linguistic and sociocultural background for the sake of depicting some of its potential influences on EFL learners' reading practices. Thus, this chapter has three main sections; the first section explores the Algerian linguistic landscape and locates on a large scale the debate on the historical and cultural differences conveyed by the Arabic and Berber languages in Algeria. The second section accounts for the status of English as a foreign language in Algeria.

This chapter ends with elucidating reading as a sociocultural practice in the Algerian context where much focus is put on three sociocultural factors: gender differences, Students' mother tongue, and their geographical location. These three factors represent the three independent variables that back the empirical study. Theoretical underpinnings from the Algerian sociocultural context are presented to support the choice of these three factors as independent variables.

3.1 An Overview of the Algerian Linguistic Landscape

Situated in the Northern part of Africa, Algeria has been the target of various foreign invasions. As a result of this contact with foreigners during several generations, the Algerians have been profoundly influenced by many civilisations (Phoenician, Carthaginian, Roman, Arabic, Turkish and French). The impact brought about by these invasions is still, more or less, visible in some practices, traditions or places in different parts of the country.

The Berbers represent the natives and the oldest population of Algeria. They are also referred to as "Imazighen" which is the plural of "Amazigh" meaning free man. Their language, Tamazight, is the oldest language of Maghreb (Montagnon, 1998, p. 21). It is also known as the 'Berber language', but the natives prefer Tamazight over Berber (Ouahmiche et al. 2017).

In the seventh century, the Arabs began to conquer North Africa and quickly convert the Algerian population to Islam. Some Berber groups oppose this new authority mostly in the Aures and Kabylia where the Berber language with its different varieties is still the L1 of the majority of people.

In 1830, French troops invaded Algerian territories and settled there for more than a hundred years. Around the mid-twentieth century, the Algerian revolutionary war broke out to claim the Algerian autonomy. In 1962, Algeria achieved its independence from France.

After independence, two languages were taught in the Algerian school: the Modern Standard Arabic (MSA) and the French language. Also known as ‘classical arabic’, MSA is a standard variety of Arabic with huge prestige for its association with the sacred text (Qu’ran). It is the official language of the country as it is stipulated by the constitution since 1963, and it is mainly used in very formal contexts. As for the French language, it is considered as a foreign language. The Berber and Algerian Arabic were considered as vernacular languages. Some years later, crucial changes in the Algerian linguistic landscape emerge.

Some years after independence, *“Algeria’s leadership embarked upon an ambitious arabization policy to transform the country linguistically and to achieve independence and distinctiveness”* (Benrabah, 2013, p. 90). According to Dreni (2009, p. 285), *“The selection of Arabic in language planning in Algeria has always been considered as an anti-colonial act against French, which was solely taught at primary, middle, secondary and university levels from 1830 to 1962”*. Indeed, three important factors motivated the Arabisation policy. First, the Arabic language (MSA) represents the cultural side of independence as opposed to French which is the language of the colonizer. Secondly, Arabic is the language of the sacred text. Finally, Arabic is the language of the Arab nation (McDougall, 2006, p.338).

In April 2002, Tamazight was officially attributed the status of ‘National language’. It was viewed as a crucial component of the Algerian identity together with the Arabic language

and Islam. 14 year later, within the framework of constitutional amendments of 2016, Tamazight is promoted to the status of a national and official language in Algeria. Article 4 of the constitution states that: “*Tamazight est également langue nationale et officielle*” (“Tamzight is also a national and official language”). This was the result of a long-term claim of the Berbers in Algeria, mainly Kabyle speakers who have struggled for the survival of Tamazight. Nevertheless, it is worth noting that the Algerian constitution does not state any article as regards the Algerian Arabic. The latter is a vehicle of daily communication in several parts of the country and it seems to be perceived as a continuum of the MSA.

Nowadays, the Algerian sociolinguistic situation is considered to be very complex and rich that is why it has been studied by several researchers. It is characterized by linguistic heterogeneity as a result of the coexistence of several languages that are: the Berber languages in its various varieties (Kabyle, chaoui etc.), Algerian Arabic in its various accents in addition to French and English. These languages belong to different language families (ouhmiche et al., 2017). Arabic is a Semitic language, Tamazight is a Chamito-Semitic (Afro-Asiatic) language, French is a Romance (Indo-European) language, and English is a Germanic (Indo-European) language.

The Algerian sociolinguist Khaoula Taleb Ibrahimi claims that the Algerian linguistic landscape is characterized by the presence of three linguistic spheres:

- (1) The Arabic Sphere: this sphere is represented by an important number of Algerians who speak the Algerian Arabic with its different accents in different parts of the country.
- (2) The Berber-speaking sphere: The Berbers were the first inhabitants of the Great Maghreb According to the history of Algeria. The Berber language in its various varieties is still spoken as a L1 of an important number of Algerians in different parts of the country.
- (3) The sphere of foreign languages: Algerians have always been in contact with foreign languages that influenced and continue to influence their linguistic landscape.

In addition to historical reasons, as it has been presented earlier, many factors contributed to the presence of foreign languages mainly French and English within the Algerian society. Immigration, media, and social networks play a vital role in the spread of these languages mainly among teenagers and students.

3.2 English as a Foreign Language in Algeria

In addition to Berber, Arabic and French, the English language started to emerge in the Algerian linguistic landscape around the mid-twentieth century. Its first emergence in the Algerian linguistic landscape goes back to the Second World War after the landing of American parachutists in Algiers in November, 1942. As a result of contact between the American soldiers and the Algerians, Algerians started to get more and more acquainted with some English words. It was the outset of the use of English by Algerians in their daily life. During the 1970's, a dramatic increase in the use of English loanwords in the Algerian Arabic-language written media is noticed as an influence of the Middle Eastern Arabic forms.

Then, during the 1990's, a fierce debate was launched about the primacy of French over English in the Algerian educational system. The Islamic movement inflamed the debate over the use of English. Language planners wanted to shift from the use of French as a foreign language to another one (Benrabah, 2007). Their aim was to break bridges with the ancient coloniser and adopt another language which is more powerful than French at the international level.

The English language introduced itself as the one that fits the needs of the Algerian authorities at that period since it is perceived as a vehicle of modernity and technological progress. However, this task was not easy due to the lack of English teachers, and unexpected rejection from the part of parents. Benrabah (2007) highlights the ambivalent attitudes of

Algerians towards the French language resulting from the stay of the French coloniser in Algeria which was so long that it is almost impossible to get rid of their language overnight.

He states:

During colonial rule (1830–1962), there was some ambivalence in the roles assigned to French. On the one hand, that language symbolized foreign exploitation and was thus to be resisted, but, on the other, because of the universal values it conveyed (liberty, equality, fraternity), it also served as a tool to raise the population's awareness and support in favour of such resistance.

By the end of the 1990's, the competition between French and English ended in favour of French. The latter is considered as a first FL in Algerian schools. It is introduced at the primary level. As for the English language, it is introduced as the second FL starting from the first grade level in the middle school. As regards the universities, according to Miliani (2000, p. 20), 95% of undergraduate and post-graduate courses in sciences or in medicine are still taught in the French language.

In order to enhance the teaching and learning of English in Algeria, many substantial changes have been made. The most significant change occurred in 2003 when a reform of the Algerian educational system started to be implemented. At the heart of this reform is the Competency-Based-Approach that perceives learning as dynamic, social and cognitive construction of knowledge. It breaks new grounds for the development of the learners' intellectual and social skills, as well as their autonomy. In this approach learning to learn by using appropriate strategies displaces the old conception of learning at the beck and call of the teacher.

The university level is no exception as the curriculum was recently reformed for the sake of equipping learners with skills needed for the workplace. The reform at the university underpins the integration of technology into the curriculum as a tool to allow students' access to extensive range of information and sources of knowledge which foster their life-long learning.

3.3 Sociocultural Factors Shaping EFL Reading Practices

Now that the major concepts related to P-reading and D-reading have been reviewed, one can safely claim that the sociocultural approach to reading is best suited to the purpose of the present study. As the present study aims at analysing the Algerian EFL university students' reading practices in the digital era, it is essentially socioculturally oriented.

Indeed, many factors, affective, social, psychological and cognitive make of reading a unique experience. Children, adults, students, researchers or laymen do not approach texts in the same way. Each reader brings to the text their own learning style, motivation, purpose of reading as well as their background knowledge and social experience. Accordingly making an endeavour into a research on reading cannot go without a reference to the different roles of the reader as well as the readers' variables which are likely to influence the reading process.

Readers construct meaning from texts differently, depending on their motivation, their background and even their state of mind. There is usually no single, unequivocal meaning in a text. Reviewing all the psychological and sociocultural readers' variables go beyond the scope of the present study. However, much attention would be paid on three variables namely, gender differences, students' L1, and their geographical location.

The three variables selected relate to three dichotomies which are rooted in the Algerian sociocultural context. First, the Algerian society has always been defined as a male-oriented society where the difference between men and women is to be found in the smallest detail of their daily life (Lacoste-Dujardin, 1985). This issue has been handled by different scholars from a variety of disciplines: sociology (e.g. Pierre Bourdieu), ethnography (e.g. Germaine Tillion), and literature (e.g. Mouloud Feraoun; Assia Djébar). The Algerian society is presented as patriarchal. Indeed, after independence in 1962, Algerian women were expecting some changes in their social and political position. However, during the first decades no substantive change occurred. From 2005 on, some amendments have been

introduced in the Algerian constitution permitting for women to enjoy some freedom and autonomy mainly in some domestic affairs like marriage and divorce. However, the male-dominance is still visible in several aspects of life and in different parts of the country (Iamarene Djerbal & Oussedik, 2014).

The second variable is the mother tongue which is a crucial part of the factors of ethnic identity, as it conveys a particular culture (Abu, 1995). The Algerian linguistic landscape is complex and it is mainly characterised by the co-existence of several languages. Berber and Algerian Arabic, with their various dialects, are the two mother tongues of Algerians. Unfortunately, due to some political and historical factors, a rivalry between the speakers of these two languages is still noticed. Third, Algerian population is scattered and divided between urban and rural areas. The urban-rural dichotomy is fraught with cultural stereotypes about the superiority of urban citizens over the rural ones.

3.3.1 Gender Differences: Male-Female Dichotomy

Within the framework of research in social sciences, a distinction is drawn between ‘gender’ and ‘sex’. Bergvall (1999) elucidates the difference between the two concepts as used by researchers through time. Indeed, the two terms were used interchangeably over the past decades. Later on, scholars started to show their preference for the term ‘gender’ for being more polite and avoid the taboo implication of sexuality. Then, ‘sex’ was confined to physical characteristics while ‘gender’ was used to relate to social construction.

Currently, a common agreement among researchers is reached claiming that the term ‘sex’ relates to biological features that identify males and females, whereas gender refers to the social norms that society imposes on them (Mills, 1997). Similarly, Holmes (2001, p.150) distinguishes them by explaining that “*sex has come to refer to categories distinguished by biological characteristics, while gender is more appropriate for distinguishing people on the*

basis of their socio – cultural behaviour”. Since the present study is socioculturally-oriented, the term gender seems to be more appropriate.

As far as language studies are concerned, during the last decades, researchers were mainly interested in differences between male and female learners’ performances and language use. Labov (1966) investigated women and men spoken English; Lakoff (1975) examined the differences between men and women in the use of dialects. These studies, and others, were largely influenced by the theory of gender performance postulated by Butler (1990). The main tenet of the theory is that language performance is influenced by forms and speech of the society. To illustrate, in 2000, Penelope Eckert conducted a study in Detroit to explore the correlation between gender and the social status of the speaker. Her results reveal a difference between girls’ and boys’ use of language. While boys are attracted towards the use of urban vernacular pronunciation, girls tend to use a suburban vernacular pronunciation.

As far as the issue of gender differences and reading practices is concerned, few studies are to be found in the literature relating to this subject. In 1997, Young and Oxford conducted a comparative study of the strategies used while reading passages in English and Spanish. They found no significant differences between males and females. Similarly, the findings of a study conducted by Sheorey and Mokhtari in 2001 revealed insignificant differences between males and females. Unlike the findings of the previous mentioned studies, in 2003, Aek Phakiti examined gender differences in cognitive and metacognitive strategy-use in EFL reading comprehension tests. The results revealed no gender difference in reading performance but male students reported significantly higher use of metacognitive strategies than female students.

Gender issues are mainly significant in the D-environment. In our modern society, technology in general and computers in particular play a vital role. Their role is increasingly growing in education in general and FL learning in particular. It is worth mentioning that

there is an agreement among the bulk of research published in the last three decades that “*there is a dramatic digital divide for gender such that women are not reaping the benefits of the technological revolution on a par with men*” (Cooper & Weaver, 2003, as cited in Cooper, 2006, p. 321).

Investigating the gender differences in the digital era has been the subject matter of different studies from different perspectives which all confirm disparity between males and females. For example, in his article: *how the perceived masculinity and/or femininity of software applications influences students’ software preference*, published in 2005, Pinkard came to the conclusion that women are underrepresented in their ownership and use of computers. In addition, women take fewer technology classes in high school. Another longitudinal and extensive study was conducted by Martin Hilbert analysing data from 12 Latin American and 13 African countries from 2005 to 2008. The results reveal a correlation between women access and use of ICTs and unfavorable life conditions. It has been found that employment, education, and income have a direct impact on women’s affinity for ICTs. They are perceived by women as tools that can improve living conditions.

Another aspect of gender gap explored by many studies is computer anxiety. Indeed, research has shown continuing gender disparity regarding anxiety. In their study of children and teachers’ attitudes to computers, Todman J and Dick G (1993) reported that girls (from the elementary school grades to university graduates) express greater anxiety and negative attitudes towards computers than boys. Another study was conducted by Mark Brosnan (1998) has demonstrated a difference between males’ and females’ use of computers. The results show that computing is perceived by females as a male activity. In an article entitled “*the digital divide: the special case of gender*” published in 2006, J. Cooper offers a brief overview of some studies related to the digital divide. It has been stated that several studies

reveal that *“females are at a disadvantage relative to men when learning about computers or learning other material with the aid of computer-assisted software”*.

As far as online reading strategy-use is concerned, SaeedTaki and Soleimani Gholam Hossein attempted to explore reading strategy use and gender differences among Iranian EFL students in 2012. Their findings indicated that there is no difference between males and females. Another study was conducted by Ziming Liu and Xiaobin Huang at Zhongshan University in china during the spring of 2006. Their aim was to explore gender differences in the online reading environment. Their findings revealed that in terms of preference, female readers have a stronger preference for paper. Conversely, male readers show a greater degree of satisfaction with online reading comparing to their female counterparts.

As regards Algerian context, studies of gender differences focus on language use and communication. Their objective was mainly to depict differences between males' and females' use of language in conversations. To illustrate, Babou Amina in 2012 examined gender performances and women's agency by tackling the various aspects of men/women miscommunication in Chlef. Her results show that men and women in Chlef are in a constant process of negotiation to construct meaning reflecting their social identities. Another study was conducted by Rabahi Hanane in 2013. Her aim was to gain a deeper understanding of the language situation in Maghnia and, its impact on social interaction between both men and women. The results revealed that males and females differ in their way constructing and using language.

What can be noticed from reviewing these studies is that although they provide insights into the issue of reading practices and gender differences, their number is still limited ,as regards the sociocultural perspective, to draw conclusions about such interesting issue. Much more research is needed by exploring different sociocultural contexts. Indeed, this field

of study is still fertile for further exploration in the Algerian context. Gender differences and reading practices is an issue which has never been investigated in the Algerian context.

3.3.2 Geographical Location: Urban-Rural Dichotomy

The third independent variable considered in the present study is of less frequency among research in the field of education (Housen, 2005); it is the geographical environment where the learning process takes place. More to the point, it relates to the dichotomy rural-urban. To begin, it is important to provide a systematic definition of each of these two analytical categories.

Generally defined by opposition, each category is distinguished from the other economically, culturally and even ideologically. The advantage is generally given to the urban areas, symbolically related with an image of domination through the power exercised over geographical space, but also as a dispenser of civilization, while the rural areas remain assimilated to the lack of civilization and life commodities. However, according to Laghouag (2014), defining urbanity from a sociocultural perspective is not an easy task.

The urban-rural dichotomy may be defined differently depending on the purpose of study and its perspective. The urban environment is defined by the large population density and by the variety of economic functions that are exercised in its territory. Furthermore, many cultural and social activities are to be found in the urban environment. The rural environment, on the other hand, concerns areas outside urban centres. These zones are characterized by the small number of their population, their large territories, and the various resources of the countryside. It is in rural areas that many raw materials are produced. The main characteristic of the rural environment is the link with nature in terms of economy (agriculture) and social life.

In an attempt to draw a clear distinction between the city and the countryside in the Algerian context, Yves Guillerrou defines the city as an offspring of the countryside with

distinctive features. The discrepancy is visible in terms of some social norms and organisation. Conversely, According Griffiths (1969), rural areas are mainly characterised by the small number of the inhabitants who share a set of traditions and customs. Each member within the group knows everything about their neighbours. Nevertheless, two phenomena occurred in Algeria making of the distinction between urban and rural areas difficult: urbanisation of rural areas and rural exodus. These events have made of the dichotomy rural-urban so shallow that Mostefa Lacheraf has borrowed the concept “rurbain” to be applied in the Algerian context (Bekkouche, 2006). It is a word which is used to refer to an intermediate area combining the rural and the urban characteristics.

The Maghreb has witnessed in a few decades a movement of urbanization. The process has been massive, rapid and sometimes brutal bringing about deeply changes of lifestyles and social structure (Belguidoum et al., 2015). As far as the Algerian context is concerned, just after independence, the country has known a movement of urbanisation of rural areas converting villages into towns, and towns into cities. As a result, the number of those who benefit from the advantages traditionally associated with the city and the forms of urbanity that it develops has increased.

Conversely, the urban areas have been the target of many rural inhabitants looking for better life conditions and better economic opportunities. The attractiveness of the urban way of life in terms of production, consumption, culture and, above all, much higher income seems irresistible.

The exodus started in Algeria during the 1930s; a process which was accelerated by several historical and economic factors (Cote, 1991). The revolutionary war and the poverty of rural areas after independence pushed Algerians living in rural areas to let their farms and go to cities looking for better living conditions. During the 1970s, Algerian authorities adopted an economic policy of industrialization that led to a radical devaluation of farm

work. As a result, a considerable number of peasants chose to leave the countryside and settle in urban centres. The rural population, which represented 67% of the population in 1966, dropped to 58% in 1977. Another historical event that boosted the exodus rate is the black decade. The present level of urbanization is estimated at 61.7%.71 (Benrabah, 2007). In 2011, seven Algerians out of ten live in urban areas (Laghouag, 2014).

Working within the context of urban-rural differences in the Algerian context, my aim is to identify the possible differences between rural and urban EFL learners' reading practices in P- and D-environments. To this end the empirical study took place at two universities in Algeria: Mouloud Mammeri University of Tizi-ouzou and Ali Lounici University of Blida.

Tizi-ouzou is located in the heart of Kabylia where the number of the rural inhabitants is still important. thousands of people are scattered in different mountainous areas. Many primary, middle, and secondary schools are to be found in these areas. Yet, the university of Tizi-Ouzou, represents the only university where learners from rural or urban areas meet for higher studies. As regards Blida, it is an Algerian city created in the 16th century (Cote, 1991). Ali Lounici University receives students from different parts of the country. The university, then, does not represent only a learning milieu but also a cross-cultural environment. Accordingly, it is important to investigate and to compare the reading practices of Algerian EFL students coming from rural or urban backgrounds to hurdle any similarities or differences between these two categories of EFL learners.

3.3.3 Mother Tongue (L1): Berber-Arabic Dichotomy

Much controversy has surrounded issues related to L1 in Foreign Language Teaching contexts. The emerging views reflect the various changes that the field has witnessed through years. The shift from one approach or method to another leads undoubtedly to different perspectives on the role of L1 and its use in the classroom by learners and teachers alike.

The procedures followed traditionally to teach modern languages in the late eighteenth century in Europe relied highly on translation. Accordingly, the L1 use in the classroom to teach foreign languages was of paramount importance. This perspective was challenged by the reform movement of the nineteenth century leading to the emergence of new methods wherein the L1 role became less crucial.

The current trends in Foreign Language Teaching move away from language as structure to language as communication (Richards & Rodgers, 2005, p. 71). They are mainly characterised by their interactive views of language teaching. As far as learners' native language is concerned, Larsen Free-man asserted that it is allowed to be used judiciously, because the aim is to make learners "*realize that the target language is a vehicle for communication, not just an object to be studied*" (2000, p. 132).

Investigations of the impact of L1 on L2 teaching/learning are not limited to the role or the use of L1 in FL classes. Empirical studies are reported in the literature in relation to the impact of the learners' L1 on the process of FL learning. The main issue explored is whether the skills acquired in L1 help or hinder the learning process of L2. While some scholars believe that learners' L1 gets in the way of the learning of a L2, others take a different position. Those who support the first view argue that mastering one language can help learners understand how languages work, but others believe the opposite (Clark, 2009).

As regards reading, the link between the L1 and FL reading has been the subject of various studies revolving around two main issues: the reading process and reading strategies. Some researchers interested in comparing L1 and L2 reading processes to depict any differences or similarities between the two (e.g Koda, 1987; Lee, 1988). Others investigated the transfer of reading skills and strategies from L1 to L2.

A bulk of research was devoted to the comparison between L1 and L2 reading processes; a task which is far from being easy, given the complexity of the process, and the

variety of variables to be controlled. The participants' linguistic proficiency, their age, their background, their motivation, among others, are examples of the variables which are likely to influence the results of the studies. Nevertheless, some conclusions have been drawn from the previous studies. It is worth noting that the conclusions, sometimes, are contradictory making the field of research still fertile for further investigations.

Some experimental studies (e.g. Devine, 1981; Connor, 1984; Kern, 1989) suggested that the two processes resemble each other. These similarities are to be found at the level of cognitive strategy-use as well as the difficulties encountered while reading. In contrast, other researchers (e.g. Bernhardt, 1987; Mc Laughlin, 1987) argue that the two processes are different. The factor lying behind this difference is the learners' language proficiency. While some similarities can be noticed with advanced L2 or FL learners, the L1 and L2 reading processes of beginners are completely different. The strategies and the skills used to read L1 and L2 texts are not the same.

Researchers' views and conclusions in regard to strategy-transfer from L1 to L2 are divided. The first view maintains that learners' language proficiency determines their reading skills (e.g. Devine 1987; Clarke, 1980). Others (e.g. Hudson, 1982) counter this view and claim that good first language readers with relatively weak L2 skills can read L2 texts if they judiciously apply appropriate reading strategies. Their strategy-use and choice varies according to their language proficiency.

Unlike the previous studies, the present research attempts to open up new horizons by comparing the EFL reading practices of two groups of participants using two distinct mother tongues within the same country. The perspective is more sociocultural rather than structural or linguistic. More to the point, my objective is to compare Berber and Arabic speakers EFL students' reading practices in order to unveil any potential difference or similarity between them in terms of attitudes, strategy-use and types of texts.

As it has been presented earlier, the Algerian linguistic landscape is characterized by its diversity. Its main peculiarity is the coexistence of two mother tongues: Berber and Algerian Arabic with their various accents. *“The linguistic legacy in Algeria is consolidated by a profound cultural and religious heritage, where the masses of the people have become polarized”* (Ouhamiche et al., 2017). Berber or Tamazight consists essentially, of Chaoui, concentrated mainly in Khenchela, Batna, Oum Bouaghi, and Tebassa; with yet lesser attendance in other regions like Soug Ahrass, Setif, Annaba, and Biskra, Kabyle which is spoken predominantly in Tizi Ouzou, Bejaia, and Bouira, and Mozabite which is of prevalent appearance in Ghardaia. As regards the Algerian Arabic, it is derived from the classical Arabic. According to Bensafi (2002), the gap between the Classical Arabic and the Algerian Arabic began with the Spanish settlement (1509-1555) by the phenomenon of borrowings. This cut has been increased during the French colonization of Algeria (1830-1962) when the French language was the main means of communication in various social and administrative domains.

These two languages convey two distinctive sociocultural features and ideologies of its speakers. The Algerian Arabic is the L1 of the largest part of Algerians (Chemami, 2011). According to Salem Chaker, around 25% of the Algerian population uses a dialect of Berber and the Kabyles represent two-thirds of all Berber speakers. The Kabyles relate to the mostly active group of Berbers who claim their linguistic and cultural specificity. Mourad Boukra (2012) highlights the major difference between the two groups by making reference to the identity crisis among the Berbers and mainly the Kabyles. The Algerian Arabic speakers do not call into question the use of classical Arabic in the Algerian school. It is perceived as part of the language that they use in their daily life. In His book *“Sociologie d’Algerie”* (1958), Pierre Bourdieu describes in some detail not only ‘Arabic-speaking peoples’ but Kabyles, Shawia, and Mozabites, each of which had its own distinct culture and traditional social order.

Similarly, in his book *“la genése de la kabylie”*, Yassine Temlali (2015) accounts for the historical factors that make of the Berber (more precisely Kabyle) and the Arabic speakers in Algeria two culturally distinctive communities. Starting from these sociocultural differences between Arabic speakers and Berber speakers in Algeria, my aim is to depict the extent to which this difference in ideology is reflected in their reading practices.

Conclusion

This chapter has provided a theoretical overview on the literature that revolves around EFL reading in the Algerian context. The Algerian linguistic landscape has been overviewed. It is composed of a variety of languages used by Algerians. Much focus is put on the co-existence of Berber and Algerian Arabic as mother tongues, as well as the status of the English language as a foreign language in Algeria. It appeared in the Algerian linguistic array around the mid-twentieth century, since then it has been gaining ground in several fields mainly in education and business.

Since my study is socioculturally oriented, I have reviewed three sociocultural factors that are claimed to be shaping the reading practices of Algerian EFL learners. The first is gender. Indeed, the Algerian society has been described by different scholars as male-oriented. Knowing that reading is claimed to be a female activity, it is important to examine the impact of gender differences on Algerian EFL learners reading practices. The second factor is the mother tongue. It has been shown that language is a crucial aspect of ethnic identity and conveys sociocultural values. Accordingly, it is important to check the extent to which are the sociocultural values conveyed by Algerian Arabic and Berber reflected in the learners' reading practices. The third variable is that of geographical location. Some historical events mainly urbanization and rural exodus make of the clear cut distinction between rural and urban difficult to be made. Accordingly, my objective is to check whether the urban-rural

dichotomy is clearly shown in the Algerian EFL learners' reading practices or not. In order to investigate these issues, the following part presents the empirical study, its findings as well as the interpretation and the discussion of the results.

Part Two
Empirical Study

Chapter 4

Research Design

Introduction

The present chapter starts by explaining the research paradigm and the research strategy used to carry out the study in order to answer the research questions addressing the issue of Algerian EFL learners' reading practices in the digital era. Then, the context of the research is described by providing a clear idea of the setting as well as the selected participants. The data collection instruments and the data analysis tools have been adequately defined and their selection has been justified. Lastly, the procedure of the study, including data collection and analysis, has been thoroughly reported.

4.1 Research Paradigm

As it has already been mentioned earlier, the objective of this study is to investigate the attitudes, the strategies used and the types of texts that Algerian EFL learners read in P- and D-environments. The theoretical approach selected is sociocultural aiming at highlighting the extent to which the Algerian reading practices are rooted in their sociocultural background. Accordingly, the study falls into the category of critical ethnography, which borrows many of its orientations and principles from pragmatism.

Pragmatism is a research design paradigm that best fits the purposes of this study. Indeed, linking theory to practice is at the core of the pragmatist thought. As a philosophical trend, pragmatism started in the USA in the late nineteenth century. Charles Sanders Peirce was the first philosopher who introduced the principles of the pragmatist thought in two papers: *The fixation of belief* in 1878, and *How to Make our ideas clear* in 1878. Yet, this tradition remained unknown until some years later. At the beginning of the twentieth century, other philosophers refreshed and fleshed out this school of thought. The term 'pragmatism', relating to a philosophical tradition, was coined for the first time by William James during a lecture at the University of California Berkeley around 1898 (Rylander, 2012, p. 03). Then,

John Dewey developed and elaborated the theory and its implications to several disciplines such as education. Indeed, the three philosophers: Peirce, James, and Dewey are the key proponents of pragmatism; they are also known as the ‘classical pragmatists’.

Pragmatism represents the only original philosophical school of thought that started in the USA. Its principles have had a paramount influence and were the main source of inspiration for the American society. Nevertheless, according to Baert and Turner (2004), “*to think of pragmatism as a solely American product might be a mistake*”; pragmatists’ ideas have been exploited by European philosophers and intellectuals ever since its inception (in Rylander, 2012, p. 29). Nowadays, pragmatism is developing and spreading more than ever in America and Europe alike.

The foundational ideas of the classical pragmatists can be found in a variety of topics leading to several implications for several disciplines. Social research methodology was no exception, as the basic principles of pragmatism have been developed into a research paradigm around the 1970’s.

Scientific research, within the framework of pragmatism, involves a continuous pursuit of knowledge through experimenting and testing ideas. This pursuit depends highly on the purpose of the researcher. What counts is what works. Whatever the method is followed or whichever the material is used, what matters is to come up with insightful ideas that allow the researcher to move forward.

Pragmatism rejects the exclusive use of positivism or interpretivism. It rather suggests a combination of the principles of both of them. It has been argued that each of the previously mentioned paradigms has its distinctive weaknesses and strengths and they can be usefully combined to complement each other. It advocates whatever ‘works best’ in any particular research context. “*There is a concern with applications-“what works ”-and solutions to problems*” (Patton, 1990 quoted in Creswell & Plano Clark, 2011, p. 22).

Positivist approach to social inquiry sprung from a long tradition in the history of western thought. It is generally associated with the nineteenth-century French philosopher Auguste Comte. It is grounded in the principles of empiricism. Positivists, therefore, believe that reality is objective, and independent of any observation or interpretation. Knowledge cannot be gained through speculation or rational reasoning, but rather through experimentation and measurement. More to the point, according to positivists, the methodological principles and procedures of natural sciences can be directly followed and applied to investigate any issue in social sciences.

As regards interpretivism, it is a paradigm that rejects the belief that human behaviour is governed by general and universal laws. Interpretative researchers endeavour into research in order to understand different phenomena in their real context. Their aim is far from being generalisation. They, rather, emphasise the social construction of knowledge by examining the way people perceive the world. They do believe that the social world can only be understood from the standpoint of the individuals who are part of the ongoing action being investigated.

Conducting any research in social sciences is a complex process that requires making use of methodologies from the positivist approach or the interpretative one. In spite of their differences, these two broad epistemological approaches are useful depending on the objective of the study. In that case, pragmatism offers an alternative approach that attempts to link the two together by providing a rationale for mixed methods research. *“Instead of a focus on methods, the important aspect of research is the problem being studied and the questions asked”* (Creswell & Plano Clark, 2011, p.22).

Pragmatism set the ground for a variety of research approaches in social sciences, among them ethnography. The latter suggests a contextualised and a naturalistic orientation to the study of diverse sociocultural issues.

Ethnographic research focuses on the examination of a group of individuals who share some patterns of behaviour, process, beliefs, values, or language. It is worth noting that the unit of analysis should be larger than the twenty individuals or so (Creswell, 2009, p. 68). An entire cultural group represents the object of study for the ethnographer. The latter analyses the culture-sharing group through a thorough observation of the participants. The term culture-sharing group is not limited to ethnic groups but can be related to any community, programme or organisation; in a word, any ‘bounded unit’ (Harklau, 2005, in Dornyei, 2007, p. 130). Thus, the ethnography of the language classroom, the analysis of specific schools, or other language learning contexts are examples of ethnographic studies.

Originating in cultural anthropology, the first seeds of ethnographic research go back to the beginning of the twentieth century. During the 1920’s and 1930’s, American scholars such as Dewey, Park, and Mead at the University of Chicago applied anthropological field methods to the study of cultural groups in the United States (Bogdan & Biklen, 1992 in Creswell & Plano Clark, 2011, p. 69). Inspired by diverse theoretical orientations and aims, the scope of ethnographic research, nowadays, has been broadened resulting in pluralistic approaches. Within the field of applied linguistics, “*ethnographic research has been embraced by scholars who look at language learning as a profoundly social practice*” (Dornyei, 2007, p. 130).

Two main types of ethnographic research are reported in the literature: the realist ethnography and the critical ethnography. The first aims at providing a thick description of the target culture by narrating and describing “*the cultural meanings and beliefs the participants attach to their activities, events, and behaviours*” (Dornyei, 2007, p. 130). It adopts a descriptive and value-free orientation to knowledge. It is an objective account of the situation.

As regards critical ethnography, it aims at advocating “*the emancipation of groups marginalized in society*” (Thomas, 1993. Quoted in Creswell & Plano Clark, 2011, p. 70).

Power differences, empowerment, repression or inequality, are the major issues investigated within the framework of critical ethnography. By situating research in its social context, it aims at highlighting the way knowledge is shaped by human agents and communities. It *“explicitly assumes that cultures are positioned unequally in power relations [...] in contrast with a relativistic view of cultures as different-but-equal, critical ethnography explicitly assumes that cultures are positioned unequally in power relations”* (Chapelle & Duff 2003).

Ethnographic research, and more precisely critical ethnography, has been consistently gaining prominence in applied linguistics since the late 1980's (Dornyei, 2007, p. 131). As a matter of fact, in 2003, an article devoted to the guidelines of critical ethnography research design was published by the journal *TESOL Quarterly*.

Since there is no single way to conduct studies in ethnographic research, ethnographers use an eclectic range of data collection and analysis instruments. Observations, interviews, video- and audio-recordings, surveys and questionnaires, among others, are examples of the tools that may be employed in ethnographic studies depending on the purpose of the researcher. In this context, equating ethnography with qualitative research is misleading. Indeed, while explaining the data collection procedure of ethnographic studies, Chapelle & Duff (2003) state that analytical procedures vary by researchers' schools of thought. They add that quantitative as well as qualitative procedures and instruments may be incorporated if appropriate.

Taking into account the characteristics of the two types of ethnography presented above, the present study aligns itself with critical ethnography. It aims at closely observing how a particular population behaves in a particular context. It involves collecting data from the natural setting where behaviours and practices occur. The setting is neither manipulated nor controlled by the researcher. One of the main characteristics of ethnographic studies is

flexibility. Exploring and analysing deeply an issue within a particular and limited context may lead to the emergence of new and unexpected results.

The objective of my study is to come to a deeper understanding of how people in particular contexts experience their social and cultural worlds. The case in my research relates to the way Algerian EFL students experience reading in D- and P- environments. It emphasises the participants' attitudes, perceptions, strategies; in a word their practices. It is worth noting that both qualitative and quantitative methods may be adopted when it comes to ethnographic studies. Accordingly, no particular form of data collection or analysis is recommended.

4.2 Research Strategy

The present study addresses four research questions related to the way Algerian EFL students read P- and D-texts, as well as the impact of three sociocultural factors: gender, L1, and geographical location on their reading practices. Accordingly, the adopted research design is exploratory-explanatory. It is exploratory since the issue of learners' reading practices is explored in a new sociocultural context for the sake of bringing new insights to the issue. It is explanatory as it attempts to explain the link between the participants' reading practices and their sociocultural background. Indeed, explanatory designs are based on making logical links between various variables. It best fits causal explanations.

The methodological strategy selected for the study is multi-method where each variable has been measured by multiple methods in order to get valid results. In order to converge and cross-validate the results, triangulation is applied. It is a strategy that involves looking across multiple sources of data, and approaching each research question from a variety of angles.

The study combines the qualitative and the quantitative methods for data collection and data analysis. Put differently, a mixed methods approach has been adopted. The choice of a mixed method was guided by the research questions and the research design. According to Creswell (2009), “*mixed method research is both a method and methodology for conducting research that involves collecting, analyzing and integrating quantitative and qualitative research in a single or a longitudinal program of inquiry*”. The discrepancy between quantitative and qualitative methods is to be noticed at the level of their ideological orientation, data collection tools, the nature of the collected data, as well as the procedures of data analysis.

Quantitative instruments are used, in the present study, to quantify results of the closed-ended items of the questionnaire, the surveys as well as the tests’ results. It is an empirical enquiry which is based on the use of statistical techniques for data collection and analysis. It is concerned with the measurement of various countable variables ending up in statistics. Scientific reasoning and standardised statistical procedures of data collection and analysis are to be found in any quantitative study.

At the heart of the quantitative method is ‘the scientific method’ borrowed from natural sciences in the nineteenth century. It offers tools and procedures “*to explore questions in an ‘objective’ manner, trying to minimize the influence of any researcher bias or prejudice*” (Dornyei, 2007, p. 31) resulting in accurate and valid scientific theories and laws. Knowledge is perceived in terms of numerical values and statistics that can be empirically measured. In this context, McMillan & Schumacher (1993, p. 32) state that the quantitative approach “*adopts a positivist philosophy of knowing the emphasised objectivity by using numbers, statistics and experimental control to quantify phenomena.*”

An important feature of quantitative research, as used in social sciences, is the use of numbers. To be meaningful, each number, unlike natural sciences, should be contextualised or

related to a specific category. In addition, the language of statistics has become part of the quantitative research jargon. The links between different variables are stated in tabular and statistical forms.

During the first half of the twentieth century, research in social sciences was mainly characterised by the increase use of quantitative methodologies across various disciplines. However, around the 1970's, the qualitative methods started to challenge the quantitative ones. Nowadays, a "*peaceful coexistence of quantitative and qualitative methods*" (Dornyei, 2007, p. 31) is noticed across a variety of social disciplines.

In the present study, qualitative instruments are mainly used to analyse the open-ended items of the questionnaire and to interpret data collected from the interviews. As used in social sciences, qualitative method involves data collection procedures that result in open-ended, non-numerical data analysed through non-statistical methods. In fact, "*qualitative research was perceived to represent a flexible and highly context-sensitive micro-perspective of the everyday realities of the world.*" (Dornyei, 2007, p. 29). It is not based on statistical measurements since it "*deals with meanings*" (Dey, 1993, p. 03).

Grounded in interpretivism, qualitative research developed in the late nineteenth and the beginning of the twentieth century in a variety of disciplines such as cultural anthropology, interpretive sociologies, and cultural studies. It is mainly concerned with different interpretations of subjective meanings, and the ways in which reality is constructed. The focus is put on using theoretical lenses to study "*research problems inquiring into the meaning individuals or groups ascribe to a social or human problem*" (Creswell & Plano Clark, 2011, p. 38). It offers a complex and detailed understandings of social issues.

Qualitative research is mainly characterized by the collection of data in natural settings wherein the participants' perceptions and views play a vital role in the study. It situates research in its cultural context. Several data sources are used in qualitative studies. Then, the

role of the researcher is to organize the gathered data into categories. The researcher makes an interpretation of all what s/he experiences in the study on the basis of their background and prior understandings. This is what makes of the qualitative studies more subjective than the quantitative ones.

Qualitative research fits well the critical studies to hear silenced voices and marginalized groups. In addition, “*we conduct qualitative research because a problem or issue needs to be explored*” (Creswell & Plano Clark, 2011, p. 40). Instead of exclusive use of predetermined categories reported in the literature, the researcher explores the problem in its real context so that themes and categories emerge.

Quantitative and qualitative methods represent two different approaches to research in social sciences in terms of their underlying philosophical paradigms. Yet, they are not necessarily exclusive. Their combination has led to the emergence of the mixed methods approach. The latter involves making use of qualitative and quantitative methodologies within the same study to address a single research question. The research may follow the sequential strategy or the concurrent one to combine the two methodologies together.

The idea of mixing methods within the same research project goes back to the 1970’s with the introduction of the concept of triangulation into social sciences. The idea is that, in order to be validated, a hypothesis should be examined through various methods. Methodological triangulation, in social sciences, is likely “*to reduce the inherent weaknesses of individual methods by offsetting them by the strength of another, thereby maximizing both the internal and the external validity of research*” (Dornyei, 2007, pp. 43-44). In applied linguistics, researchers waited until the 1990’s to apply the principles of mixed methods research in their studies.

The main feature and strength of mixed methods research is the ability to investigate complex issues at different levels of analysis. Researchers may obtain data from individuals

(qualitative) or groups (quantitative). Words and numbers may be used in a complementary way to end up with valid and accurate explanation of complex phenomena.

4.3. Context of the Study

4.3.1 Setting

My investigation took place at two higher education institutions in Algeria: The department of English at Mouloud MAMMERY University of Tizi-Ouzou, and the department of English at Ali LOUNICI University of Blida 2. The four research tools used in the study have been administered in both settings. Given the complexity of the four research tools, and due to some unexpected problems encountered, the data collection phase has lasted three years starting from February 2015 to February 2018.

4.3.2 Population and Sample

The target population under investigation relate to Algerian EFL students preparing their master degree in English. Two main reasons motivated my choice for this type of informants. First, all of them already hold a licence degree (Bachelor), and they are preparing their master degree in English (MA). So, they are supposed to be among the heaviest print-based and digital-based readers for academic purposes. Second, the two universities are situated in two different cities in Algeria: Tizi-Ouzou and Blida where the L1 of the inhabitants is respectively Berber and Arabic. This criterion fits well the purpose of my research knowing that the L1 of the participants is one of the independent variables analysed. In addition, their age ranged between 20 and 24 years old belonging to the same generation in order to keep the impact of generational differences on the results to a minimum.

From the whole population including all EFL master students in both universities, different samples have been selected for each research tool. More to the point, to suit the objectives of the study and fulfil the requirements of representativeness, three sampling

techniques have been adopted. Random sampling has been used to select respondents for the questionnaire and the Survey. Criterion sampling is the strategy followed to select participants for the comprehension tests. As far as the interviews are concerned, the participants have been selected through convenience sampling.

At the heart of random sampling is selecting participants on the basis of probability and chance. It *“involves selecting members of the population to be included in the sample on a completely random basis”* (Dornyei, 2007, p. 97). It best fits quantitative research and large samples.

Criterion sampling is based on the principle of selecting participants who meet some specific predetermined criteria. I used this technique to select the students who took the reading comprehension tests. Given the limited number of the participants in this phase of research, the sample was composed of 120 master II students belonging to different sociocultural backgrounds to fit the independent variables of the study. In addition, the major criterion taken into account is that the participant should have a personal lap-top, and used to read different D-texts for academic purposes.

As for convenience sampling, it is used for the interviews. It is a practical sampling strategy as the researcher selects a group of individuals willing to participate in the study. Accordingly, volunteered students have been interviewed on the basis of their availability.

All in all, three samples have been selected for the three phases of the present study. For the first phase, 344 and 245 students selected randomly answered respectively the various questions of the questionnaire, and the items of the survey. In the second phase, 120 students took the reading comprehension tests in P- and D-environments. Then, for the last phase, 24 master students participated on the basis of their availability.

4.4 Procedures of Data Collection

In order to gain some understanding of the issue investigated in the present study, qualitative and quantitative data have been collected during three phases. To yield the reliability of the research, various research instruments have been used: (1) Questionnaire; (2) Survey Of Digital and Print-based Reading Strategies (SODPRS); (3) Reading Comprehension Test; (4) Interview. My choice for four data collection tools is motivated by the nature of the study, and the common belief among scholars in research methodology that the more instruments the researcher uses, the better their chances to get better insights into the issue.

4.4.1. Questionnaire

In order to account for the learners' perceptions, daily practices, and attitudes towards P- and D-reading , a questionnaire is used. The latter is a research technique which is likely to help researchers to gather as much information as possible about opinions of the participants and gain more relevant insights about their reading practices.

4.4.1.1 Questionnaires in Social Sciences

Questionnaires are the most frequently used tools for gathering data from individuals. They represent one of the most popular methods of collecting data from a large number of participants which is used in Foreign/ Second Language research. They are mainly used to investigate issues related to individuals' views, opinions, perceptions or attitudes.

It has been defined differently by different scholars. For Wallace (1998), questionnaires are used "*when we want to tap into the knowledge, opinions, ideas and experiences of our learners, fellow teachers, parents or whatever. We do this by asking questions.*" (p. 124). Linda Kalof, Amy Dan and Thomas Dietz (2008) define the questionnaire as a series of survey questions that respondents read and answer by their own. It

has to be designed so as to insure that the respondent can accurately complete the survey without assistance or help (pp, 119-204).

A questionnaire encompasses a set of items; questions or statements addressed to a target population to extract and collect specific information. The items are generally divided into three types. The first type: questions that ask for specific background information. The second: open-ended items that allow the informants to express themselves by using their own words, thus providing data that is qualitative and exploratory. The third type: closed-ended items that ask the respondents to choose an answer among the suggested choices. The gathered data through this type of questions is particularly suited for quantitative analysis.

As a data collection tool, the questionnaire has attracted many researchers in social sciences across many disciplines. The main reason is the ability of the researcher to collect a huge amount of information in a relatively short period of time. In addition, they can be used in a variety of situations with a variety of people. When a questionnaire is well-structured, the analysis of the gathered data is straightforward and easy to code. Nevertheless, questionnaires are surrounded by some limitations. Its main weakness is that the informants may guess some answers or miss others mainly when the items are not sufficiently simple and clear. As a result, one may say that questionnaires are highly structured data gathering tools that are involved in the vast majority of research in social sciences. Yet, researchers have to be very careful when it comes to the construction of questionnaires' items, and they should not take things for granted.

4.4.1.2 Description of the Questionnaire

The questionnaire is designed for Algerian EFL students. It is made up of thirty-nine (39) questions. It is composed of various types of items including open-ended questions where the respondents are allowed room to provide their own opinions, and close-ended items

where they are asked to choose from a range of pre-determined alternative responses. The response categories for questions include:

- **Yes /No questions:** the respondents are asked to choose one the answer choices.
- **Multiple Choice Questions:** the respondents are asked to tick one or more response options. It is worth mentioning that sometimes, if none of the provided items applies, the respondents have the option ‘Other’ category. These questions are accompanied by clarification questions asking the participants to justify or explain their choice.
- **Likert Scales:** The respondents are asked to indicate the extent to which they ‘agree’ or ‘disagree’ with a specific statement.
- **Rank Order Items:** The respondents are given a list of items and are asked to order them according to their importance by assigning a number to each item.
- Questions designed to gather open-ended thoughts.

In terms of structure, the questionnaire follows the standard format of questionnaires. It starts by introducing the objective of the study, and promising complete confidentiality to the participants. The introduction also explains to the students the way they are required to answer the different questions. Then, three sections follow: 1) participants’ Profile, 2) Background and Practices, 3) Attitudes.

Section one aims at getting a clear idea about the participants’ profile with much focus on the variables taken into account in the present study. It includes information related to their gender, L1, as well as their age to ensure the homogeneity of the sample. Knowing that geographical location is a considerable variable in the present study, the participants are also asked to precise the area where they live.

Section Two is devoted to the sociocultural background of the participants as well as their perceptions and reading behaviours in P- and D-environments. Its objective is grounded in reading as a social practice. It includes: Twelve (12) multiple-choice questions, two (2)

ranking questions, seven (7) yes/no questions, one (1) open-ended question, and six questions are followed by clarification ones. The items are designed for various purposes.

Q1, Q2, Q3, Q4, Q5, and Q6 ask about the students' reading habits during their childhood their parents' involvement as well as the way they want to transmit their reading habits to their future kids. Through Q7, I want to know whether the students notice any difference when they read in English, which is a foreign language for them, or in other languages like French, Arabic or Berber.

Q8, Q9, Q10, Q11, Q12, Q13, Q14, Q15 enquire about the participants' experience with on-line reading. They ask about their daily practices when they access internet for academic purposes. Q16, Q17, Q18, Q19, Q20, Q21, and Q22 relate the respondents' perceptions about reading in different environments, as well as their various purposes of reading P- and D-texts.

Section three is entitled attitudes. It explores and rates the participants' attitudes towards P- and D- reading. Its objective is to sort out the participants' preferences and attitudes towards reading for academic purposes in various environments. It includes four (4) yes/no questions, nine (9) multiple-choice questions, three open-ended questions, one Likert scale item, and four (4) questions are followed by clarification ones. The items are designed for various purposes.

Q23, Q24, & Q25, are set to reveal the way participants' perceive reading in their daily life at home and in the classroom. Then, Q26, Q27, Q28, Q29, Q30, & Q31 enquire about the participants' preferences when they practice reading. More to the point, they aim at revealing the differences between D and P environments.

Q32, Q33, Q34 ask about the way D-reading for academic purposes is perceived by EFL students. Q35 & Q36 deal with participants' evaluation of their D-reading abilities. The

section ends with three questions: Q 37, Q38, & Q39 that enquire about the integration of D-reading in the Algerian university in EFL context.

The questionnaire ends with a final section where some room is given to the participants to provide suggestions that they think are suitable for the study. It asks about any additional comment or remark that might help the study.

4.4.1.3 Piloting the Questionnaire

Prior to the final administration of the questionnaire to all the participants, a piloting stage took place on May 2015. Thirty-four (34) copies of the questionnaire were distributed to thirty-four master II students at the Mouloud MAMMERI University of Tizi-Ouzou. I asked them to fill in the questionnaire and give me their feedback in relation to the clarity and the structure of the items. More to the point, my objective was to ensure that all the items can be easily understood by the participants, and accordingly determine the feasibility of the questionnaire.

The pilot study aims at pre-testing the content validity of the questionnaire by highlighting its flaws. In this context, Judith Bell (2010) asserts that for the sake of increasing the validity and the reliability of the questionnaire items, any empirical study should start by a piloting stage.

On the basis of the participants' comments and suggestions, a couple of changes have been made to the first draft. The amendments are as follows:

- Three questions have been reformulated to be clearer for the participants.
- Question 16 and question 17 have been transformed from open-ended to closed-ended questions.
- Following the suggestion of some participants, an additional item relating to ranking the purposes for accessing internet in order of importance (Q11) has been added.

4.4.1.4 Administering the Questionnaire

As far as the questionnaire final administration is concerned, a total of five hundred (500) copies were directly handed to students from the departments of English at Mouloud MAMMERI University in Tizi-Ouzou and Ali LOUNICI in Blida. The participants were master students from various specialisations. They were informed that the purpose of the study is to explore Algerian EFL learners' reading practices in the digital era. They were asked to fill in the questionnaire based on their own experiences with reading. Indeed, to guarantee more reliable data, the participants were insured that their answers were highly anonymous. An arrangement was made with the participants to hand back the completed form later. Unfortunately, only three hundred and forty-four (344) copies have been returned.

4.4.2 Survey Of Digital and Print-based Reading Strategies (SODPRS)

The second research tool employed in the present study is a Survey Of Digital and Print –based Reading Strategies (SODPRS). I designed the latter on the basis of two other surveys available in the literature: Survey Of Reading Strategies (SORS) and Online Survey of Reading Strategies (OSORS). I got formal permissions from the copyright holders. Before providing a deep description of the designed survey and its objectives, it is important to have a look at surveys as research tools in social sciences.

4.4.2.1 Surveys in Social sciences

Surveys belong to a specific type of field study that involves the collection of data from a well-defined sample. Like questionnaires, they are composed of a set of closed-ended or/and open-ended items. They are mainly used to get better insights into the participants' preferences, attitudes, thoughts or behaviours in a systematic manner. They vary greatly in their scope and they are increasingly becoming very popular in exploratory, descriptive or

explanatory studies. They are generally meant for quantitative research as they are re-intimately bound up with the development of descriptive statistics in social sciences.

As a data collection tool, the survey is defined by David Garson as a “*schedule of questions or response items to be posed to respondents. “items” are the individual survey questions or statements for which a response is solicited from the respondent*” (2002, p.239). The items may be of a variety of formats: multiple choice, dichotomies, rank lists, likert scales etc. Duncan Mitchell’s Dictionary of sociology defines social survey as follows, “*the social survey is a systematic collection of facts about people living in a specific geographic, cultural or administrative area*”.

Surveys are best suited for studies that aim at measuring unobservable data. They are very useful when dealing with large samples, and they are applicable to wide range problems. Nevertheless, it has been recognised by many scholars that every instrument of scientific enquiry is subject to limitations. The major disadvantage of surveys is their low response rates. Many participants do not fill in all the items or do not hand back the survey to the researcher.

4.4.2.2 Description of the Survey

As it has already been mentioned, the survey used in the present study has been designed following two other well-known reading surveys available in the literature. So, it is appropriate to start by describing the two reading surveys before presenting the one specifically designed for this research.

4.4.2.2.1 SORS

In order to measure learners’ perceived reading strategies, the Survey Of Reading Strategies (SORS) was conceived by Mokhtari Kouider and Sheorey Ravi in 2002. It is composed of thirty items judged using a five-point Likert scale:

1. “never or almost never”,
2. “I do this only occasionally”

3. "I sometimes do this"
4. " I usually do this"
5. "I always or almost always do this"

The items contain three types of reading strategies most notably global reading strategies (13 items), problem solving strategies (8 items) and support strategies (9 items).

- **Global reading strategies:** are strategies that readers use in order to direct and monitor their reading. This category includes strategies such as: setting a purpose for reading, activating prior knowledge, verifying whether the content fits the purpose.

- **Problem solving strategies:** readers make use of these strategies when they come across misunderstandings or difficulties. This category includes strategies such as: adjusting reading speed, paying closer attention to reading, pausing to reflect on reading

- **Support strategies:** as their name indicates, they are used to support the reading process and increase comprehension. This category includes strategies such as: taking notes, paraphrasing text information, using dictionaries.

4.4.2.2 OSORS

After conducting a study comparing ESL and EFL learners' use of online reading strategies, Neil J. Anderson designed The OSORS in 2003. Its objective is to identify the online reading strategies used by FL learners while reading online, and it is based on the SORS mentioned earlier.

It has 38 items organised following five-point Likert scale. Like SORS, the reading strategies are categorised into global, problem solving and support strategies. It investigates the way EFL and ESL learners use online materials for reading.

4.4.2.2.3 SODPRS

SODPRS (see appendix B) aims at identifying the strategies used by Algerian EFL students when they read for academic purposes in P- and D-environments. It is a combination of the adapted versions of SORS and OSORS presented so far. However, many differences are to be found between the designed survey and the ones available in the literature.

Indeed, after getting a formal permission from the copyright holders (see appendix F), some changes of the original surveys have been made to serve the purposes of the current research. Some modifications are at the level of content and others at the level of structure and organisation.

To begin with, all the items of SORS are in line with the objective of the present study. So, the number of the items is kept the same. However, a slight change is made at the level of the two last items (item 29 and item 30). Taking into consideration the multilingual background of the participants, the expressions “native language” or “mother tongue” have been replaced by “another language” as follows:

- “when reading, I translate from English into my native language”.
- “when reading, I think about information in both English and my mother tongue”

are replaced by

- “when reading, I translate from English into another language”.
- “when reading, I think about information in both English and another language”.

As far as OSORS is concerned, the first modification is that the term “online text” has been replaced by the term “D-text” in the following items: 1, 4, 5, 6, 7, 8, 10, 12, 16, 18, 24, 25, 27, 28, 29, 30, 31, 32, 34, & 35. In some items the term “online” has been omitted: item 9, 13, 15, 19, 20, 21, & 22. In addition, three items have been omitted since they do not fit the objective of the present research while others have been reformulated to serve the purposes of the study.

The omitted items are respectively item 2, item 3, and item 36.

- “I participate in live chat with other learners of English”
- “I participate in live chat with native speakers of English”
- “when reading online, I look for sites that cover both sides of an issue”.

Like the SORS, to avoid ambiguity the expressions “native language” and “mother tongue” are replaced by “another language” in item 37 and item 38.

- “when reading online, I translate from English into my native language”.
- “when reading online, I think about information in both English and my mother tongue”

are replaced by

- “when reading online, I translate from English into another language”.
- “when reading online, I think about information in both English and another language”

Item 17 and item 33 have been reformulated; instead of using the expression “read pages on the internet”, “activate hyperlinks” is suggested as an alternative.

- “I read pages on the internet for academic purposes”
- “I read pages on the internet for fun”

Are replaced by

- “while reading online, I activate hyperlinks for academic purposes”
- “while reading online, I activate hyperlinks for fun”

In terms of structure and organisation of the items, the survey is organised following a new format. To make the analysis more systematic, it is divided into sections which are preceded by an introduction and a new rubric devoted to the participants’ profile. The latter is meant to gather information about the informants’ gender, mother tongue, whether they live in a rural or an urban area as well as their age.

Another categorisation of the strategies is suggested. Instead of classifying the strategies into problem solving, support and global strategies, they have been categorised into pre-, while-, and post- reading strategies. Then, within each category the strategies are divided into P- and D-reading strategies.

Section One is entitled pre-reading strategies. It is composed of 6 P-reading items and 6 D-reading items. It enquires about stating a purpose for reading, skimming, formal schemata, the extent to which the text's content fits the reader's purpose, as well as predicting.

Section Two is devoted to while-reading strategies. It is composed of 20 P-reading strategies and 23 D-reading strategies. Cognitive and metacognitive strategies are targeted.

The strategies are:

- Taking notes while reading
- Relating what is read to the readers' background knowledge
- Rereading, stopping, reading aloud or reading slowly whenever necessary
- Highlighting key words and important information
- Distinguishing between important and less important information
- Using P- & D- reference materials
- Exploring all the modes of information to reach understanding.
- Inference
- Reference
- Checking the predictions
- Translating
- Activating hyperlinks

Section three is called Post-reading strategies. It is composed of 4 print-based and 6 digital-based items. The items ask about:

- Paraphrasing
- Transfer of information
- Critical evaluation

An optional open-ended item is added at the end of the survey: "Please use this section for any additional comments you would like to add in relation to reading in print-based and digital environments". The participants are asked to add anything they like about their way of reading in D- or P-environments.

4.4.2.3 Administering the Survey

Five hundred (500) copies were directly handed to students from the departments of English at Mouloud MAMMERI university in Tizi-Ouzou and Ali LOUNICI in Blida. The participants were master students from various specialisations. The administering step took place during class hours. So, the purpose of the study was explained to the participants and confidentiality of the answers was promised. Unfortunately, only two hundred and forty-five (245) copies have been returned.

4.4.3. Experimental Reading Comprehension Tests

4.4.3.1. Reading Comprehension Tests in Social Sciences

Another research instrument used in the present study is experimental reading comprehension test. Several reading comprehension tests are to be found in the literature permitting the assessment of various reading constructs. Gap-filling, cloze tests, multiple-choice tests, constructed-response tests, among others, are examples of reading comprehension tests. Each design has a specific purpose and has its strengths and weaknesses. Alderson (2000) claims that there is no best format for testing reading.

As data collection tools, reading comprehension tests are characterised by their ease of use. They allow researchers to collect large corpora of data in a short period of time.

4.4.3.2. Description of the Experimental Test

In order to measure the participants' reading competence in both environments, two comprehension tests following the same format (see appendix B & appendix C) have been administered in P- and D-environments. The tests have been adapted from Cambridge English Language Assessment. They are designed for advanced EFL learners. Each designed test is composed of three parts as it is shown in the following table:

<i>P-reading comprehension test</i>	<i>Screen-based reading comprehension test</i>	<i>Time allotted to each part</i>
Part 1: Cloze test Text entitled “is coffee really the devil’s brew?”	Part 1: cloze test Text entitled “the future of food”	10 minutes
Part 2: sentence reformulation. The students are asked to rewrite three sentences by using the suggested word.	Part 2: sentence reformulation. The students are asked to rewrite three sentences by using the suggested word	5 minutes
Part 3: comprehension practice. A text is followed by nine multiple-choice questions	Part 3: comprehension practice. A text is followed by nine multiple-choice questions	25 minutes.

4.4.3.3. Conducting the Experimental Test

Unlike the previous tools, the method used in the administration of the test is that of group administration. Two groups of Master students were selected to participate in the study and took the reading comprehension tests. The first group relates to 80 students at the department of English in Tizi-Ouzou, while the second is composed of 40 students from the department of English in Blida. The procedure is experimental since my objective is to assess and compare the participants’ reading abilities in P and D-environments.

I identified and selected the group of the participants at Mouloud MAMMERRI University. They were master II students that I consider as skilled in P-reading and experienced in using their laptops and internet. On the basis of the same criterion, the second group was selected at Ali LOUNICI University with the help of a colleague.

The participants sit for two reading comprehension tests adapted from Cambridge English Language Assessment. The first was a P-reading comprehension test and the second was D-reading comprehension test. Each participant used their own laptop. The purpose of the test was explained prior to the test administration. The aim of this phase is to examine whether there are significant differences in the participants’ understanding of P- and D-texts.

4.4.4. Interviews

4.4.4.1. Interviews in Social Sciences

One of the most common research techniques employed in research in reading behaviours to explain processes that are normally hidden is the interview. Interview sessions are used to elicit a large amount of data for analysis. They explore the informants' experiences, opinions, and beliefs within the context they occur in. They play a vital role in understanding human behaviour, of value to critical ethnography.

Like questionnaires or surveys, a variety of items can be used in interviews:

- Introductory questions to help the respondents feel at ease are to be found at the beginning of any interview.
- Final closing question
- Content questions: ask about opinions, feelings, experiences, knowledge etc.
- Probes: they are used to get more details and clarifications from the part of the informants.

In simple words an interview can be defined as a dialogue between an interviewer and an interviewee. It involves asking a series of questions. Even though interviews are generally related to qualitative research, it is worth noting that they can be used in both qualitative and quantitative studies depending on the types of questions used. Accordingly, interviews may take a variety of forms. One of the common categorisations of interviews is their division into three types: structured, unstructured and semi-structured.

Structured interviews resemble written questionnaires in their standardised formats. Using structured interviews involves following “*a pre-prepared, elaborate ‘interview schedule/guide’ which contains a list of questions to be covered closely by every interviewee*” (Dornyei, 2007, p. 135). They are not flexible as the researcher has to follow the order as

well as the wording of the different questions. Similarly, the interviewee has little room for spontaneity leading to limited richness of the collected data.

Unlike the structured interviews, the unstructured ones are so flexible that they may lead the interviewer to unpredictable directions. The interviewer plays the role of the listener; s/he prepares in advance few opening questions to help the interviewee to start speaking about their experiences, stories or opinions. Interruptions are kept to a minimum.

A well-known type commonly used in applied linguistics and education research is the semi-structured interview. It combines the structured and the unstructured types. The interviewer prepares a set of questions to be asked to the different interviewees, but “*the format is open-ended and the interviewee is encouraged to elaborate on the issues raised in an exploratory manner*” (Dornyei, 2007, p. 136). This type is mainly used by researchers who already know what they want to tap from their informants but without limiting them to ready-made answer categories. Accordingly, an interview guide containing the set of questions to be asked to all the interviewees should be prepared in advance by the researcher. During semi-structured interviews sessions, a link between the interviewer and the interviewee is created so as to obtain explanations of some features of the interviewees’ lives or behaviours.

The type adopted in the present research is the semi-structured interview. I prepared set of open ended questions that could help me understand better some reading practices of the participants. Yet, depending on the participants’ answers, some questions have been combined together and sometimes others are spontaneously added. By using this type of interview, my aim was to get insights into how the informants attach meaning to their daily life reading practices. More to the point, a focus was put on the participants’ choice of reading materials and the way they interact with various texts in different contexts.

4.4.4.2. Description of the Interview

The interview is composed of twenty-two questions. In addition to the introductory section and the final closing question, it is divided into six sections. The introductory questions ask about the participants' gender, L1, geographical location, as well as their age.

Section One is devoted to the type of texts that the participant read for academic purposes. It is composed of three questions that seek to explain the reasons behind the participants' preferences of specific types of texts. Section Two relates to text organisation. It is composed of six questions that enquire about the way the participants explore their formal schemata while reading several types of texts. Section Three deals with textual understanding. It is composed of three questions aiming to get insights into the way the participants explore the various linguistic features of texts to reach understanding. Section Four is related to interpretation. It is composed of three questions asking about the role of the participants' background knowledge in the process of interpreting texts as well as their awareness of relating texts to contexts. Section Five is composed of a single question. It is set to reveal the participants' reaction to various texts. More to the point, it asks about the criteria taken into account to evaluate or criticise a text. Section Six attempts to establish a correlation between the participants' reading process, choice of texts and their culture. It is composed of five questions.

4.4.4.3 Conducting the Interview

Twenty-four volunteer students participated in this phase of the research. They were conducted during a period of time starting from January to February 2018. Each interview session lasted for about 20 minutes for each participant and all the conversations were recorded then transcribed for use in critical analysis. It is worth mentioning that right from the beginning, it was made clear for the participants that it is better to express themselves in English but they may use any language to verbalise their thoughts.

4.5 Procedures of Data Analysis

The data collected from the various research tools are analysed according to a mixed method approach, which involves the combination of quantitative and qualitative methods of analysis. Statistical analysis is used to analyse the quantitative data. As for the qualitative data, critical discourse analysis and content analysis have been used.

4.5.1 Statistical Analysis

Quantitative data arising from closed-ended questions of the questionnaire, SODPRS, and reading comprehension tests' scores have been analysed using the statistical method. Statistical analysis relates to well defined mathematical procedures ranging from descriptive statistics to multivariate analysis. The results have been converted into frequencies or means. They are presented and shown in tables.

Several statistical programs have been designed to facilitate the quantitative analysis of data. As far as the present study is concerned, Statistical Package for the Social Sciences (SPSS) is used. The latter is the most commonly software used in educational research. It has been designed by SPSS, Inc. In Chicago.

The first step of the analysis is coding the collected data in a data file by defining the various variables and assigning values to each possible response. The coding frame varies according to the question type. The second step consists of selecting specific statistical procedures that fit the purpose of the research. Indeed, the analysis procedures have been determined by the types of the collected data, the type of the variable, and the question items. Descriptive and inferential statistics have been used in a complementary way.

Descriptive statistics have been used to present and summarize the collected data in a meaningful way. The aim is to visualise the findings in order to simplify their interpretation. Since the study is meant to depict the impact of three independent on three dependent variables, cross tabulation is used a main statistical descriptive tool.

Also known as crosstabs or contingency table analysis, cross tabulation relates to the most useful analytical tool for displaying the distribution of two variables by tabulating their results one against the other. They describe the relationships between variables.

In addition to crosstabs, the mean and the standard deviation of each quantitative item in the survey, and the reading comprehension test have been calculated. Whenever necessary, the arithmetic mean has been calculated as follows:

$$\text{The arithmetic mean} = \frac{\textit{sum of values}}{\textit{number of items}}$$

Then, the results have been interpreted using score interpretation suggested by Oxford and Burry-Stock (1995):

- Mean of 3.5 or higher = High
- Mean of 2.5 to 3.4 = Medium
- Mean of 2.4 or lower = Low

In order to compare between the different categories of participants, inferential statistics have been employed. The aim is to validate the obtained results, to perform reliability analysis, and to generalise the results from the sample to the whole population. In social sciences, a result is typically considered as significant when the probability coefficient (P-value) is smaller than 0.05.

Several inferential statistic procedures have been employed depending on the type of the variables investigated and the objective of the analysis. Chi-Square tests, correlation, independent-samples T-test, paired samples T-tests, and ANOVA have been employed.

Chi-square test is a bivariate analysis used to analyse the impact of a nominal variable on another. More to the point, it is commonly used to test the relationship of dependence or independence between variables. It is appropriate for the analysis of the questionnaire items to check the impact of gender, geographical location, and L1 on the various categorical variables.

Whenever necessary, correlation between some items of the questionnaire has been analysed. It measures the linear relationship between two items by calculating the correlation coefficient “r”. The value of “r” can be positive or negative. If the correlation value is positive, it means that the two tested variables increase together. However, if a negative correlation exists between two variables, it means that one variable increases whenever the other decreases.

In order to examine the differences that lie between the categories, T-tests are used. Independent sample t-tests have been employed in the survey and the comprehension tests to compare the means of the various groups: male vs. female, Berber speakers vs. Arabic speakers, students from urban vs. rural areas. The aim is to check whether they are different from each other or whether the differences could have happened by chance. As for paired-samples t-tests, they have been applied to depict differences in terms of strategies used or scores of the same group of participants in P- and D-environments.

ANOVA or ‘one-way analysis of variance’ is another statistical tool used in the present study to compare the participants’ scores in the comprehension tests. It sets out the relation between two different variables: nominal and quantitative. In other words, it depicts the impact of the various independent variables (gender, geographical location, and mother tongue) on the participants’ scores that relate to a quantitative variable.

4.5.2. Critical Discourse Analysis

Qualitative data arising from the interview items and open-ended questions of the questionnaire have been analysed by means of Critical Discourse Analysis (CDA). My choice for CDA as a technique for data analysis has been motivated by Van Dijk (2006:252) claim that CDA is primarily interested in social issues. I do believe that it suits the analytical categories of the present study, that is a sociocultural analysis of Algerian EFL learners’

reading practices. Indeed, CDA deals with the relationships between texts (language) and the sociocultural context in which they are used. Interactions, texts, or social practices are subjects of analysis within the framework of CDA. McGregor (2010, cited in Mogashoa, 2014, p. 105) argues that critical discourse analysis challenges us to move from seeing language as abstract to seeing our words as having meaning in a particular historical, social and political condition.

CDA as a methodology has been informed by Fairclough, Kress, Van Dijk among others. It has been heavily influenced by critical linguistics and Van Dijk's social cognitive model. Critical linguistics perceives discourse as representing the world through a series of choices from available systems in vocabulary and grammar. Van Dijk's "social-cognitive" model focuses on discourse practice *"as providing a way of linking textual analysis to sociocultural analysis"* (Fairclough, 1995, pp 28-29).

CDA is widely used in education within the framework of qualitative research as it explores causal relationships between language and social or cultural structures. It aims at highlighting how language is ideologically shaped. So, it is a tool which is likely to help researchers understand the meanings of spoken and written texts.

In order to conduct a CDA, researchers analyse the underlying meaning of written and spoken texts. In our case, the texts are written and spoken as they relate to participants' answers to open-ended items of the questionnaire and the interviews' questions. Its aim is to uncover the motivations and the ideological assumptions hidden in written/spoken words. According Rogers et al (2005. Cited in Mogashoa, 2014, p. 106), describing the relationships among certain texts, interactions and social practices is the first goal of the analyst; interpreting the structure of discourse practices is the second goal; and the third goal is to use the description and interpretation to offer an explanation of why and how social practices are

constituted, changed, and transformed in the ways that they are. In simple words, we can say that CDA relates text to context.

4.5.3. Qualitative Directive Content Analysis

The second qualitative data analysis tool is Content Analysis (CA). It is mainly used to analyse the data arising from the interviews and the survey items. The latter is an approach to text data analysis which is perceived and used differently in various disciplines. Its roots went back to the 18th C in Scandinavia. It was used as a technique of data analysis in U.S for the first time at the beginning of the 20th C.

CA is an umbrella term consisting of two broad categories of data analysis, namely Qualitative Content Analysis and Quantitative Content Analysis. The category that best suits the present research is the Qualitative Content analysis (QCA).

QCA is a well-known flexible technique used to analyse text data for the objective of interpreting meaning. Its core principle is “*to conceptualise the process of assigning categories to text passages as a qualitative interpretive act*” (Mayring, 2014, p.10). Three approaches to QCA are to be found in the literature, namely conventional, directed, and summative.

Conventional Content Analysis is used when the theoretical framework is limited. So, researchers analyse the collected data without predetermined categories. The categories emerge from the explored data. It is generally referred to as inductive category development (Mayring, 2014).

Unlike Conventional Content Analysis, Directed Content Analysis is a structured process of data analysis. Researchers identify predetermined coding categories using existing theoretical background. The “*goal of a directed approach to content analysis is to validate or extend conceptually a theoretical framework or theory*” (Hsieh & Shannon, 2005, p. 1281).

The third approach is called Summative Content Analysis. Researchers using summative content analysis go through two stages. The first stage consists of identifying and quantifying certain words or content in a text. The second stage relates to what is called in the literature latent content analysis referring to the process of interpreting and understanding the contextual use of the identified words.

The collected data analysis greatly depends on predetermined categories and the coding process. Accordingly, the approach which best fits the needs of this research is the Directive Content Analysis.

The procedure to follow in order to conduct Directive Content Analysis goes through two main steps. The first is the transcription of each participant's interview. Then, some of the questions of the transcripts have been compared to pre-established codes (schemata) by means of coding schemes. It is worth noting that the survey items have also been coded by means of directive content analysis

4.6. Limitations of the Study

The present research is a critical ethnography that aims at gaining better insights into the way Algerian EFL learners read different types of material in P- and D-environments. It is grounded in cultural anthropology since sociocultural factors are depicted as determining elements of the participants' reading practices. To reach this purpose, the research tools used to collect and analyse data were judged adequate. In addition, the selected samples are more or less representative of the whole population. Accordingly, one can safely claim the reliability and the validity of the reached findings. However, some limitations of the study are worth mentioning.

To start with, the main challenge was to select homogenous samples that meet the purpose of the research. Indeed, categorising the participants into rural and urban or Berber

and Arabic speakers was not an easy task. This is due to the social reality of Algeria and the Algerian society. It has been pointed to earlier that the participants have been selected from two Algerian cities; namely Tizi-Ouzou and Blida. Yet, it is worth reminding that the geographical setting doesn't obviously determine the L1 of the participants. Some students from Tizi-Ouzou report that Algerian Arabic is their L1. Conversely, the L1 of some participants from Blida is Berber.

With respect to the tools of data analysis, CDA and Content analysis have been faithfully applied to the collected qualitative data. The interpretation of the results has been backed by theoretical categories. However, as far as quantitative data analysis is concerned, the statistical analysis as used in social sciences is always challenging. Even though the results have been computed through SPSS, as a researcher in social sciences I have to admit deviations are inevitable.

Conclusion

This chapter has described the research design of the empirical study. It has presented pragmatism as an appropriate research paradigm for the study. Then, as a research strategy, the qualitative and the quantitative methodologies have been combined together to meet the aims of the research. Data collection and data analysis tools have been thoroughly presented and described to get a clear and a broad picture of the empirical investigation. Four data collection tools and three data analysis means have been selected and employed.

Chapter 5

Findings

Introduction

The present chapter is devoted to the findings of the empirical study. It reports the results extracted from the analysis of the collected data.

For a start, it examines the results of the questionnaire composed of open-ended and closed-ended items. Critical discourse analysis has been used to examine the answers of the open-ended items presented in narrative analysis. As far as the closed-ended items are concerned, the statistical procedure selected is the ‘Chi-Square tests’. In addition, ‘correlation’ between items has been computed whenever necessary. Each result is presented in a table followed by a comment. It is worth mentioning that tables are especially useful when delivering vast amounts of numerical data. Through using tables, my aim is to present my results in an easy-to read manner. Like the referencing system followed throughout the present thesis, the tables have been designed following the APA referencing style.

The reading survey items (SODPRS) have been analysed through Qualitative Content Analysis and statistical analysis. Each item has been categorised as a ‘targeted reading strategy’, then the mean of each item has been computed to facilitate the comparison of the categories by means of ‘independent T-tests’ and ‘paired samples T-tests’.

Then, the items of the reading comprehension tests have been analysed by means of ANOVA to analyse the impact of a nominal variable (independent variables) on an ordinal one (the participants’ scores). Paired samples T-tests have been used to compare the participants’ means in D- and P-environments.

Last but not least, a narrative analysis by combining Qualitative Content Analysis and Critical Discourse Analysis of the interview questions conducted with the participants has been presented.

5.1 Analysis & Results of the Questionnaire

Once the questionnaires collected, the respondents' answers have been stored in a data file in SPSS. A total of 344 copies of valid questionnaires have been analysed. The analysis includes descriptive statistics (frequencies), inferential statistics (Chi-square tests), and Critical Discourse Analysis.

The analysis is presented following the same design of the distributed questionnaire. Much focus is put on the three independent variables; accordingly, each question is followed by three different answers referring to the results obtained from female and male respondents, Berber and Arabic participants, as well as informants living in urban or rural areas. Accordingly, the results of each quantitative item are presented in crosstabs. They include descriptive statistics of the frequencies of each variable, and inferential statistics. Following the APA format, the following pieces of information are provided to report the results of the Chi-square: the value of the test, degrees of freedom (ddl), the P-value or the probability of the result occurring by chance (Asymptotic Sig. (2-sided)), and the Cramer's V that indicates how strongly two variables are associated.

5.1.1 Demographic Characteristics of Participants

Gender		Male	Female	Total
	N	73	271	344
	Percentage	21.1%	78.9%	100%
Geographical Location		Urban	Rural	Total
	N	154	190	344
	Percentage	44.7 %	55.3 %	100%
Mother Tongue		Arabic	Berber	Total
	N	156	188	344
	Percentage	45.1 %	54.9 %	100.0 %
Age	N	Minimum	Maximum	Arithmetic
		Age	Age	Mean
	344	20	24	21.9

Table 1. Identification of the Participants

The first table describes the sample selected for the study. It is composed of 344 students. It can be differently identified in terms of a variety of variables. Gender, geographical location, and mother tongue are the three key-variables of the present study. As far as age is concerned, the latter is computed to confirm the homogeneity of the sample. As a matter of fact, the age of participants ranges from 20 to 24years old, with an average age of 21.9 years old.

At 78.9% of the total, most of the participants are female. The number of female students at the departments of English in Tizi-Ouzou and Blida is more important than the number of male students. Only 21.1% of the participants are male.

The distribution of the participants in terms of their L1 is rather equal. While 54.9% are Berber speakers who are mainly from the university of Tizi-Ouzou, 45.1% are Arabic speakers mostly from the University of Blida.

The number participants who live in urban areas is 154 that represent 45.3%. However, the number of the informants emerging from rural areas is slightly more important; 190 students representing 55.3%.

All in all, from the results displayed so far, one can safely claim that the different categories are fairly represented in a more or less homogenous sample. The number of the participants guarantees the validity of the results in terms of gender, geographical location, and mother tongue. As far as age is concerned, descriptive statistics have validated the fact that the impact of age on the results is not significant.

5.1.2 Participants' Background and their Reading Practices

Item 1) Parents' Education: Are your parents educated?

Gender						
Descriptive Statistics: Variables' Cross Tabulation			Inferential Statistics: Chi-square Tests			
Gender	YES	NO	Value	ddl	Asymptotic Sig. (2-sided)	Cramer's V
Male	58.5%	41.5%	0.345 ^a	1	0.557	0.030
Female	62.1%	37.9%				
Total	61.3%	38.7%				

Geographical Location						
Geo. Location	YES	NO	Value	ddl	Asymptotic Sig. (2-sided)	Cramer's V
Urban	65.3%	34.7%	2.083 ^a	1	0.149	0.149
Rural	58.1%	41.9%				
Total	61.3%	38.7%				

Mother Tongue						
	YES	NO	Value	ddl	Asymptotic Sig. (2-sided)	Cramer's V
Arabic	65.7%	34.3%	2.572 ^a	1	0.109	0.109
Berber	57.7%	42.3%				
Total	61.3%	38.7%				

Table 2. Parents' Education

The above tables show that most parents (one or both of them) are educated (61.3%). Only 38.7 % of the informants stated that their parents are not educated.

No difference is noticed between the various categories (inferential statistics). The P-value (Asymptotic Sig.2-sided) is greater than 0.05, Cramer's V is smaller than 0.7. Accordingly, the difference between the groups is not significant. In other words, whether the participants' parents live in urban or rural areas, speak Berber or Arabic, their education level is more or less the same.

Item 2) Parents' Reading Habits: Do your parents read during their spare time?**Gender**

Descriptive Statistics: Variables' Cross Tabulation			Inferential Statistics: Chi-square Tests			
Gender	YES	NO	Value	ddl	Asymptotic Sig. (2-sided)	Cramer's V
Male	44.4%	55.6%	0.096 ^a	1	0.757	0.757
Female	42.5%	57.5%				
Total	42.9%	57.1%				

Geographical Location

Geo. Location	YES	NO	Value	ddl	Asymptotic Sig. (2-sided)	Cramer's V
Urban	42.9%	57.1%	0.001 ^a	1	0.979	0.979
Rural	43.0%	57.0%				
Total	42.9%	57.1%				

Mother Tongue

L1	YES	NO	Value	ddl	Asymptotic Sig. (2-sided)	Cramer's V
Arabic	44.8%	55.2%	0.469 ^a	1	0.469	0.469
Berber	41.3%	58.7%				
Total	42.9%	57.1%				

Table 3. Parents' Reading

The above tables show that the mean of parents' reading is low (42.9%) in comparison to parents who do not read during their spare time. As a matter of fact, 57.1% of the participants said that their parents do not read during their spare time.

As far as the impact of independent variables on parents' reading is concerned, the two sided Asymptotic Significance is superior to 0.05, Cramer's V is smaller than 0.7. Accordingly, the difference between the different categories is not significant.

It is worth noting that the correlation between parents' education and parents' reading habits is positive and significant ($r = 0.534$, $\text{Sig} = 0.01$). The interpretation of this result is that the more parents are educated, the less they read during their spare time.

Item 3) Parents' Encouragement to Read: Do they encourage you to read?

Gender			Inferential Statistics:			
Descriptive Statistics:			Chi-square Tests			
Variables' Cross Tabulation						
Gender	YES	NO	Value	ddl	Asymptotic Sig. (2-sided)	Cramer's V
Male	64.4%	35.4%	15.080 ^a	1	0.000	0.197
Female	84.0%	16.0%				
Total	79.9%	20.1%				

Geographical Location			Inferential Statistics:			
Variables' Cross Tabulation						
	YES	NO	Value	ddl	Asymptotic Sig. (2-sided)	Cramer's V
Urban	83.2%	16.8%	2.169 ^a	1	0.141	0.141
Rural	77.2%	22.8%				
Total	79.9%	20.1%				

Mother Tongue			Inferential Statistics:			
Variables' Cross Tabulation						
	YES	NO	Value	ddl	Asymptotic Sig. (2-sided)	Cramer's V
Arabic	81.7%	18.3%	0.656 ^a	1	0.418	0.041
Berber	78.4%	21.6%				
Total	79.9%	20.1%				

Table 4. Parents' Encouragement

In terms of parents' encouragement to read, the results obtained show clearly that parents encourage their children to read (79.9%).

The difference between the categories is not so significant for geographical location and L1; yet a disparity between the way girls and boys are encouraged to read is noticed. As a matter of fact, the P-value is smaller than 0.05. Females report to be encouraged by their parents to read more than males do.

Item 4) Reading Stories in Childhood: In childhood, were you used to read stories?

This question is divided into two parts: a closed-ended item and an open-ended one.

The first part asks the participants about their childhood habits.

Gender						
Descriptive Statistics: Variables' Cross Tabulation			Inferential Statistics: Chi-square Tests			
	YES	NO	Value	Ddl	Asymptotic Sig. (2-sided)	Cramer's V
Male	58%	42%	1.01 ^a	1	0.01	0.455
Female	85%	15%				
Total	71.5%	28.5%				

Geographical Location						
	YES	NO	Value	Ddl	Asymptotic Sig. (2-sided)	Cramer's V
Urban	54%	46%	1.09 ^a	1	0.001	0.231
Rural	89%	11%				
Total	71.5%	28.5%				

Mother Tongue						
	YES	NO	Value	Ddl	Asymptotic Sig. (2-sided)	Cramer's V
Arabic	61%	29%	1.065 ^a	1	0.456	0.231
Berber	82%	28%				
Total	71.5%	28.5%				

Table 5. Story Reading

The table shows that story reading is part of childhood practices of the majority of the participants. As far as the comparison of the groups is concerned, a statistical significance difference is noticed between males and females from one side, and students living in rural and urban areas from the other (probability coefficient < 0.05). As a matter of fact, females (85%) used to read stories more than males did (58%); 89% of the rural students used to read stories more than their urban counterpart (54%).

The second part of the question reads "If yes, in which language (s)?" The participants' answers fall under three categories; those who used to read in Arabic, those who used to read in French, and those who used to read in French and Arabic.

To start with, a discrepancy is noticed between Berber speakers and Arabic speakers; Berber speakers used to read in French and Arabic, while Arabic speakers used read in Arabic. As far as gender, geographical location are concerned, no difference is noticed between the groups.

It is worth noting, that three students out of 344 said that they used to read stories in Berber. The participants are two Berber females from rural areas, and a Berber male from urban area.

Item 5) Reading Stories Vs. Telling Stories: In childhood, did your parents?

The participants have to choose among three possible answers: 1) Read stories for you, 2.) Tell stories to you, or 3) Both.

Gender							
Descriptive Statistics: Variables' Cross Tabulation				Inferential Statistics: Chi-square Tests			
	Read	Tell	Both	Value	ddl	Asymptotic Sig. (2-sided)	Cramer's V
Male	9.1%	87.0%	3.9%	712 ^a	2	0.700	0.700
Female	6.4%	89.6%	4.0%				
Total	6.9%	89.1%	4.0%				

Geographical Location							
	Read	Tell	Both	Value	ddl	Asymptotic Sig. (2-sided)	Cramer's V
Urban	9.5%	86.9%	3.6%	3.286 ^a	2	0.193	0.193
Rural	4.8%	90.9%	4.3%				
Total	6.9%	89.1%	4.0%				

Mother Tongue							
	Read	Tell	Both	Value	ddl	Asymptotic Sig. (2-sided)	Cramer's V
Arabic	11.2%	81.7%	7.1%	17.670 ^a	2	0.000	0.217
Berber	3.4%	95.2%	1.4%				
Total	6.9%	89.1%	4.0%				

Table 6. Reading Stories Vs. Telling Stories

The findings indicate that most of the participants' parents read stories for their kids in childhood. 89.1% of the parents prefer to tell stories to their kids, while only 6.9 % read stories for their children.

The only significant difference noticed between the various categories is the difference between Berber and Arabic speakers (P-value < 0.05, Cramer's V= 0.217). These statistics reads as Berber speakers report to be used to listen to stories told by their parents (95.2%) more than Arabic speakers did (81.7%). In contrast, more Arabic speakers used to listen to their parents read stories for them (11.2% in comparison to 3.4%).

Item 6) Future Reading Practices: For your future kids which mode are you going to adopt?

This question aims at knowing whether the participants are going to reproduce what they experienced with their future kids or not. It is a closed-ended question which is followed by an open-ended one asking the participants to justify their choice.

Gender

	Descriptive Statistics: Variables' Cross Tabulation			Inferential Statistics: Chi-square Tests			
	Read	Tell	Both	Value	ddl	Asymptotic Sig. (2-sided)	Cramer's V
Male	57.3%	9.8%	32.9%	1.352 ^a	2	0.509	0.059
Female	52.0%	8.2%	39.9%				
Total	53.1%	8.5%	38.4%				

Geographical Location

	Read	Tell	Both	Value	ddl	Asymptotic Sig. (2-sided)	Cramer's V
Urban	50.3%	9.2%	40.5%	1.010 ^a	2	0.603	0.51
Rural	55.3%	7.9%	36.7%				
Total	53.1%	8.5%	38.4%				

Mother Tongue

	Read stories	Tell Stories	Both	Value	ddl	Asymptotic Sig. (2-sided)	Cramer's V
Arabic	27.4%	5.7%	66.9%	109.679 ^a	2	0.000	0.5332
Berber	74.2%	10.8%	15.0%				
Total	53.1%	8.5%	38.4%				

Table7 . Future Reading Practices

The above tables show that for their future kids, 53.1 % of the participants prefer to read stories. While only 8.5 % of them choose to tell stories. 38.4 % affirm that they intend to adopt the two modes together.

From all the categories, a difference is noticed between Arabic and Berber speakers (P-value < 0.05, Cramer's V= 0.533). 74.2 % of the Berber speakers choose to read stories for their kids in the future, while 66.9% of the Arabic speakers choose to use the two modes together.

It is worth noting that the conclusion to be drawn from correlating item 5 with item 6, is that the attitude of both categories towards reading or telling stories is the opposite of their

own experience during childhood. Berber speakers who were used to listen to stories told by their parents choose to read stories for their kids. However, Arabic speakers opt for the two modes together.

The second part of the question asks the participants to explain their choice. Most of the answers turn around the following ideas:

- *“reading helps them develop their vocabulary, and now more about other cultures”*
- *“reading stories for children is more beneficial”*
- *“Develop their thinking abilities”.*
- *“I would love to tell my future kids stories that my parents told me, and also I would read stories for them that can be more beneficial for them...”*
- *“because reading develop their imagination, and helps them develop their ^personality as well as their writing skills... reading stories can be done in different languages helping them learn many languages”*
- *“to encourage them to read and motivate them in the future”*
- *“telling them stories will help them to be more concentrated. It is more attractive since it is about their culture”*

These answers show clearly the students’ awareness about the importance of reading as a means to learn, discover new cultures. Similarly, telling stories is not of less importance for them since it is mainly perceived as a way of linking their children to their native culture.

5.1.3 Digital Reading

Item 7) Reading in Different Languages: When reading (in paper or in digital environments), do you notice a difference between reading in English and reading in another language (French, Arabic, or Berber)? If yes, what is the difference?

Gender						
Descriptive Statistics: Variables' Cross Tabulation			Inferential Statistics: Chi-square Tests			
	YES	NO	Value	ddl	Asymptotic Sig. (2-sided)	Cramer's V
Male	61.0%	39.0%	1.684 ^a	1	0.194	0.066
Female	52.9%	47.1%				
Total	54.6%	45.4%				

Geographical Location						
	YES	NO	Value	ddl	Asymptotic Sig. (2-sided)	Cramer's V
Urban	56.1%	43.9%	0.258 ^a	1	0.612	0.026
Rural	53.5%	46.5%				
Total	54.6%	45.4%				

Mother Tongue						
	YES	NO	Value	ddl	Asymptotic Sig. (2-sided)	Cramer's V
Arabic	55.4%	44.6%	0.080 ^a	1	0.777	0.014
Berber	54.0%	46.0%				
Total	54.6%	45.4%				

Table 8. Reading in Different Languages

The results indicate that most students recognise that while reading on screen in English, which is a foreign language for them, is different from reading in other languages. The P-value in the three tables is superior to 0.05. This indicates that no statistical difference between the different groups is noticed.

The second part of the question sets to get some explanations of the students' answers. Various answers have been provided that can be categorised into three main categories. Some students do not really master the English language so they don't feel at ease while reading in English and they prefer reading in French or Arabic. Those who find differences between languages in terms of structure, but they have not expressed any anxiety towards reading in English or in another language. Last but not least, there is a category of informants who said that it is a matter of habit. They used to read mainly stories or novels in French or Arabic and they find it difficult to read the same genres in English, so they prefer to read academic texts in English. Here are some of the arguments put forward by the participants:

- *“English has a specific style, not like French or Arabic”*
- *“since I am familiar with the English language, I notice a difference when reading online with another language in terms of language structure”*
- *“I think that reading in English is easier than any other language”*
- *“reading in English is more comfortable while dealing with academic purposes, but with everyday issues Arabic or French are better”*
- *“I think that understanding is easier when the text is written in French or Arabic”*
- *“for me, the difference is at the level of culture. Since I grew up reading French stories, I feel better and I find pleasure when reading since I like the language”*
- *“when reading in my native language, I find it easy to understand but when I read in other language I need to focus more”.*

What is important to notice is the fact that, among all the participants, no reference is made to the D-environment. All of them focused mainly on the differences that lie between languages more than discrepancies between the environments.

Item 8) Daily Time Online: How much time a day do you spend online?

- a- Less than one hour
- b- More than One hour
- c- More than Two hours

Gender							
	Descriptive Statistics: Variables' Cross Tabulation			Inferential Statistics: Chi-square Tests			
	< one hour	>one hour	>two hours	Value	ddl	Asymptotic Sig. (2-sided)	Cramer's V
Male	18.3%	46.3%	35.4%	20.885 ^a	2	0.000	0.232
Female	4.2%	45.1%	50.7%				
Total	7.2%	45.4%	47.4%				

Geographical Location							
	Descriptive Statistics: Variables' Cross Tabulation			Inferential Statistics: Chi-square Tests			
	< one hour	>one hour	>two hours	Value	ddl	Asymptotic Sig. (2-sided)	Cramer's V
Urban	6.9%	45.7%	47.4%				
Rural	7.4%	45.1%	47.4%	0.040 ^a	2	0.980	0.010
Total	7.2%	45.4%	47.4%				

Mother Tongue							
	Descriptive Statistics: Variables' Cross Tabulation			Inferential Statistics: Chi-square Tests			
	< one hour	>one hour	>two hours	Value	Ddl	Asymptotic Sig. (2-sided)	Cramer's V
Arabic	6.3%	37.7%	56.0%				
Berber	8.0%	51.6%	40.4%	9.437 ^a	2	0.009	0.156
Total	7.2%	45.4%	47.4%				

Table 9. Time Online /Day

The statistics show that Algerian EFL students spend at least one hour a day browsing online. 47.4 % of the participants spend more than two hours online per day.

As far as the differences between the various groups are concerned, a discrepancy is noticed in terms of gender and L1. Female students spend more time online than male students do (Sig= 0.000, Cramer's V= 0.232). Berber speakers spend less time than Arabic speakers (Sig =0.009, Cramer's V= 0.156)

Item 9) Purpose (s) for Accessing Internet

The participants have been asked to depict their purposes from accessing internet. They have to choose among four possibilities: 1) Social networks 2) Websites of news 3) Browsing 4) Academic purposes.

Gender								
Descriptive Statistics: Variables' Cross Tabulation					Inferential Statistics: Chi-square Tests			
	Social	News	Browsing	Academic	Value	ddl	Asymptotic Sig. (2-sided)	Cramer's V
Male	19%	45%	16%	20%	7.456 ^a	1	0.01	0.123
Female	31%	15%	14%	30%				
Total	25%	30%	15%	25%				

Geographical Location								
	Social	News	Browsing	Academic	Value	ddl	Asymptotic Sig. (2-sided)	Cramer's V
Urban	25%	30%	14%	31%	2.564 ^a	1	0.529	0.03
Rural	25%	30%	16%	23%				
Total	25%	30%	15%	25%				

Mother Tongue								
	Social	News	Browsing	Academic	Value	ddl	Asymptotic Sig. (2-sided)	Cramer's V
Arabic	28%	27.3%	14%	11.9%	0.639 ^a	1	0.647	0.987
Berber	22%	31.7%	16%	28.1%				
Total	25%	30%	15%	25%				

Table 10. Purpose (s) for Accessing Internet

The collected data show that a high percentage of students use internet regularly for social networks or websites of news (25%; 30%). 25% of the informants reported using the internet for educational purposes.

As regards the differences between the groups, a significant statistical difference is noticed among male and female students. While females reported heavy use of internet for social activities and academic purposes; boys prefer getting access to internet mainly websites of news.

This closed-ended question has been followed by two ranking items. The participants have been asked to rank their purposes for accessing internet in order of frequency then in order of importance.

In order of frequency, social networks have been classified on first place followed by websites of news. However, in order of importance, most of the participants ranked Academic purposes on a first place. This can be read as a difference between the students' awareness

and their actual use of internet. They recognise the importance of using internet as a tool for literacy development; but they do mainly use it for social purposes.

Item 10) Digital vs. Traditional Libraries: Do you prefer the digital libraries or the traditional ones? Why?

Gender						
Descriptive Statistics: Variables' Cross Tabulation			Inferential Statistics: Chi-square Tests			
	Digital	Traditional	Value	ddl	Asymptotic Sig. (2-sided)	Cramer's V
Male	29.9%	70.1%	5.132 ^a	2	0.017	0.710
Female	42.5%	57.7%				
Total	39.9%	60.1%				

Geographical Location						
	Digital	Traditional	Value	ddl	Asymptotic Sig. (2-sided)	Cramer's V
Urban	59.4%	40.6%	0.346 ^a	2	0.002	0.030
Rural	20.4%	79.6%				
Total	39.9%	60.1%				

Mother Tongue						
	Digital	Traditional	Value	ddl	Asymptotic Sig. (2-sided)	Cramer's V
Arabic	43.1%	56.9%	6.336 ^a	2	0.042	0.130
Berber	36.7%	63.3%				
Total	39.9%	60.1%				

Table 11. Digital or Print-based Libraries

Traditional libraries are considered as a primary preference for Algerian EFL students. 60.1% chose the traditional libraries over the digital ones.

A significant difference between the different groups is noticed. The P-value is inferior to 0.05 for the three categories. To start with; boys (70.1%) seem more attracted by traditional libraries than girls (57.7%). 70 % of the rural participants selected the traditional libraries while only 40% of the urban informants chose the same answer. As regards mother tongue, the rate of the Arabic speakers who prefer traditional libraries is less important than the Berber one.

It is worth noting that the factor that influences more the choice of the participants is gender. As a matter of fact, Cramer's V is of 0.7 meaning that the relationship between the independent variable and the dependent one is great.

In order to understand more the reasons of the participants' choice, this item has been followed by a clarification question asking the participants to justify their choice. Some of the reasons mentioned by the participants are:

- *"I prefer the traditional ones because they give me a desire to read"*
- *"I love classical things so I prefer reading in a traditional library rather than a digital one"*
- *"It is not the same thing when we have the concrete book and when we read online. With a concrete book you can be involved but online reading is sometimes boring"*
- *"I prefer digital libraries because they provide a variety of books and references, easy to access, easy to find information and authors. It is easily targeted piece of information giver"*
- *"in traditional libraries, we can go directly to what we need but in digital libraries; we waste our time seeing irrelevant materials"*
- *Digital libraries allow us to have access to different books easily and in a limited period of time"*
- *"I prefer the digital libraries because I can have access to it whenever I want recent books and articles are to be found in digital libraries".*

Those who prefer traditional libraries argue that they are more motivated, involved and they feel at ease. However, the students who rather choose the digital libraries think that it is mainly a matter of easiness of access to information. In other words, one is perceived as a source for motivation to read and the other as practical.

Item 11) Access to Digital Libraries: Do you have access to any digital library?

Gender						
Descriptive Statistics: Variables' Cross Tabulation			Inferential Statistics: Chi-square Tests			
Gender	Yes	No	Value	ddl	Asymptotic Sig. (2-sided)	Cramer's V
Male	43.5%	56.5%	8.383 ^a	1	0.119	0.147
Female	40.4%	60%				
Total	41.75%	58.25%				

Geographical Location						
Geo. Location	Yes	No	Value	ddl	Asymptotic Sig. (2-sided)	Cramer's V
Urban	52%	48%	6.564 ^a	2	0.012	0.332
Rural	31.5%	68.5%				
Total	41.75%	58.25%				

Mother Tongue						
Mother Tongue	YES	NO	Value	ddl	Asymptotic Sig. (2-sided)	Cramer's V
Arabic	34%	66%	4.567a	3	0.546	0.087
Berber	49.5%	50.5%				
Total	41.75%	58.25%				

Table 12. Access to Digital Libraries

The results show that 58.5% of the Algerian EFL students do not have access to digital libraries. They are living in a digital era so such percentage is not satisfactory. As expected, a slight difference is noticed between rural and urban participants (Sig >0.05, Crammers' V =0.332). While 52.5% of the urban students have access to digital libraries; only 31.5% of the rural participants reported to get regular access to digital libraries.

In order to understand the reasons of lack of access to digital libraries, a following question is added. It reads as follows:

- If No, what can prevent you to get access to digital libraries?
 - a. Lack of money
 - b. Lack of interest
 - c. Difficulty to access
 - d. Time constraint

Gender								
Descriptive Statistics: Variables' Cross Tabulation					Inferential Statistics: Chi-square Tests			
Gender	Money	Interest	Difficulty	Time	Value	ddl	Asymptotic Sig. (2-sided)	Cramer's V
Male	35%	5%	47.5%	12.5%	8.383 ^a	1	0.119	0.147
Female	15%	11%	58.5%	15.5%				
Total	25%	8%	53%	14%				

Geographical Location								
Descriptive Statistics: Variables' Cross Tabulation					Inferential Statistics: Chi-square Tests			
Geo. Location	Money	Interest	Difficulty	Time	Value	ddl	Asymptotic Sig. (2-sided)	Cramer's V
Urban	34%	7%	44%	15%	6.564a	2	0.01	0.432
Rural	16%	9%	62%	13%				
Total	25%	8%	53%	14%				

Mother Tongue								
Descriptive Statistics: Variables' Cross Tabulation					Inferential Statistics: Chi-square Tests			
Mother Tongue	Money	Interest	Difficulty	Time	Value	ddl	Asymptotic Sig. (2-sided)	Cramer's V
Arabic	27%	10%	52%	11%	4.567a	3	0.546	0.087
Berber	23%	6%	54%	17%				
Total	25%	8%	53%	14%				

Table 13. Lack of Access to D-libraries

Lack of money and difficulty of access (25%, 53%) represent the main reasons lying behind the lack of Algerian EFL students' access to digital libraries. 8% of the participants reported not to be interested by digital libraries. These reasons are of great significance in the context of urban/rural dichotomy.

Item 12) Reaction to Hyperlinks: What do you do when you read a text with hyperlinks?

- A. Ignore them
- B. Concentrate on them
- C. Rely on them to understand the text
- D. Other

Gender								
Descriptive Statistics: Variables' Cross Tabulation					Inferential Statistics: Chi-square Tests			
Gender	Ignore them	Concentrate	Rely on	Other	Value	ddl	Asymptotic Sig. (2-sided)	Cramer's V
Male	31.1%	21.6%	37.8%	9.5%	6.318 ^a	5	0.503	0.135
Female	25.7%	20.3%	44.5%	9.5%				
Total	26.9%	20.5%	43.1%	9.5%				

Geographical Location								
Geo. Location	Ignore them	Concentrate	Rely on	Other	Value	ddl	Asymptotic Sig. (2-sided)	Cramer's V
Urban	26%	22%	41.3%	9.7%	2.272 ^a	5	0.943	0.081
Rural	27.6%	19.4%	44.4%	9.4%				
Total	26.9%	20.5%	43.1%	9.5%				

Mother Tongue								
	Ignore them	Concentrate	Rely on	Other	Value	ddl	Asymptotic Sig. (2-sided)	Cramer's V
Arabic	38.1%	17.3%	33.8%	10.8%	3.841 ^a	5	0.001	0.262
Berber	19.3%	22.7%	49.3%	8.7%				
Total	26.9%	20.5%	43.1%	9.5%				

Table 14. Reaction to Hyperlinks

The tables indicate that the participants do interact with hyperlinks when reading online. Most of them (43.1%+ 20.5%) concentrate or rely on them to reach understanding.

The only discrepancy reported is the one related to Berber and Arabic speakers (sig=0.001; Cramer's V = 0.262). The number of Berber speakers who explore hyperlinks is greater than the number of Arabic speakers. The rate of Arabic speakers who ignore the hyperlinks, on the other hand, is more significant.

The participants have been asked to explain or justify their answer. Here are some examples of their answers:

- *"I can make further research by using them"*
- *"I ignore them because I cannot focus on two things at the same time"*
- *"when I read a text with hyperlinks, I rely on them to understand the text because they facilitate my comprehension of texts"*
- *"Usually, these hyperlinks contain much information which helps me better understand the text. So, they cannot be ignored as long as they are necessary for a full understanding of the text"*
- *"It depends on the number of the hyperlinks. When they are over-used; I neglect them. When they are used wisely, I do use them to understand the text in case of necessity."*

- *“I concentrate on the. Yet, it depends on the quality and the validity of these tools”*
- *“When the tools do not fit my purposes, I ignore them”.*
- *“hyperlinks give the opportunity to students to learn in a multimedia environment”*

The answers of the participants indicate that they are accustomed with D-reading and hyperlinks. They do know that the role of hyperlinks is to guide and help the reader to better understanding as they can mislead the readers. This shows their degree of awareness and their ability to select what is appropriate for their purpose.

Item 13) Exploiting Hypertexts’ Characteristics for Understanding: Do you think that the tools like sounds, files and videos included in hypertexts may help you understand better?

Gender

Descriptive Statistics: Variables’ Cross Tabulation			Inferential Statistics: Chi-square Tests			
Gender	YES	NO	Value	ddl	Asymptotic Sig. (2-sided)	Cramer’s V
Male	83.1%	16.9%	3.085 ^a	1	0.049	0.092
Female	90.2%	9.8%				
Total	88.7%	11.3%				

Geographical Location

	YES	NO	Value	ddl	Asymptotic Sig. (2-sided)	Cramer’s V
Urban	85.4%	14.6%	2.821 ^a	1	0.93	0.088
Rural	91.1%	8.9%				
Total	88.7%	11.3%				

Mother Tongue

	YES	NO	Value	ddl	Asymptotic Sig. (2-sided)	Cramer’s V
Arabic	80.8%	19.2%	1.665 ^a	1	0.019	0.213
Berber	96.6%	3.4%				
Total	88.7%	11.3%				

Table 15. Exploiting Hypertexts’ Characteristics for Understanding

The findings show that hypertexts’ characteristics play a fundamental role in helping the students to understand. 88.7% of the participants stated that the hypertext tools contribute to in the comprehension process of various texts.

As expected, in parallel with item 8 and item 12, Girls and Berber speakers seem to feel more at ease when they read hypertexts. More than 90% of both categories confirmed their perception of hypertexts' tools as useful for reading.

Item 14) D-texts Reading Frequency: While reading a D-text for academic purposes, how many times do you read it?

- Once
- Twice
- Three times
- More than three times

Gender								
Descriptive Statistics: Variables' Cross Tabulation					Inferential Statistics: Chi-square Tests			
	Once	Twice	Three T.	> Three T.	Value	ddl	Asymptotic Sig. (2-sided)	Cramer's V
Male	10.3%	35.3%	39.7%	14.7%	4.796 ^a	4	0.309	0.117
Female	16.9%	31.0%	32.4%	19.7%				
Total	15.6%	31.8%	33.8%	18.8%				

Geographical Location								
	Once	Twice	Three T.	> Three T.	Value	ddl	Asymptotic Sig. (2-sided)	Cramer's V
Urban	15.1%	33.3%	32.1%	19.5%	1.491 ^a	4	0.828	0.065
Rural	16.1%	30.6%	35.2%	18.2%				
Total	15.6%	31.8%	33.8%	18.8%				

Mother Tongue								
L1	Once	Twice	Three T.	> Three T.	Value	ddl	Asymptotic Sig. (2-sided)	Cramer's V
Arabic	14.2%	29.1%	39.9%	16.9%	4.193 ^a	4	0.380	0.109
Berber	16.7%	33.8%	29.4%	20.1%				
Total	15.6%	31.8%	33.8%	18.8%				

Table 16. D-text Reading Frequency

The results indicate that the participants read D-texts twice or three times (31.8%, 33.8%). In terms of categories, there is no statistical difference between the groups.

Item 15) D-texts Reading Frequency: If you get the same text on print, how many times do you need to read it in order to reach understanding?

- Once
- Twice
- Three times
- More than three times

Gender								
Descriptive Statistics: Variables' Cross Tabulation					Inferential Statistics: Chi-square Tests			
Gender	Once	Twice	Three T.	> Three T.	Value	ddl	Asymptotic Sig. (2-sided)	Cramer's V
Male	22.6%	53.2%	16.1%	8.1%	3.306 ^a	3	0.347	0.108
Female	29.1%	50.2%	9.4%	11.2%				
Total	27.7%	50.9%	10.9%	10.5%				

Geographical Location								
Descriptive Statistics: Variables' Cross Tabulation					Inferential Statistics: Chi-square Tests			
Geo. Location	Once	Twice	Three T.	> Three T.	Value	ddl	Asymptotic Sig. (2-sided)	Cramer's V
Urban	32.8%	48.4%	8.6%	10.2%	3.590 ^a	3	0.309	0.112
Rural	23.6%	52.9%	12.7%	10.8%				
Total	27.7%	50.9%	10.9%	10.5%				

Mother Tongue								
Descriptive Statistics: Variables' Cross Tabulation					Inferential Statistics: Chi-square Tests			
	Once	Twice	Three T.	> Three T.	Value	ddl	Asymptotic Sig. (2-sided)	Cramer's V
Arabic	25.9%	55.2%	7.8%	11.2%	2.789 ^a	3	0.425	0.99
Berber	29.0%	47.9%	13.0%	10.1%				
Total	27.7%	50.9%	10.9%	10.5%				

Table 17. P-text Reading Frequency

Unlike the results presented in table 16, the findings reported in table 17 show that the highest frequency of reading P-texts are twice or once (50.9%; 27.7%). What can be concluded is that EFL students need much more time while reading D-texts in order to reach understanding.

The statistical significance for the three variables analysed is superior to 0.05 (0.34; 0.30; 0.42). So, in terms of frequency of reading, no discrepancy between the various categories is observed.

Item 16) Print Vs Digital: Which reading process do you think is easier?

- a. Digital -b. Print -c either one is fine

Gender							
Descriptive Statistics: Variables' Cross Tabulation				Inferential Statistics: Chi-square Tests			
Gender	Digital	Print	Either one is fine	Value	ddl	Asymptotic Sig. (2-sided)	Cramer's V
Male	17.9%	82.1%	0%	1.697 ^a	2	0.428	0.067
Female	19.3 %	78.7%	2.0%				
Total	19%	79.4%	1.6%				

Geographical Location							
Geographical Location	Digital	Print	Either one is fine	Value	ddl	Asymptotic Sig. (2-sided)	Cramer's V
Urban	16.7%	82.1%	1.2%	1.439	2	0.48	0.062
Rural	20.9%	77.3%	1.9%				
Total	19%	79.4%	1.6%				

Mother Tongue							
Mother Tongue	Digital	Print	Either one is fine	Value	ddl	Asymptotic Sig. (2-sided)	Cramer's V
Arabic	18%	80%	1.8%	0.245 ^a	2	0.885	0.025
Berber	19.7%	78.9%	1.4%				
Total	19%	79.4%	1.6%				

Table 18. Print or Digital

The results presented in the above table confirm the findings of the two previous items. 79.4 % of the participants find reading print materials as fairly easier than D-reading . Only 1.6% of them think that no difference exists between the two environments.

Cramer's V for the three categories is very small (0.067; 0.062; 0.025) meaning that the impact of the independent variables on the dependent variable analysed is not significant. In other words, a common view is shared among EFL students expressing their perception of P-reading as easier than D-reading .

Item 17) Printing Texts : Do you print out electronic documents for reading?

- Always
- Never
- Frequently
- Occasionally

Gender								
Descriptive Statistics: Variables' Cross Tabulation					Inferential Statistics: Chi-square Tests			
Gender	Always	Never	Frequently	Occasionally	Value	ddl	Asymptotic Sig. (2-sided)	Cramer's V
Male	10.3%	15.4%	24.4%	50%	6.92 ^a	3	0.074	0.336
Female	14.4%	6.7%	29.9%	49%				
Total	13.6%	8.5%	28.7%	49.2%				

Geographical Location								
	Always	Never	Frequently	Occasionally	Value	ddl	Asymptotic Sig. (2-sided)	Cramer's V
Urban	16.3%	7.2%	28.3%	48.2%	2.252 ^a	3	0.522	0.077
Rural	11.4%	9.5%	29%	50%				
Total	13.6%	8.5%	28.7%	49.2%				

Mother Tongue								
	Always	Never	Frequently	Occasionally	Value	ddl	Asymptotic Sig. (2-sided)	Cramer's V
Arabic	19.2%	3.6%	31.3%	45.8%	6.931 ^a	3	0.132	0.112
Berber	9%	12.4%	26.7%	51.9%				
Total	13.6%	8.5%	28.7%	49.2%				

Table 19. Printing Texts

Table 19 indicates that the participants are shared between two practices. While 42.1% of them always or frequently print out digital documents, 57.9% never or occasionally do it.

In order to get a better understanding of the correlation between item 16 and item 17, the contingency coefficient is calculated. The obtained value is $C = 0.2$ significant at 0.002. This result suggests the presence of a moderate correlation between the way EFL students perceive D- and P-texts and their frequency of printing out documents.

Item 18) Types of P-texts: What types of reading texts do you read on paper? (you can choose more than one answer)

- Novels
- Books' Chapters
- Scientific/ Academic texts
- Magazines/Newspaper

Gender								
Descriptive Statistics: Variables' Cross Tabulation					Inferential Statistics: Chi-square Tests			
	Novels	Chapters	Academic texts	Magazines	Value	ddl	Asymptotic Sig. (2-sided)	Cramer's V
Male	17.5%	26.15%	34.9%	21%	10.278 ^a	4	0.000	0.39
Female	30.8%	20.2%	24.2%	23.5%				
Total	24.1%	23.8%	28.9%	23.3%				

Geographical Location								
	Novels	Chapters	Academic texts	Magazines	Value	ddl	Asymptotic Sig. (2-sided)	Cramer's V
Urban	24.7%	24.1%	27.7%	23.5%	6.193 ^a	4	0.823	0.09
Rural	23.6%	23.6%	30.1%	23.5%				
Total	24.1%	23.8%	28.9%	23.3%				

Mother Tongue								
	Novels	Chapters	Academi c texts	Magazines	Value	ddl	Asymptotic Sig. (2- sided)	Cramer 's V
Arabic	25.3%	24.1%	28.9%	21.7%	12.32 ^a	45	0.800	0.31
Berber	23.1%	23.6%	28.8%	24.5%				
Total	24.1%	23.8%	28.9%	23.3%				

Table 20. Types of P-texts

The participants read various types of texts on paper. The results show almost equal frequencies the different possible answers ranging from 23% to 28 %.

A little difference is observed between male and female participants (Sig= 0.000; Cramer's V= 0.35). Female students tend read novels and magazines more than academic texts and books' chapters (54.3%), whereas, 61% of the male students prefer reading academic texts and chapters of books.

As regards the other categories, no significant difference is noticed between the different groups (Sig > 0.05). Of all the frequencies, the highest percentage is observed at the level of academic texts for the urban (27.7%), rural (30.1%), Arabic (28.9%) and Berber (28.8%).

Item 19) Types of D-texts: What types of reading texts do you read online or on screen?

- Novels

- Books' Chapters
- Scientific/ Academic texts
- Magazines/Newspapers

Gender								
Descriptive Statistics: Variables' Cross Tabulation					Inferential Statistics: Chi-square Tests			
	Novels	Chapters	Academic texts	Magazines	Value	ddl	Asymptotic Sig. (2-sided)	Cramer's V
Male	19%	17.8%	30.3%	27.9%	9.572 ^a	4	0.002	0.458
Female	19.8%	25.2%	40.1%	20.5%				
Total	19.4%	21.3%	35.4%	24.1%				

Geographical Location								
	Novels	Chapters	Academic texts	Magazines	Value	ddl	Asymptotic Sig. (2-sided)	Cramer's V
Urban	24.4%	20.2%	31.6%	23.8%	3.066 ^a	4	0.636	0.337
Rural	22.2%	18.4%	36.6%	24%				
Total	19.4%	21.3%	35.4%	24.1%				

Mother Tongue								
	Novels	Chapters	Academic texts	Magazines	Value	ddl	Asymptotic Sig. (2-sided)	Cramer's V
Arabic	19.2%	19.5%	32.1%	28.2%	2.643 ^a	4	0.000	0.520
Berber	19.8%	22.9%	36.5%	20.6%				
Total	19.4%	21.3%	35.4%	24.1%				

Table 21. Types of D-texts

Like the previous item, this question asks about the types of texts that the different participants read, but in another environment, namely the digital one. Table 21 shows that academic texts (35.4%) and magazines (24.1) are the main types of texts that the participants read in the D-environment. Of the four types, novels represent the category which is hardly read.

A statistical significant difference is to be found between girls and boys from one side, and Arabic and Berber speakers from the other. Female students tend to read D-texts for academic purposes (academic texts and books' chapters), but boys prefer magazines. As regards the mother tongue, Berber speakers read books' chapters and academic texts, whereas Arabic speakers prefer academic texts and magazines.

Item 20) Choice for Digital Documents: What are the things you consider when choosing a digital document to be read for academic purposes?

This item aims at getting insights into the criteria that Algerian EFL students take into account before selecting any digital document to be read. All the participants focussed on a common point which is “whether the content fits their purpose”. Other criteria have been mentioned such as the clarity of the document. Out of 344 questionnaires analysed, only two Berber female students mentioned the criterion of the “reliability of the source”. Here are some examples of the informants’ answers:

- *“the title of the document and its content”*
- *“ the concepts involved”*
- *“the title, size, and clarity”*
- *“relevant to my purpose of study”*
- *“the content and the purpose”*
- *“the source (if it is reliable) and if it is appropriate to the field of my studies’*
- *“I consider the source and the author”*

5.1.3 Attitudes towards P/ D -Reading

Item 21) Liking or Disliking P-reading: Do you like reading?

- Yes - No

Gender				Inferential Statistics:			
Descriptive Statistics:				Chi-square Tests			
Variables' Cross Tabulation				Value	ddl	Asymptotic Sig. (2-sided)	Cramer's V
	YES	NO					
Male	81%	19%		1.952 ^a	3	0.583	0.071
Female	82%	15.8%					
Total	81.9%	16.5%					

Geographical Location				Inferential Statistics:			
Variables' Cross Tabulation				Value	ddl	Asymptotic Sig. (2-sided)	Cramer's V
	YES	NO					
Urban	81.1%	17.8%		0.609 ^a	3	0.894	0.040
Rural	82.6%	15.5%					
Total	81.9%	16.5%					

Mother Tongue				Inferential Statistics:			
Variables' Cross Tabulation				Value	ddl	Asymptotic Sig. (2-sided)	Cramer's V
	YES	NO					
Arabic	74.6%	24.9%		7.384 ^a	3	0.001	0.213
Berber	87.8%	9.9%					
Total	81.9%	16.5%					

Table 22. Liking or Disliking P-reading

The findings indicate that a high percentage of the participants enjoy and love reading (81.9%) in comparison to the rate (16.5%) of those who do not like it. Indeed, reading is part of the daily life of the participants. They are FL students, so they need to keep in touch with the language they are learning through reading.

A slight discrepancy between the groups is noticed in terms of L1 (Sig= 0.001; Cramer's V = 0.213). This implies the fact that Berber speakers seem to like more reading than Arabic speakers do. 87.8% of the Berber speakers have selected the answer 'yes' compared to 74.6% of the Arabic speakers.

Item 22) Enjoying Reading Classes: Do you find any pleasure at the end of a reading class?

- Yes - No

Gender						
Descriptive Statistics: Variables' Cross Tabulation		Inferential Statistics: Chi-square Tests				
	YES	NO	Value	ddl	Asymptotic Sig. (2-sided)	Cramer's V
Male	65.8%	34.2%	4.703 ^a	1	0.030	0.111
Female	77.7%	22.3%				
Total	75.2%	24.8%				

Geographical Location						
	YES	NO	Value	ddl	Asymptotic Sig. (2-sided)	Cramer's V
Urban	72.6%	27.4%	1.076 ^a	1	0.3	0.53
Rural	77.3%	22.7%				
Total	75.2%	24.8%				

Mother Tongue						
	YES	NO	Value	ddl	Asymptotic Sig. (2-sided)	Cramer's V
Arabic	68.7%	31.3%	6.739 ^a	1	0.009	0.133
Berber	80.3%	19.7%				
Total	75.2%	24.8%				

Table 23. Enjoying Reading Classes

After asking the participants whether they do like reading or not, this item deals with reading classes. More to the point, the purpose is to know whether they enjoy their reading classes or not. The majority of the participants (75.2%) answered by 'yes'. Yet, an important number of them (24.8%) reported not enjoying reading classes.

Taken together, the results of item 21 and 22 suggest a difference between the way the participants perceive reading and reading instruction. More students enjoy reading as an individual process than reading classes.

As far as the various categories are concerned, a significant difference is noticed at the level of gender and mother tongue. Female students and Berber speakers seem to enjoy reading classes more than male students or Arabic speakers do.

Item 23) Motivation in reading classes: How do you feel when you are asked to read a passage in a reading class?

- Motivated
- Not motivated
- Anxious

Gender

	Descriptive Statistics: Variables' Cross Tabulation			Inferential Statistics: Chi-square Tests			
	Motivated	Not motivated	Anxious	Value	ddl	Asymptotic Sig. (2-sided)	Cramer's V
Male	59.3%	15.2%	24.6%	2.314 ^a	3	0.510	0.079
Female	63.2%	18.4%	18.4%				
Total	60.1%	15.8%	23.3%				

Geographical Location

	Motivated	Not motivated	Anxious	Value	ddl	Asymptotic Sig. (2-sided)	Cramer's V
Urban	60.6%	17%	21.8%	0.696 ^a	3	0.874	0.043
Rural	59.6%	14.9%	24.5%				
Total	60.1%	15.8%	23.3%				

Mother Tongue

	Motivated	Not motivated	Anxious	Value	ddl	Asymptotic Sig. (2-sided)	Cramer's V
Arabic	53.0%	21.4%	23.8%	2.325 ^a	3	0.006	0.182
Berber	65.9%	11.2%	22.9%				
Total	60.1%	15.8%	23.3%				

Table 24. Motivation in Reading Classes

Reading classes are mainly characterised by asking the learners to read passages aloud. Table 24 shows the participants' motivation or anxiety when asked to read passages in the classroom.

The results displayed in table 24 resemble the findings presented in table 23. A high percentage of the participants feel motivated to read aloud in the classroom; 15.8% are not motivated; and 23.3% feel anxious.

Berber and Arabic speaker do not show the same degree of enthusiasm in reading classes (Sig= 0.006; Cramer's V= 0.182). Berber speakers are more motivated and less anxious than Arabic speakers.

Item 24) Novels Vs. Movies: Do you prefer reading a novel or watching an adapted version of a film?

Gender							
	Descriptive Statistics: Variables' Cross Tabulation			Inferential Statistics: Chi-square Tests			
	Novel	Movie	Both	Value	ddl	Asymptotic Sig. (2-sided)	Cramer's V
Male	25.3%	74.4%	00%	6.626 ^a	2	0.36	0.132
Female	19.3%	73.7%	7%				
Total	20.6%	73.9%	5.5%				

Geographical Location							
	Descriptive Statistics: Variables' Cross Tabulation			Inferential Statistics: Chi-square Tests			
	Novel	Movie	Both	Value	ddl	Asymptotic Sig. (2-sided)	Cramer's V
Urban	21.4%	73.2%	5.4%	0.142 ^a	2	0.932	0.019
Rural	19.9%	74.4%	5.7%				
Total	20.6%	73.9%	5.5%				

Mother Tongue							
	Descriptive Statistics: Variables' Cross Tabulation			Inferential Statistics: Chi-square Tests			
	Novel	Movie	Both	Value	ddl	Asymptotic Sig. (2-sided)	Cramer's V
Arabic	22.5%	71.6%	5.9%	0.83 ^a	2	0.66	0.047
Berber	19.0%	75.7%	5.2%				
Total	20.6%	73.9%	5.5%				

Table 25. Novel Vs. Movie

The results show that only 5.5% of the students like the two media together. The other informants were divided between movies and novels. The majority of them (73.9%) prefer watching and adapted version of film. 20.6% of them stated that they rather like reading novels.

Even though slight differences of frequencies are noticed in the above table, the inferential statistics computed have shown that the difference is not significant (Sig >0.05).

Item 25) Liking or Disliking D-reading: Do you like digital reading?

Gender		Descriptive Statistics: Variables' Cross Tabulation		Inferential Statistics: Chi-square Tests		
	YES	NO	Value	ddl	Asymptotic Sig. (2-sided)	Cramer's V
Male	46.9%	53.1%	0.038 ^a	1	0.845	0.010
Female	48.1%	51.9%				
Total	47.1%	52.9%				

Geographical Location		Descriptive Statistics: Variables' Cross Tabulation		Inferential Statistics: Chi-square Tests		
	YES	NO	Value	ddl	Asymptotic Sig. (2-sided)	Cramer's V
Urban	46.7%	53.3%	0.17 ^a	1	0.896	0.007
Rural	47.4%	52.6%				
Total	47.1%	52.9%				

Mother Tongue		Descriptive Statistics: Variables' Cross Tabulation		Inferential Statistics: Chi-square Tests		
	YES	NO	Value	ddl	Asymptotic Sig. (2-sided)	Cramer's V
Arabic	43.2%	56.8%	1.874 ^a	1	0.171	0.07
Berber	50.2%	49.8%				
Total	47.1%	52.9%				

Table 26 . Liking or Disliking D-reading

This item is suggested to be compared with item 21. Put differently, it checks the degree of liking or disliking of reading in a D-environment. The findings suggest that the participants' views are shared between the 'yes' and 'no'. The frequencies for both possibilities of answers are almost the same with a little advantage for the 'No' answer. 52.9% do not like D-reading ; and 47.1 % do like it.

In terms of categories, no statistical significant difference is noticed.

Item 26) Reading D-texts: Have you ever read a book/novel online or on screen?

- Yes - No

Gender						
Descriptive Statistics: Variables' Cross Tabulation		Inferential Statistics: Chi-square Tests				
	YES	NO	Value	ddl	Asymptotic Sig. (2-sided)	Cramer's V
Male	69.6%	30.4%	0.151 ^a	1	0.698	0.020
Female	67.3%	32.7%				
Total	67.8%	32.2%				

Geographical Location						
	YES	NO	Value	ddl	Asymptotic Sig. (2-sided)	Cramer's V
Urban	68.6%	31.4%	0.097 ^a	1	0.755	0.016
Rural	67.1%	32.9%				
Total	67.8%	32.2%				

Mother Tongue						
	YES	NO	Value	ddl	Asymptotic Sig. (2-sided)	Cramer's V
Arabic	76.3%	23.7%	10.102 ^a	1	0.001	0.163
Berber	61.0%	39.0%				
Total	67.8%	32.2%				

Table 27. Reading D-Texts

The findings indicate that Algerian EFL students are accustomed with D-reading. As a matter of facts, 67.8% of the participants stated that they have already read a book or a novel in the D-environment.

A significant difference is observed between Arabic and Berber speakers (Sig = 0.001; Cramer's V= 0.163). 76.3% of the Arabic speakers have already read a book or a novel in the D-environment. However, 61% of the Berber speakers did it.

Item 27) D-text Vs P-text: Do you prefer reading a digital version of a book or reading its printed one?

Gender		Descriptive Statistics: Variables' Cross Tabulation		Inferential Statistics: Chi-square Tests		
	Digital	Print	Value	ddl	Asymptotic Sig. (2-sided)	Cramer's V
Male	4.1%	95.9%	2.108 ^a	1	0.003	0.175
Female	27.1%	72.9%				
Total	15.6%	84.4%				

Geographical Location		Descriptive Statistics: Variables' Cross Tabulation		Inferential Statistics: Chi-square Tests		
	Digital	Print	Value	ddl	Asymptotic Sig. (2-sided)	Cramer's V
Urban	16.8%	83.2%	0.3279 ^a	1	0.568	0.029
Rural	14.6%	85.4%				
Total	15.6%	84.4%				

Mother Tongue		Descriptive Statistics: Variables' Cross Tabulation		Inferential Statistics: Chi-square Tests		
	Digital	Print	Value	ddl	Asymptotic Sig. (2-sided)	Cramer's V
Arabic	17.5%	82.5%	0.813 ^a	1	0.367	0.046
Berber	14.1%	85.9%				
Total	15.6%	84.4%				

Table 28. D-Text Vs. P-Text

Table 28 clearly shows that Algerian EFL students prefer the P-reading . 84.4 % of the informants chose Print version of books compared to 15.6% who selected digital as an answer. The different groups' answers are almost the same for the three categories.

The discrepancy between the groups is noticed in terms of gender (Sig=0.03; Cramer's V=0.175). In the P-environment, the percentage of male students is higher than the percentage of females. The opposite is noticed in the D-environment where the frequency of females is superior to the frequency of males.

The participants have been asked to justify their answers. Various justifications have been provided:

- *"I prefer the printed version. Personally, I remember what I read by remembering the page side i.e. whether the information was in the left or right page , at the top or the bottom, paper quality, and so on"*
- *"I prefer reading online because I feel excited and motivated"*

- *“I prefer the printed version because I focus more”*
- *“I like feeling and turning the pages and enjoying”*
- *“I think that printed books are more concrete so I can underline by using my pencils without any problem”*
- *“I prefer the printed version because I feel it more concrete and the information belongs to the same world as me not behind the screen”*
- *“I prefer the printed version because when I spend a lot of time in front of the screen I feel bad (headache)”*.
- *“It depends on the size of the book. If it is a pocket one I prefer read it on printed version, otherwise I prefer digital books”*
- *“It is advisable to read a book in its printed version for two main reasons. One, the printed version can be taken everywhere to be read whenever we want. Two, you can have access to the last page that you read easily without time consuming”*
- *“I think that the digital is better than the printed one since I can have it wherever I go”*
- *“I feel closer to the text when it is in its printed version”*

Item 28) Spare Time Activities: During your spare time, do you prefer

a. Reading books and going to the library

b. Surfing the net

Gender						
Descriptive Statistics: Variables' Cross Tabulation			Inferential Statistics: Chi-square Tests			
	Reading books	Surfing the net	Value	ddl	Asymptotic Sig. (2-sided)	Cramer's V
Male	29.3%	70.7%	0.738 ^a	1	0.039	0.044
Female	24.5%	75.5%				
Total	25.5%	74.5%				
Geographical Location						
	Reading books	Surfing the net	Value	ddl	Asymptotic Sig. (2-sided)	Cramer's V
Urban	23.8%	76.2%	0.440 ^a	1	0.507	0.034
Rural	26.8%	73.2%				
Total	25.5%	74.5%				
Mother Tongue						
	Reading books	Surfing the net	Value	ddl	Asymptotic Sig. (2-sided)	Cramer's V
Arabic	20.2%	79.8%	4.162 ^a	1	0.47	0.106
Berber	29.5%	70.5%				
Total	25.5%	74.5%				

Table29. Spare Time Activities

Table 29 indicates that 74.5% of the participants spend their spare time in surfing the net. Reading books does not seem to be a favourite activity of the Algerian EFL students during their spare time. 25.5% chose ‘surfing the net’ as an answer to this question.

As regards the comparison between the various groups, no difference is noticed between Berber and Arabic speakers; or Urban and rural students (Sig >0.05). Yet; a discrepancy is observed in terms of gender (Sig = 0.039; Cramer’s V = 0.034). Male students (29.3%) spend more time reading books in comparison to females (24.5 %). In contrast, girls’ preference (75.5%) for surfing the net is greater than boys (70.7%).

Item 29) Motivation to Read D-Texts: What does motivate to read D-texts?

- a. More enjoyable
- b. Easier to get a piece of information

Gender

	Descriptive Statistics: Variables’ Cross Tabulation		Inferential Statistics: Chi-square Tests			
	Enjoyable	Easier	Value	ddl	Asymptotic Sig. (2-sided)	Cramer’s V
Male	18.8%	78.2%	3.268 ^a	1	0.659	0.096
Female	19.6%	81.2%				
Total	19.4%	80.6%				

Geographical Location

	Enjoyable	Easier	Value	ddl	Asymptotic Sig. (2-sided)	Cramer’s V
Urban	19.4%	75.2%	8.180 ^a	1	0.147	0.151
Rural	19.4%	84.8%				
Total	19.4%	80.6%				

Mother Tongue

	Enjoyable	Easier	Value	ddl	Asymptotic Sig. (2-sided)	Cramer’s V
Arabic	24.8%	71.6%	4.166 ^a	2	0.000	0.309
Berber	15.4%	87.3%				
Total	19.4%	80.6%				

Table30. Motivation to read D-texts

Table 30 shows that the participants perceive D-reading as an easier means to get a piece of information (80.6%) more than enjoyable (19.4%). There is no statistical difference between female and male students; or urban and rural students. Nevertheless, Berber speakers

(87.3%) perceive D-reading as a practical tool to get information more than Arabic speakers (71.6%) do.

This item is followed by a clarification question to explain their choice. Here are some of the participants' answers:

- *“when I do not have time to read a printed version”*
- *“different titles are available online”*
- *“sometimes I am bound to, because traditional libraries may not offer what I am looking for”*
- *“when the printed copy is not available”*
- *“it is not more enjoyable but it is easy to find information”*

Item 30) Describing D-Reading in Academic Context: How can you qualify D-reading in an academic context?

- a. Useful
- b. Useless
- c. Important
- d. Uninteresting

Gender					Inferential Statistics: Chi-square Tests			
Descriptive Statistics: Variables' Cross Tabulation					Value	ddl	Asymptotic Sig. (2-sided)	Cramer's V
	Useful	Useless	Important	Uninteresting				
Male	57.5%	4.1%	38.4%	0%	6.435 ^a	5	0.266	0.132
Female	64.9%	1.7%	29.6%	2.7%				
Total	63.5%	2.2%	31.3%	2.2%				

Geographical Location					Inferential Statistics: Chi-square Tests			
Descriptive Statistics: Variables' Cross Tabulation					Value	ddl	Asymptotic Sig. (2-sided)	Cramer's V
	Useful	Useless	Important	Uninteresting				
Urban	62.7%	1.9%	32.3%	2.5%	1.696 ^a	3	0.889	0.068
Rural	64.1%	2.4%	30.6%	1.9%				
Total	63.5%	2.2%	31.3%	2.2%				

Mother Tongue					Inferential Statistics: Chi-square Tests			
Descriptive Statistics: Variables' Cross Tabulation					Value	ddl	Asymptotic Sig. (2-sided)	Cramer's V
	Useful	Useless	Important	Uninteresting				
Arabic	65.6%	3.2%	27.4%	3.2%	4.282 ^a	5	0.510	0.108
Berber	61.9%	1.4%	34.3%	1.4%				
Total	63.5%	2.2%	31.3%	2.2%				

Table 31. Describing D-Reading in Academic Context

Table 31 indicates that the participants perceive D-reading in academic context as useful (63.5%) and important (31.3%). A small number of participants think that D-reading is uninteresting (2.2%) or useless (2.2%).

The statistical significance is superior to 0.05 for the three categories. This suggests that no difference is to be found between the different groups.

Item 31) Enjoying D-reading in Academic Context: D-reading may be important to my studies, but I don't expect it to be much fun.

- a. Strongly agree
- b. Agree
- c. Neither agree nor disagree
- d. Disagree
- e. Strongly disagree

This item follows a likert scale pattern used to investigate the extent to which the participants agree or disagree with a statement. Taking into account the nature of the investigated variable, that is an ordinal one, the Chi-square Tests cannot be used to compare the groups. Accordingly, the frequency of each item is computed through descriptive statistics.

Gender

Descriptive Statistics: Variables' Cross Tabulation

	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
Male	9.5%	39.2%	33.8%	9.5%	8.1%
Female	14.4%	48.8%	24.4%	11.4%	1%
Total	13.4%	46.9%	26.3%	11%	2.4%

Geographical Location

Descriptive Statistics: Variables' Cross Tabulation

	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
Urban	17.6%	43%	26.7%	9.7%	3%
Rural	10.1%	50%	26%	12%	1.9%
Total	13.4%	46.9%	26.3%	11%	2.4%

Mother Tongue

Descriptive Statistics: Variables' Cross Tabulation

	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
Arabic	12.6%	42.5%	30%	11.9%	3.1%
Berber	14.1%	50.2%	23.5%	10.3%	1.9%
Total	13.4%	46.9%	26.3%	11%	2.4%

Table 32. Enjoying D-reading in Academic Context

The results displayed in table 32 confirm the results of the previous items. Indeed, most of the participants agree (46.9%) with the fact that D-reading is important in the academic context but it is no so funny. 13.4 % strongly agree with the statement. Then 26.3 % have not taken position by choosing the answer “neither agree nor disagree”. A relatively small percentage of the participants reported not agreeing or strongly disagreeing with the statement.

Item 32) Strategies for Hypertext: Do you think that lack of using reading strategies would impede students' comprehension of hypertexts?

Gender			Inferential Statistics:			
Descriptive Statistics: Variables' Cross Tabulation			Chi-square Tests			
	YES	NO	Value	ddl	Asymptotic Sig. (2-sided)	Cramer's V
Male	52.1%	48%	9.292 ^a	2	0.010	0.162
Female	41.8%	58.2%				
Total	43.9%	56%				

Geographical Location			Inferential Statistics:			
			Chi-square Tests			
	YES	NO	Value	ddl	Asymptotic Sig. (2-sided)	Cramer's V
Urban	40%	60%	4.268 ^a	2	0.118	0.110
Rural	47%	53%				
Total	43.9%	56%				

Mother Tongue			Inferential Statistics:			
			Chi-square Tests			
	YES	NO	Value	ddl	Asymptotic Sig. (2-sided)	Cramer's V
Arabic	44.2%	55.8%	0.254 ^a	2	0.988	0.008
Berber	43.7%	56.3%				
Total	43.9%	56%				

Note: percentages may not add up to 100 percent because of rounding.

Table 33. Strategies for Hypertext

Table 33 reveals that the participants think that lack of reading strategies would not impede their comprehension process. As a matter of fact, 56% of the students do not perceive the use of reading strategies as a vital factor in their understanding process of hypertexts.

As far as the comparison between the different groups is concerned, a significant statistical difference is observed between girls and boys (Sig = 0.006; Cramer's V = 0.162). The rate of male students (52.1%) who are aware of the importance of using strategies is superior to the rate of female students (41.8%).

In order to better understand the participants' use of reading strategies for hypertexts, an additional question asking them to provide an explanation is used. Here are some of their answers:

- *“Using reading strategies is a key to understand any text. Hence, if not used, this hampers readers ‘understanding’.*

- "I think, as students, we are always asked to use reading strategies in order to have a clear and better understand the text".

Item 33) Digital Vs Print Reading Ability: What do you think of your digital and print reading ability?

a. The same

b. Different

Gender						
Descriptive Statistics: Variables' Cross Tabulation			Inferential Statistics: Chi-square Tests			
	The same	Different	Value	ddl	Asymptotic Sig. (2-sided)	Cramer's V
Male	34.7%	65.3%	0.850 ^a	1	0.357	0.048
Female	29.2%	70.8%				
Total	30.3%	69.7%				

Geographical Location						
Descriptive Statistics: Variables' Cross Tabulation			Inferential Statistics: Chi-square Tests			
	The same	Different	Value	ddl	Asymptotic Sig. (2-sided)	Cramer's V
Urban	29.7%	70.3%	0.050 ^a	1	0.823	0.012
Rural	30.8%	69.2%				
Total	30.3%	69.7%				

Mother Tongue						
Descriptive Statistics: Variables' Cross Tabulation			Inferential Statistics: Chi-square Tests			
	The same	Different	Value	ddl	Asymptotic Sig. (2-sided)	Cramer's V
Arabic	28.1%	71.9%	0.625 ^a	1	0.429	0.041
Berber	31.9%	68.1%				
Total	30.3%	69.7%				

Table 34. Digital Vs Print Reading Ability

The analysis of the collected data shows that 69.7% of the participants are aware that their reading abilities in P- and D-environments are not the same. 30.3% of them think that their abilities are the same.

In terms of differences between the various groups, the statistical significance is superior to 0.05, and Cramer's V is weak. This suggests that no significant difference is observed.

Some of the explanations provided by the participants are:

- *"I can concentrate more when I use a printed copy"*.
- *"When I read D-texts I take much time to understand and I get bored easily. However, in print I feel more secure and more motivated to read"*.
- *"I do not like digital reading because there is much effort in doing so"*.
- *"I do not find difficulties neither in digital nor in print reading"*
- *"Because I started to read digital docs since years, so I think I'm able to get the same information from these two versions"*
- *"I think that my reading ability in print is better than digital. This is the reason behind printing so many articles and books"*.
- *"Because in print I can take notes"*.
- *In digital reading I need more concentration to understand"*.
- *"I move faster and I understand better when the text is printed"*
- *"Reading in print is not time consuming"*.

Item 34) Attitudes towards Digital Assignments: If you are asked to complete an assignment on the computer, how comfortable would you feel in doing that assignment?

This item is open-ended meant to get insights into the participants' reaction towards digital assignments. Some of the answers are:

- *"I think I will feel comfortable and I will do it"*
- *"I will feel very comfortable only if I can use pen and paper as drafts. It means that computer is used just for typing but not as the only tool"*.
- *"I do not like using the computer for assignment because I feel tired when I use it"*
- *"I feel comfortable because I do not have to use pens or paper"*
- *"I would feel comfortable, happy, excited to do it because it is an exceptional experience"*
- *"I will feel comfortable even though I prefer to do it on paper"*
- *"I will not feel comfortable, it will be boring and time consuming"*
- *"It will be a little bit difficult for me to do it because we are not trained to do such things with digital tools"*
- *"I will feel comfortable; I have the habit to work on computer"*.

Item 35) Digital Reading Instruction in Language Classes: Do you think that it is necessary to teach D-reading in language classes? Why?

Since the participants are EFL students, my aim through this question is to know whether teaching D-reading would be of great importance for them or not. Their answers show their motivation and eagerness to introduce D-reading as part of the syllabus. Some of their answers are:

- *“I think it is necessary to encourage technological competence since the use of Internet and computer is inevitable nowadays”*
- *“We live in a digital century. The use of technology and digital reading becomes a fundamental skill. And like any fundamental skill, it needs to be taught in language classes, so as the learners become able to cope with the 21st century dictates”*
- *“yes I do, because technology is advancing and students need to stay on truck”*
- *“It is very necessary to develop the learners’ skills”.*
- *“Yes, I do. Teaching digital reading in language classes seem to be very important”*
- *“yes it is necessary since we are living in a digital era”*
- *“of course, because digital reading is a useful tool”*
- *“it is useful to help students to be more familiar with it”*

Item 36) Introducing Digital Reading in Algerian Universities: According to you, can digital reading be integrated in the Algerian university course?

The participants think that D-reading instruction in the Algerian university would be of great importance for students and teachers alike. However, they are aware that this needs an adequate context which is, in their views, not yet available in Algerian universities. Here are some of their answers:

- *“I hope so for next generations”*
- *“it is helpful, but I do not think that it is easy to be integrated in Algeria”*
- *“It deserves to be integrated”*
- *“It can be integrated since the majority of students have access to computers and digital devices. But I think that teachers should be trained”.*

Item 37) Experience in Digital Reading: How do you describe your overall

experience with digital reading?

- a. Enjoyable b. Satisfactory
c. Neutral d. Not comfortable e. Frustrating

Gender

	Descriptive Statistics: Variables' Cross Tabulation					Inferential Statistics: Chi-square Tests			
	Enjoyable	Satisfactory	Neutral	Not comfortable	Frustrating	Value	Ddl	Asymptotic Sig. (2-sided)	Cramer's V
Male	19.3%	26.5%	33.0%	18.0%	2.1%	2.976 ^a	3	0.022	0.092
Female	23.4%	31.9%	30.3%	15.3%	0%				
Total	22.5%	27.6%	30.7%	17.5%	1.7%				

Geographical Location

	Descriptive Statistics: Variables' Cross Tabulation					Inferential Statistics: Chi-square Tests			
	Enjoyable	Satisfactory	Neutral	Not comfortable	Frustrating	Value	Ddl	Asymptotic Sig. (2-sided)	Cramer's V
Urban	24%	24.7%	31.2%	18.2%	1.9%	1.320 ^a	2	0.858	0.061
Rural	21.4%	29.9%	30.3%	16.9%	1.5%				
Total	22.5%	27.6%	30.7%	17.5%	1.7%				

Mother Tongue

	Descriptive Statistics: Variables' Cross Tabulation					Inferential Statistics: Chi-square Tests			
	Enjoyable	Satisfactory	Neutral	Not comfortable	Frustrating	Value	Ddl	Asymptotic Sig. (2-sided)	Cramer's V
Arabic	23.4%	24.8%	31.7%	15.9%	4.1%	9.900 ^a	2	0.42	0.167
Berber	21.9%	29.5%	30.0%	18.6%	0%				
Total	22.5%	27.6%	30.7%	17.5%	1.7%				

Table 35. Experience in Digital Reading

The results indicate that most of the participants describe their experience in D-reading as neutral (30.7%). 27.6% are rather satisfied with their D-reading experience. 22.5% think that it is enjoyable. 19.2% of the informants describe their experience as not comfortable or frustrating.

As regard the comparison of the various groups. A discrepancy is observed in terms of gender (sig = 0.022, Cramer's V=0.092). While females find their experience in D-reading as enjoyable or satisfactory, male students seem more neutral, not satisfied or even frustrated.

The last part of the questionnaire relates to a concluding open-ended question asking the participants to provide any additional comment that might help inform the study. The majority of the participants skip this question. The answers of the students who answered this question turn around the same idea which is comparing reading in P- and D-environments.

5.2 Analysis and Results of SODPRS

After gathering the distributed surveys, a data file has been created in SPSS to store and analyse the data. A total of 245 valid surveys have been analysed. The analysis consists of qualitative Content analysis and three statistical procedures.

To begin with, each item has been categorized by means of Directive Content Analysis into a reading strategy. The procedure followed is to identify predetermined coding categories using existing theoretical background. The coding categories, in this case, relate to a set of pre-, while, and post-reading strategies.

In addition to qualitative analysis, three statistical procedures used are:

- Descriptive statistics to compute the Mean (M) and the Standard Deviation (SD) of each item.
- Independent samples t-tests to compare the means of the different groups and depict if any significant difference that exists between the groups.
- Paired-samples t-tests to compare the means of reading strategies used by each group in P- and D-environments.

The results are displayed in tables followed by comments. They are organised on the basis of the three independent variables investigated, namely gender, geographical location, and mother tongue. Each table is designed following the APA format.

5.2.1 Participants' Profile

Gender

	Male	Female	Total
N	86	159	245
Percentage	34.9%	65.1%	100%

Geographical Location

	Rural	Urban	Total
N	121	124	245
Percentage	49%	51%	100%

Mother Tongue

	Arabic	Berber	Total
N	79	166	245
Percentage	32%	68.8%	100%

Table 36 Identification of the Participants

The sample selected for this phase of the study is composed of 245 surveys completed by EFL students from different backgrounds. The identification of the participants has been made on the basis of the three independent variables investigated in the study.

In terms of gender, the sample contains more female than male students. As regards the geographical location, 51% of the participants live in urban areas, while 49% live in rural areas. Finally, the L1 of 32% of the informants is Arabic, and 68 % is Berber.

5.2.2 Reading Strategies & Gender

5.2.2.1 Pre-reading Strategies

Table 37 .1 Paper-based Strategies: Contend Directive Analysis & Independent T-tests

Item #	Targeted Strategy	Gender	M	SD	Sig.
1	Setting a purpose for reading	Male	4.29	0.898	0.109
		Female	3.77	1.058	
2	Anticipating	Male	3.68	1.270	0.011
		Female	3.18	1.318	
3	Checking the appropriateness of the text	Male	3.95	0.769	0.412
		Female	3.77	1.161	
4	Checking the text organisation (formal schemata)	Male	2.84	0.370	0.031
		Female	3.30	1.247	
5	Prediction	Male	4.39	0.755	0.929
		Female	4.41	0.767	
6	Question raising	Male	2.92	1.148	0.000
		Female	3.83	0.926	

From the descriptive statistics and the t-tests employed for data analysis, Table 37.1 displays the pre-reading strategies used by female and male students in P-environments. The most frequently used strategies that are categorised in the high-use categories are “*setting a purpose for reading*”, “*checking the appropriateness of the text*” and “*question raising*”. The mean for the three categories is superior to 3.5. It is worth noting that no significant difference in the use of these strategies between male and female students is observed.

“*Anticipating*”, “*checking the text organisation*” and “*question raising*” are ranked in the medium-use categories. A statistical significance difference is noticed between males and females. Males show a high-use of “*anticipating*”; females use question raising and checking the text organisation more than male students.

Table 37.2 Digital-based Strategies: Contend Directive Analysis & Independent T-tests

Item	Targeted Strategy	Gender	M	SD	Sig.
1	Setting a purpose for reading	Male	4.11	1.43	0.06
		Female	3.58	1.35	
2	Anticipating	Male	3.03	0.91	0.020
		Female	3.32	1.12	
3	Checking the appropriateness of the text	Male	3.79	1.42	0.686
		Female	3.90	1.29	
4	Checking the text organisation (formal schemata)	Male	2.42	0.89	0.002
		Female	3.15	1.30	
5	Question raising	Male	3.05	0.93	0.000
		Female	3.90	0.83	
6	Scanning	Male	3.53	1.48	0.340
		Female	3.77	1.17	

From the descriptive statistics and the t-tests employed for data analysis, Table 37.2 displays the pre-reading strategies used by female and male students in D-environments. The six strategies are ranked as high or medium. The most frequently used strategies are “*setting a purpose for reading*”, “*checking the appropriateness of the text*” and “*scanning*”. The other strategies are ranked in the medium-use categories.

The difference between boys and girls is noticed at the level of “*anticipating*” which is mainly used by boys. Girls, on the other hand, use “*checking the text organisation*” and “*question raising*” more than boys do.

Table 37.3 Paper-based Vs. Digital-based Reading Strategies: Paired samples T-tests

	Print	Digital	Significance
Females	3.80	3.63	0.002
Males	3.59	3.32	

The paired-sample T-test is used to compare the means of each group in different environments. The results show that boys’ mean is higher than girls in the P-environment. However, girls outperform boys in the use of pre-reading strategies in the D-environment.

5.2.2.2 While-reading Strategies

Table 38 .1 Paper-based Strategies: Contend Directive Analysis & Independent T-tests

Item	Targeted Strategy	Gender	M	SD	Sig.
1	Note taking	Male	2.03	1.40	0.032
		Female	1.66	1.295	
2	Activating background knowledge	Male	2.00	0.771	0.042
		Female	2.11	0.910	
3	Reading aloud	Male	1.47	1.330	0.897
		Female	1.51	1.482	
4	Slow reading	Male	4.45	0.724	0.986
		Female	4.54	0.825	
5	Getting back on track	Male	4.45	1.032	0.281
		Female	4.44	0.823	
6	Underlining important information	Male	3.79	1.417	0.531
		Female	4.62	6.188	
7	Adjusting reading speed	Male	3.32	1.042	0.437
		Female	3.34	0.958	
8	Selecting what to read and what to ignore	Male	2.63	1.051	0.962
		Female	3.31	1.103	
9	Using reference material	Male	2.82	1.111	0.986
		Female	3.44	1.092	
10	Closer attention to overcome difficulties	Male	3.63	1.051	1.000
		Female	4.10	1.058	
11	Using tables, figures or pictures to increase understanding	Male	2.79	1.298	0.705
		Female	3.32	1.262	
12	Stopping from time to time	Male	3.26	0.891	0.011
		Female	3.34	1.082	
13	Using context clues: inference	Male	2.82	1.468	0.006
		Female	3.33	1.146	
14	Using text's layout to increase understanding	Male	2.11	1.134	0.545
		Female	2.19	1.388	
15	Reference	Male	4.11	0.863	0.739
		Female	3.54	0.939	
16	Relating new information to background knowledge	Male	3.82	0.652	0.018
		Female	3.73	0.878	
17	Re-reading	Male	4.24	0.913	0.281
		Female	4.39	0.853	
18	Checking predictions	Male	3.37	1.217	0.672
		Female	3.46	1.226	
19	Translation	Male	2.53	0.922	0.162
		Female	3.00	1.276	
20	Thinking in another language	Male	2.79	1.255	0.781
		Female	2.82	1.280	

From the descriptive statistics and the t-tests employed for data analysis, Table 38.1 displays the while-reading strategies used by female and male students in P-environments. The means range from 1.4 to 4.62.

The most frequently used strategies are “*slow reading*”, “*getting back on track*”, “*underlining important information*”, “*closer attention to overcome difficulties*”, “*reference*”, “*relating new information to background knowledge*”, and “*re-reading*”.

The strategies ranked in medium-use categories are : “*adjusting reading speed*”, “*selecting what to read and what to ignore*”, “*using reference material*”, “*using tables, figures or pictures to increase understanding*”, “*stopping from time to time*”, “*using context clues*”, “*checking predictions*”, “*translation*” and “*thinking in another language*”. The least - frequently used strategies are: “*note taking*”, “*activating background knowledge*”, “*reading aloud*”, and “*using text’s layout to increase understanding*”.

A difference between girls and boys is noticed at the level of four while-reading strategies. While female students use “*activating background knowledge*” and “*relating new information to background knowledge*”, male students outperform females in “*note taking*”, “*stopping from time to time*”, and “*using context clues*”.

Table 38 .2 Digital-based Strategies: Contend Directive Analysis & Independent T-tests

Item	Targeted Strategy	Gender	M	SD	Sig.
1	Note taking	Male	3.45	1.719	.047
		Female	3.28	1.446	
2	Activating background knowledge	Male	3.66	1.047	.338
		Female	3.69	0.950	
3	Reading aloud	Male	2.47	1.330	.007
		Female	3.24	1.478	
4	Slow reading	Male	4.26	0.724	.138
		Female	4.29	0.837	
5	Getting back on track	Male	3.97	0.545	.000
		Female	4.20	0.856	
6	Adjusting reading speed	Male	3.53	0.922	.712
		Female	3.70	0.998	
7	Selecting what to read and what to ignore	Male	2.91	1.466	.187
		Female	3.59	1.154	
8	Using reference material	Male	3.39	1.326	.402
		Female	3.48	1.297	
9	Closer attention to overcome difficulties	Male	3.95	0.769	.022
		Female	3.94	0.809	
10	activating hyperlinks for academic purposes	Male	3.50	1.321	.680
		Female	3.94	1.275	
11	Using tables, figures or pictures to increase understanding	Male	2.79	1.298	.039
		Female	3.31	1.202	
12	Stopping from time to time	Male	3.58	0.758	.008
		Female	3.69	1.090	
13	Using context clues: inference	Male	3.21	1.318	.019
		Female	3.24	1.197	
14	Using text's layout to increase understanding	Male	2.92	1.600	.215
		Female	3.13	1.444	
15	Reference	Male	3.53	1.109	.222
		Female	3.54	1.252	
16	Relating new information to background knowledge	Male	3.95	1.114	.697
		Female	3.83	1.055	
17	Prediction	Male	3.97	0.545	.002
		Female	4.04	0.801	
18	Re-reading	Male	3.95	0.769	.082
		Female	4.11	0.934	
19	Checking predictions	Male	1.13	0.762	.038
		Female	1.66	1.027	
20	Inference	Male	3.13	1.095	.996
		Female	3.42	0.817	
21	Activating hyperlinks for fun	Male	2.31	0.738	.101
		Female	2.30	1.341	
22	Translation	Male	2.55	0.760	.003
		Female	2.79	1.275	
23	Thinking in another language	Male	2.61	1.405	.729
		Female	2.56	1.412	

From the descriptive statistics and the t-tests employed for data analysis, Table 38.1 displays the while-reading strategies used by female and male students in D-environments. The means range from 1.13 to 4.29.

The most frequently used strategies are “*slow reading*”, “*getting back on track*”, “*adjusting reading speed*”, “*selecting what to read and what to ignore*”, “*using reference material*”, “*closer attention to overcome difficulties*”, “*activating hyperlinks for academic purposes*”, “*stopping from time to time*”, “*reference*”, “*relating new information to background knowledge*”, “*prediction*”, “*re-reading*”.

The strategies ranked in medium-use categories are: “*reading aloud*”, “*using tables, figures or pictures to increase understanding*”, “*using context clues: inference*”, “*using text’s layout to increase understanding*”, “*inference*”, “*activating hyperlinks for fun*”, “*translation*”, and “*thinking in another language*”. The least frequently used strategies are: “*note taking*”, “*activating background knowledge*”, and “*checking predictions*”.

A significant difference between girls and boys is noticed at the level of eleven while-reading strategies. Male students tend to use “*note taking*”, and “*closer attention to overcome difficulties*”. Females’ means in various strategies are significantly superior to boys’. The strategies are: “*reading aloud*”, “*getting back on track*”, “*selecting what read and what to ignore*”, “*activating hyperlinks for academic purposes*”, “*using tables, figures or pictures to increase understanding*”, “*stopping from time to time*”, “*using context clues*”, “*prediction*”, “*translation*”.

Table 38. 3 Paper-based Vs. Digital-based Reading Strategies: Paired samples T-tests

	Print	Digital	Significance
Females	3.68	3.75	0.025
Males	3.37	3.34	

The paired-samples t-test indicates that male students' means in the P-environment are superior to the digital one. In contrast, females' means for while-reading strategy use is greater in the D-environment.

5.2.2.3 Post-reading Strategies

Table 39 .1 Paper-based Strategies: Contend Directive Analysis & Independent T-tests

Item	Targeted Strategy	Gender	M	SD	Sig.
1	Paraphrasing	Male	3.71	.898	.873
		Female	3.68	1.156	
2	Visualising information	Male	3.45	1.179	.275
		Female	3.48	.953	
3	Critical analysis	Male	2.55	.950	.209
		Female	2.28	1.124	
4	Critical evaluation	Male	1.55	.950	.209
		Female	1.28	1.124	

From the descriptive statistics and the t-tests employed for data analysis, Table 39.1 displays the post-reading strategies used by female and male students in P-environments.

The findings indicate that no significant difference is observed between the two groups (Sig. > 0.05). The most frequently used strategy is “*paraphrasing*”. The strategies ranked in medium-use categories are: “*visualising information*” and “*critical analysis*”. As for “*critical evaluation*”, it is the least frequently used strategy.

Table 39 .2 Digital-based Strategies: Contend Directive Analysis & Independent T-tests

Item	Targeted Strategy	Gender	M	SD	Sig.
1	Printing out a hard copy	Male	2.32	1.333	.000
		Female	1.87	1.403	
2	Paraphrasing	Male	3.13	1.234	.096
		Female	3.40	1.004	
3	Visualising	Male	3.16	1.366	.170
		Female	3.38	1.026	
4	Critical analysis	Male	1.53	1.350	.292
		Female	2.24	1.347	
5	Critical evaluation	Male	1.05	1.272	.694
		Female	2.36	1.160	
6	Distinguishing between fact and opinion	Male	1.26	.446	.017
		Female	1.58	.905	

Table 39.2 reports the results of the descriptive statistics and the t-tests. It displays the means of digital post-reading strategies used by female and male students. The means range from 1.05 to 3.40. This suggests that no strategy is ranked in high-use categories.

“*Paraphrasing*” and “*visualising*” are ranked in medium-use categories. The other categories, namely “*printing out a hard copy*”, “*critical analysis*”, “*critical evaluation*”, and “*distinguishing between fact and opinion*” are the least frequently used strategies

A discrepancy between female and male is observed at the level of four post-reading strategies. While male students use “*printing out a hard copy*”, female students outperform males in “*distinguishing between fact and opinion*”.

Table 39.3 Paper-based Vs. Digital-based Reading Strategies: Paired samples T-tests

	Print	Digital	Significance
Females	3.01	2.9	0.013
Males	3.16	2.67	

The paired-samples t-test indicates that the means of the two groups fall into the medium-used categories. In addition, a significant difference is noticed between the two environments. While females’ use of strategies is greater in the D-environment, male students’ means in the P-environment is more significant.

5.2.3 Reading Strategies & Geographical Location

5.2.3.1 Pre-reading Strategies

Table 40.1 Paper-based Strategies: Contend Directive Analysis & Independent T-tests

Item	Targeted Strategy	Geog. Loc.	M	SD	Sig.
1	Setting a purpose for reading a purpose for reading	Urban	4.05	0.989	.307
		Rural	3.85	1.071	
2	Anticipating	Urban	3.35	1.404	.204
		Rural	3.37	1.213	
3	Checking the appropriateness of the text	Urban	3.89	1.031	.573
		Rural	3.78	1.058	
4	Checking the text organisation (formal schemata)	Urban	3.00	0.962	.168
		Rural	3.28	1.123	
5	Prediction	Urban	4.42	0.712	.841
		Rural	4.39	0.811	
6	Question raising	Urban	3.58	1.066	.515
		Rural	3.54	1.127	

The collected data have been analysed by means of descriptive statistics and t-tests. Table 40.1 displays the pre-reading strategies used by urban and rural students in P-environments. The most frequently used strategies that are categorised in the high-use categories are “*setting a purpose for reading*”, “*checking the appropriateness of the text*”, “*prediction*” and “*question raising*”. The mean for the three categories is superior to 3.5. “*Anticipating*”, “*checking the text organisation*” are ranked in the medium-use categories.

It is worth noting that no significant difference in the use of these strategies between urban and rural students is observed (Sig. > 0.05).

Table 40 .2 Digital-based Strategies: Contend Directive Analysis & Independent T-tests

Item	Targeted Strategy	Geog. Loc.	M	SD	Sig.
1	Setting a purpose for reading	Urban	3.76	1.401	.987
		Rural	3.76	1.400	
2	Anticipating	Urban	3.04	1.154	.002
		Rural	3.67	.890	
3	Checking the appropriateness of the text	Urban	3.93	1.331	.609
		Rural	3.80	1.337	
4	Checking the text organisation (formal schemata)	Urban	2.60	1.164	.009
		Rural	3.20	1.219	
5	Question raising	Urban	2.65	.726	.590
		Rural	2.56	1.144	
6	Scanning	Urban	3.57	1.359	.078
		Rural	3.41	1.186	

From the descriptive statistics and the t-tests employed for data analysis, Table 40.2 displays the pre-reading strategies used by urban and rural students in D-environments. Three strategies are ranked as high and three others as medium. The most frequently used strategies are “*setting a purpose for reading*”, “*checking the appropriateness of the text*” and “*anticipating*”. The ones ranked as medium are: “*checking the text organisation*”, “*question raising*” and “*scanning*”.

The difference between rural and urban students is noticed at the level of “*anticipating*” and “*checking the text organisation*”. Both of them are mainly used by rural students more than urban ones.

Table 40.3 Paper-based Vs. Digital-based reading Strategies: Paired samples T-tests

	Print	Digital	Significance
Urban	3.71	3.4	0.034
Rural	3.73	3.65	

Table 40.3 shows that the statistical significance is inferior to 0.05. This suggests that the strategy-use means of urban and rural students in D- or P-environments are significantly different. The means of both groups are superior in the P-environment.

5.2.3.2 While-reading Strategies

Table 41 .1 Paper-based Strategies: Contend Directive Analysis & Independent T-tests

Item	Targeted Strategy	Geog. Loc.	M	SD	Sig.
1	Note taking	Urban	1.67	1.332	.353
		Rural	1.91	1.350	
2	Activating background knowledge	Urban	3.85	.940	.007
		Rural	4.30	.717	
3	Reading aloud	Urban	3.15	1.471	.993
		Rural	3.15	1.559	
4	Slow reading	Urban	4.45	.878	.507
		Rural	4.56	.691	
5	Getting back on track	Urban	4.60	.784	.060
		Rural	4.28	.979	
6	Underlining important information	Urban	3.73	1.239	.211
		Rural	.494	7.070	
7	Adjusting reading speed	Urban	3.78	.945	.220
		Rural	3.54	1.077	
8	Selecting what to read and what to ignore	Urban	2.95	1.079	.234
		Rural	3.20	1.172	
9	Using reference material	Urban	3.16	1.050	.601
		Rural	3.28	1.220	
10	Closer attention to overcome difficulties	Urban	3.89	1.083	.662
		Rural	3.98	1.073	
11	Using tables, figures or pictures to increase understanding	Urban	3.18	1.278	.721
		Rural	3.09	1.321	
12	Stopping from time to time	Urban	3.04	.942	.004
		Rural	3.49	1.019	
13	Using context clues: inference	Urban	2.87	1.218	.021
		Rural	3.44	1.305	
14	Using text's layout to increase understanding	Urban	2.61	1.420	.624
		Rural	2.74	1.320	
15	Reference	Urban	3.67	.904	.499
		Rural	3.80	.998	
16	Relating new information to background knowledge	Urban	3.80	.931	.616
		Rural	3.72	.656	
17	Re-reading	Urban	4.29	.854	.561
		Rural	4.39	.899	
18	Checking predictions	Urban	3.45	1.184	.385
		Rural	3.66	1.270	
19	Translation	Urban	2.93	1.260	.413
		Rural	2.74	1.102	
20	Thinking in another language	Urban	2.82	1.263	.929
		Rural	2.80	1.279	

The findings of descriptive statistics and the t-tests employed for data analysis are displayed in Table 41.1. The means of while-reading strategy-use of rural and urban students range from 1.67 to 4.94.

The most frequently used strategies are “activating background knowledge”, “slow reading”, “getting back on track”, “*underlining important information*”, “*adjusting reading speed*”, “*closer attention to overcome difficulties*”, “reference”, “*relating new information to background knowledge*”, “*re-reading*”, and “*checking predictions*”.

The strategies ranked in medium-use categories are: “reading aloud”, “*using reference material*”, “*using tables, figures or pictures to increase understanding*”, “*stopping from time to time*”, “*using context clues*”, “*using text’s layout to increase understanding*”, “translation”, and “*thinking in another language*”. The least-frequently used strategy is “*note taking*”.

A difference between rural and urban students is noticed at the level of “note taking” and “using context clues”. Rural students use these strategies more than urban students do.

Table 41 .2 Digital-based Strategies: Contend Directive Analysis & Independent T-tests

Item	Targeted Strategy	Geog. Loc.	M	SD	Sig.
1	Note taking	Urban	1.33	1.05	.934
		Rural	1.35	1.05	
2	Activating background knowledge	Urban	3.49	.900	.043
		Rural	3.87	1.029	
3	Reading aloud	Urban	2.91	1.444	.651
		Rural	3.04	1.504	
4	Slow reading	Urban	4.28	.834	1.000
		Rural	4.28	.763	
5	Getting back on track	Urban	4.18	.748	.392
		Rural	4.06	.787	
6	Adjusting reading speed	Urban	3.73	1.044	.338
		Rural	3.55	.889	
7	Selecting what to read and what to ignore	Urban	3.33	1.292	.692
		Rural	3.43	1.307	
8	Using reference material	Urban	3.45	1.274	.440
		Rural	3.35	1.334	
9	Closer attention to overcome difficulties	Urban	3.91	.776	.635
		Rural	3.98	.812	
10	activating hyperlinks for academic purposes	Urban	3.11	1.301	.831
		Rural	3.06	1.309	
11	Using tables, figures or pictures to increase understanding	Urban	3.16	1.302	.769
		Rural	3.09	1.21	
12	Stopping from time to time	Urban	3.60	1.06	0.585
		Rural	3.70	0.90	
13	Using context clues: inference	Urban	3.17	1.17	0.588
		Rural	3.30	1.29	
14	Using text's layout to increase understanding	Urban	3.18	1.51	0.374
		Rural	2.93	1.47	
15	Reference	Urban	3.49	1.21	0.719
		Rural	3.47	1.19	
16	Relating new information to background knowledge	Urban	3.85	1.09	0.868
		Rural	3.89	1.05	
17	Prediction	Urban	3.96	0.69	0.426
		Rural	4.07	0.74	
18	Re-reading	Urban	4.02	0.97	0.661
		Rural	4.09	0.78	
19	Checking predictions	Urban	3.65	0.90	0.658
		Rural	3.57	0.98	
20	Inference	Urban	3.46	0.87	0.206
		Rural	3.33	1.00	
21	Activating hyperlinks for fun	Urban	2.50	1.23	0.098
		Rural	2.10	1.07	
22	Translation	Urban	2.69	1.13	0.885
		Rural	2.72	1.12	
23	Thinking in another language	Urban	2.44	1.34	0.290
		Rural	2.72	1.45	

From the descriptive statistics and the t-tests employed for data analysis, Table 41.2 displays the while-reading strategies used by urban and rural students in the D-environment. The means range from 1.33 to 4.28.

The most frequently used strategies are “activating background knowledge”, “slow reading”, “getting back on track”, “*closer attention to overcome difficulties*”, “stopping from time to time”, “*relating new information to background knowledge*”, “prediction”, “*re-reading*”, and “*checking predictions*”.

The strategies ranked in medium-use categories are: “reading aloud”, “adjusting reading speed”, “selecting what to read and what to ignore”, “*using reference material*”, “activating hyperlinks for academic purposes”, “using tables, figures or pictures to increase understanding”, “*using context clues*”, “*using text’s layout to increase understanding*”, “reference”, “inference”, “activating hyperlinks for fun”, “*translation*”, and “*thinking in another language*”. The least frequently used strategy is “*Note taking*”.

The only difference observed between the two groups is that of “activating background knowledge” (sig= 0.043). Rural students use this strategy more than urban their counterparts.

Table 41. 3 Paper-based Vs. Digital-based Reading Strategies: Paired samples T-tests

	Print	Digital	Significance
Urban	3.49	3.5	0.513
Rural	3.66	3.33	

The p-value is superior to 0.05. This suggests that the difference between the two environments is not significant.

5.2.3.3 Post-reading Strategies

Table 42 .1 Paper-based Strategies: Contend Directive Analysis & Independent T-tests

Item	Targeted Strategy	Geog. Loc.	M	SD	Sig.
1	Paraphrasing	Urban	3.40	1.043	.272
		Rural	3.37	1.092	
2	Visualising information	Urban	3.43	1.034	.486
		Rural	3.37	1.046	
3	Critical analysis	Urban	1.45	1.051	.443
		Rural	1.30	1.093	
4	Critical evaluation	Urban	1.45	1.051	.443
		Rural	1.30	1.093	

Table 42.1 displays the post-reading strategies used by urban and rural students in P-environments. The findings indicate that no significant difference is observed between the two groups (Sig. > 0.05). The strategies are ranked either in medium-use or low-use categories. The strategies ranked in medium-use categories are: “paraphrasing” and “*visualising information*” . “*Critical analysis*” and “*critical evaluation*” are the least frequently used strategies.

Table 42 .2 Digital-based Strategies: Contend Directive Analysis & Independent T-tests

Item	Targeted Strategy	Geog. Loc.	M	SD	Sig.
1	Printing out a hard copy	Urban	2.50	1.373	.975
		Rural	2.50	1.566	
2	Paraphrasing	Urban	2.55	1.220	.812
		Rural	2.60	.968	
3	Visualising	Urban	3.24	1.170	.237
		Rural	3.50	1.145	
4	Critical analysis	Urban	1.51	1.289	.186
		Rural	1.17	1.397	
5	Critical evaluation	Urban	1.15	1.161	.172
		Rural	1.83	1.221	
6	Distinguishing between fact and opinion	Urban	2.56	.802	.165
		Rural	2.57	.767	

Table 42.2 reports the results of the descriptive statistics and the t-tests. It displays the means of digital post-reading strategies used by urban and rural students. The means range from 1.15 to 3.50. This suggests that no strategy is ranked in high-use categories.

“*Printing out a hard copy*”, “*Paraphrasing*”, “*visualising*” and “*distinguishing between fact and opinion*” are ranked in medium-use categories. The other categories, namely “*critical analysis*” and “*critical evaluation*” are the least frequently used strategies

No discrepancy between urban and rural areas means of strategy-use is observed.

Table42. 3 Paper-based Vs. Digital-based Reading Strategies: Paired samples T-tests

	Print	Digital	Significance
Urban	3.35	2.58	0.343
Rural	3.21	2.61	

In terms of post-reading strategies, the means of the two groups either in P- or D-environments are ranked in the medium-use category. The p-value is superior to 0.05 suggesting that no difference between the two environments is noticed.

5.2.4 Reading Strategies & Mother Tongue

5.2.4.1 Pre-reading Strategies

Table 43 .1 Paper-based Strategies: Contend Directive Analysis & Independent T-tests

Item	Targeted Strategy	L1	M	SD	Sig.
1	Setting a purpose for reading	Berber	2.78	1.024	.082
		Arabic	2.40	.968	
2	Anticipating	Berber	3.42	1.351	.333
		Arabic	3.48	1.248	
3	Checking the appropriateness of the text	Berber	3.07	1.155	.001
		Arabic	2.48	.545	
4	Checking the text organisation (formal schemata)	Berber	3.35	1.165	.003
		Arabic	2.73	.608	
5	Prediction	Berber	4.60	.643	.000
		Arabic	4.03	.833	
6	Question raising	Berber	2.44	1.161	.358
		Arabic	2.65	.949	

Table 43.1 displays the means of pre-reading strategy-use of Berber and Arabic students. The most frequently used strategy is “prediction”. The other strategies are ranked in the medium-use categories. Their means range from 2.44 to 3.48.

“Checking the appropriateness of the text”, “checking the text organisation”, and “prediction” are not used in the same way by Berber and Arabic speakers. Indeed, Berber speakers outperform their Arabic counterparts in the use of the three strategies.

Table 43.2 Digital-based Strategies: Contend Directive Analysis & Independent T-tests

Item	Targeted Strategy	L1	M	SD	Sig.
1	Setting a purpose for reading	Berber	2.81	1.070	.647
		Arabic	2.68	1.886	
2	Anticipating	Berber	3.36	1.282	.867
		Arabic	3.32	.475	
3	Checking the appropriateness of the text	Berber	4.29	.879	.000
		Arabic	3.03	1.641	
4	Checking the text organisation (formal schemata)	Berber	3.17	1.384	.001
		Arabic	2.38	.545	
5	Question raising	Berber	3.56	1.112	.448
		Arabic	3.70	.520	
6	Scanning	Berber	3.11	1.348	.000
		Arabic	3.45	.880	

Table 43.2 shows the results of the descriptive statistics and the t-tests employed for pre-reading strategies used by Berber and Arabic students in P-environments. The six strategies are ranked as high or medium. The most frequently used strategies are *checking the appropriateness of the text* and *question raising*. However, *Setting a purpose for reading*, *anticipating*, *checking the text organisation*, and *scanning* are ranked in the medium-use categories.

The difference between the two groups is noticed at the level of “checking the appropriateness of the text” and “checking the organisation the text organisation”. Both of them are mainly used by Berber speakers.

Table 43.3 Paper-based Vs. Digital-based reading Strategies: Paired samples T-tests

	Print	Digital	Significance
Berber	3.73	3.56	0.85
Arabic	3.37	3.28	

The strategy-use means of the Arabic speakers in both environments is ranked in the medium-use category. However, the means of the Berber speakers is ranked in the high-used category. As far as the environments are concerned, the P-value is superior to 0.05, so no significant difference is observed.

5.2.4.2 While-reading Strategies

Table 44 .1 Paper-based Strategies: Contend Directive Analysis & Independent T-tests

Item	Targeted Strategy	L1	M	SD	Sig.
1	Note taking	Berber	2.39	1.423	.101
		Arabic	2.01	.949	
2	Activating background knowledge	Berber	3.11	.887	.521
		Arabic	3.00	.816	
3	Reading aloud	Berber	3.19	1.544	.648
		Arabic	3.05	1.452	
4	Slow reading	Berber	4.42	.900	.105
		Arabic	4.68	.475	
5	Getting back on track	Berber	4.35	1.023	.131
		Arabic	4.62	.545	
6	Underlining important information	Berber	3.01	6.025	.049
		Arabic	3.00	1.633	
7	Adjusting reading speed	Berber	3.65	1.057	.893
		Arabic	3.68	.944	
8	Selecting what to read and what to ignore	Berber	2.92	1.308	.042
		Arabic	3.38	.545	
9	Using reference material	Berber	3.48	1.098	.000
		Arabic	2.32	.475	
10	Closer attention to overcome difficulties	Berber	3.46	.648	.000
		Arabic	2.73	.608	
11	Using tables, figures or pictures to increase understanding	Berber	2.90	1.355	.008
		Arabic	3.49	1.040	
12	Stopping from time to time	Berber	3.47	1.074	.021
		Arabic	3.00	.816	
13	Using context clues: inference	Berber	3.37	1.098	.000
		Arabic	2.55	1.252	
14	Using text's layout to increase understanding	Berber	3.20	1.261	.000
		Arabic	2.68	.944	
15	Reference	Berber	3.78	.953	.504
		Arabic	3.65	.949	
16	Relating new information to background knowledge	Berber	3.96	.846	.000
		Arabic	3.58	.545	
17	Re-reading	Berber	4.67	.605	.000
		Arabic	3.70	.968	
18	Checking predictions	Berber	4.00	.941	.000
		Arabic	3.70	1.266	
19	Translation	Berber	3.28	1.091	.000
		Arabic	2.97	.833	
20	Thinking in another language	Berber	3.21	1.266	.000
		Arabic	2.03	.833	

From the descriptive statistics and the t-tests employed for data analysis, Table 44.1 displays the while-reading strategies used by Berber and Arabic students in P-environments. The means range from 2.03 to 4.68.

The most frequently used strategies are “*slow reading*”, “*getting back on track*”, “*adjusting reading speed*”, “*reference*”, “*relating new information to background knowledge*”, “*re-reading*”, and “*checking predictions*”.

“*activating background knowledge*”, “*reading aloud*”, “*underlining important information*”, “*selecting what to read and what to ignore*”, “*using reference material*”, “*closer attention to overcome difficulties*”, “*using tables, figures or pictures to increase understanding*”, “*stopping from time to time*”, “*using context clues*”, “*using text’s layout to increase understanding*”, “*translation*” and “*thinking in another language*” are ranked in medium-use categories. The least used strategy is “*Note taking*”.

A difference between Berber and Arabic speakers is noticed at the level of many while-reading strategies. Berber speakers tend to use these while reading strategies more than Arabic speakers. The strategies are: “*note taking*”, “*closer attention to overcome difficulties*”, “*using tables, figures or pictures to increase understanding*”, “*using context clues*”, “*using text’s layout to increase understanding*”, “*relating new information to background knowledge*”, “*re-reading*”, “*checking predictions*”, “*translation*” and “*thinking in another language*”.

Table 44.2 Digital-based Strategies: Contend Directive Analysis & Independent T-tests

Item	Targeted Strategy	L1	M	SD	Sig.
1	Note taking	Berber	1.18	1.314	.134
		Arabic	1.65	1.889	
2	Activating background knowledge	Berber	3.53	.872	.500
		Arabic	3.00	.816	
3	Reading aloud	Berber	2.94	1.500	.782
		Arabic	3.03	1.424	
4	Slow reading	Berber	4.42	.750	.408
		Arabic	4.00	.816	
5	Getting back on track	Berber	4.35	.790	.200
		Arabic	3.68	.475	
6	Adjusting reading speed	Berber	3.47	.878	.100
		Arabic	3.00	.816	
7	Selecting what to read and what to ignore	Berber	3.19	1.417	.054
		Arabic	3.40	.968	
8	Using reference material	Berber	2.68	1.185	.409
		Arabic	3.00	1.414	
9	Closer attention to overcome difficulties	Berber	4.24	.741	.400
		Arabic	3.58	.545	
10	activating hyperlinks for academic purposes	Berber	1.46	1.299	.100
		Arabic	1.35	.949	
11	Using tables, figures or pictures to increase understanding	Berber	2.85	1.307	.251
		Arabic	3.48	.944	
12	Stopping from time to time	Berber	3.65	1.009	.984
		Arabic	3.35	.949	
13	Using context clues: inference	Berber	3.69	.950	.660
		Arabic	2.35	1.252	
14	Using text's layout to increase understanding	Berber	3.46	1.481	.540
		Arabic	2.48	.954	
15	Reference	Berber	3.79	.978	.581
		Arabic	3.03	1.424	
16	Relating new information to background knowledge	Berber	4.14	.861	.120
		Arabic	3.55	1.252	
17	Prediction	Berber	4.19	.762	.070
		Arabic	3.68	.475	
18	Re-reading	Berber	4.40	.816	.060
		Arabic	3.58	.545	
19	Checking predictions	Berber	3.42	.852	.450
		Arabic	3.03	.833	
20	Inference	Berber	3.68	1.098	.150
		Arabic	3.50	.000	
21	Activating hyperlinks for fun	Berber	3.42	1.338	.089
		Arabic	3.46	.200	
22	Translation	Berber	2.89	1.170	.057
		Arabic	2.55	.949	
23	Thinking in another language	Berber	3.18	1.304	.060
		Arabic	2.51	.644	

From the descriptive statistics and the t-tests employed for data analysis, Table 44.2 displays the while-reading strategies used by Berber and Arabic speakers in D-environments. The means range from 1.65 to 4.40.

The most frequently used strategies are “*slow reading*”, “*getting back on track*”, “*closer attention to overcome difficulties*”, “*stopping from time to time*”, “*using context clues*”, “*reference*”, “*relating new information to background knowledge*”, “*prediction*”, “*re-reading*”, “*inference*”.

The strategies ranked in medium-use categories are: “*activating background knowledge*”, “*reading aloud*”, “*adjusting reading speed*”, “*selecting what to read and what to ignore*”, “*using reference material*”, “*using tables, figures or pictures to increase understanding*”, “*using text’s layout to increase understanding*”, “*checking predictions*”. “*activating hyperlinks for fun*”, “*translation*”, and “*thinking in another language*”. The least frequently used strategies is “*Note taking*”.

No significant difference is observed between Arabic and Berber speakers in terms of digital while-reading strategy use.

Table 44. 3 Paper-based Vs. Digital-based Reading Strategies: Paired samples T-tests

	Print	Digital	Significance
Berber	3.68	3.25	0.012
Arabic	3.52	3.15	

The results indicate that the means of both groups can be categorised as high-use categories in the P-environment and medium-use categories in the D-environment. A significant difference between the two environments is validated through the p-value which inferior to 0.05.

5.2.4.3 Post-reading Strategies

Table 45 .1 Paper-based Strategies: Contend Directive Analysis & Independent T-tests

Item	Targeted Strategy	L1	M	SD	Sig.
1	Paraphrasing	Berber	3.32	1.116	.644
		Arabic	3.42	.982	
2	Visualising information	Berber	2.57	1.085	.708
		Arabic	2.65	.949	
3	Critical analysis	Berber	1.43	.932	.461
		Arabic	1.27	1.305	
4	Critical evaluation	Berber	1.43	.932	.461
		Arabic	1.27	1.305	

From the descriptive statistics and the t-tests employed for data analysis, Table 45.1 displays the post-reading strategies used by Berber and Arabic speakers in P-environments.

The findings indicate that no significant difference is observed between the two groups (Sig. > 0.05). The strategies ranked in medium-use categories are: “*paraphrasing*” and “*visualising information*”. As for “*critical analysis*” and “*critical evaluation*”, they are least frequently used strategies.

Table 45 .2 Digital-based Strategies: Contend Directive Analysis & Independent T-tests

Item	Targeted Strategy	L1	M	SD	Sig.
1	Printing out a hard copy	Berber	3.11	1.430	.590
		Arabic	3.32	.475	
2	Paraphrasing	Berber	2.36	1.180	.071
		Arabic	2.00	.816	
3	Visualising	Berber	2.39	1.120	.785
		Arabic	2.32	1.248	
4	Critical analysis	Berber	1.54	1.113	.088
		Arabic	1.95	1.666	
5	Critical evaluation	Berber	1.49	1.040	.120
		Arabic	2.03	.833	
6	Distinguishing between fact and opinion	Berber	2.68	.869	.250
		Arabic	2.55	.329	

Table 45.2 reports the results of the descriptive statistics and the t-tests. It displays the means of digital post-reading strategies used by Berber and Arabic speakers. No discrepancy between the two groups is observed (sig > 0.05). The means range from 1.49 to 3.32. This suggests that no strategy is ranked in high-use categories.

“*Paraphrasing*” is the only strategy ranked in medium-use categories. The other categories, namely “*printing out a hard copy*”, “*visualising*”, “*critical analysis*”, “*critical evaluation*”, and “*distinguishing between fact and opinion*” are the least frequently used strategies.

Table 45. 3 Paper-based Vs. Digital-based Reading Strategies: Paired samples T-tests

	Print	Digital	Significance
Berber	2.58	2.32	0.038
Arabic	2.54	2.15	

The results indicate that the means of both groups can be categorised as medium-use categories in the P- environment, and low-use categories in the D-environment. A significant difference between the two environments is validated through the p-value which inferior to 0.05.

5.3 Analysis and Results of the Experimental Reading Comprehension Test

One hundred and twenty (120) participants in this phase of the study took two reading comprehension tests in two different environments. They used their personal laptops to answer the questions of the digital test.

The two tests follow the same pattern. They are divided into five main parts: gap-filling, sentence reformulation, inference, reading comprehension, and critical evaluation. Each part has been reckoned out of five.

Once the test papers have been handed back, they have been corrected. The marks of each participant have been stored in a data file created in SPSS.

The analysis consists of a quantitative analysis through two statistical procedures:

- ANOVA is used to compare the means of the participants in terms of gender, geographical location, and L1. Furthermore, it permits to check the validity of the results through computing the statistical significance.
- Paired-samples t-tests are used to compare the means of the participants on the basis of the environment where the test takes place. More to the point, the aim is to set the differences that lie between the participants' abilities in D- and P-environments.

The results of the analysis have been presented in tables following the APA style.

5.3.1. Participants' Profile

Gender

	Male	Female	Total
N	51	69	120
Percentage	42%	58%	100%

Geographical Location

	Rural	Urban	Total
N	64	56	120
Percentage	53%	47%	100%

Mother Tongue

	Arabic	Berber	Total
N	47	73	120
Percentage	49%	61.0%	100%

Table 46 Identification of the Participants

5.3.2 Reading Comprehension Tests & Gender

Test item	Gender	M	SD	Sig.
Gap filling	Male	2.75	.442	.014
	Female	3.25	.847	
Sentence Reformulation	Male	3.00	.722	1.000
	Female	3.00	.722	
Comprehension Questions	Male	3.25	1.113	.323
	Female	3.50	.511	
Inference	Male	4.50	.511	.000
	Female	3.50	.511	
Critical Evaluation	Male	4.00	.722	.008
	Female	3.50	.511	

Table 47 .1 Paper-based Reading Comprehension Tests: ANOVA

Test item	Gender	M	SD	Sig.
Gap filling	Male	2.25	.442	.001
	Female	3.50	.511	
Sentence Reformulation	Male	3.50	.885	.323
	Female	3.25	.847	
Comprehension Questions	Male	2.50	.511	1.00
	Female	2.50	.511	
Inference	Male	1.75	.442	.001
	Female	2.25	.511	
Critical Evaluation	Male	2.25	.722	.155
	Female	3.25	.442	

Table 47.2 Digital-based Reading Comprehension Tests: ANOVA

An ANOVA test was performed to analyse the effects of gender on the participants' scores in P- and D-environments. On the basis of the figures shown in tables 47.1 and 47.2, it can be stated that a significant difference is observed between the two groups at different levels (Sig > 0.05).

In the P-environment, the means of “*gap-filling*”, “*sentence reformulation*”, “*comprehension questions*”, and “*critical evaluation*” are ranked in the medium level. The scores obtained for “*inference*” are ranked in the high-level.

As far as the differences that lie between male and female students are concerned, females outperform males in “*gap-filling*”. However males did better than females in “*inference*” and “*critical evaluation*”.

In the D-environment, the scores of the participants are ranked in the medium-level in “*gap-filling*”, “*sentence reformulation*”, “*comprehension questions*”, and “*critical evaluation*”. However, “*inference*” is ranked in the low-level.

The comparison between the two groups reveals that a significant difference is observed at the level of “*inference*” (Sig = 0.001) and “*gap-filling*” (Sig = 0.001). Females outperform their males’ counterparts in both test items.

All in all, the analysis revealed that, in general, males did better than females in the P-environment, and females did better than males in the D-environment.

Regarding the two environments together, there is a difference between paper-based and digital-based scores. On the basis of the samples-paired t-tests, it has been found that the means of the two groups vary according to the environment. Indeed, their scores decrease in the D-environment.

5.3.3. Reading Comprehension Tests & Geographical Location

Test item	Geog. Loc.	M	SD	Sig.
Gap filling	Urban	3.25	.442	.114
	Rural	2.75	.847	
Sentence Reformulation	Urban	3.75	.722	1.000
	Rural	3.50	.722	
Comprehension Questions	Urban	2.50	1.142	.323
	Rural	3.25	.442	
Inference	Urban	4.00	.722	1.000
	Rural	3.75	.722	
Critical Evaluation	Urban	2.25	.442	.120
	Rural	2.25	.442	

Table 48 .1 Paper-based Reading Comprehension Tests: ANOVA

Test item	Geog. Loc.	M	SD	Sig.
Gap filling	Urban	3.00	.722	.277
	Rural	2.75	.847	
Sentence Reformulation	Urban	3.25	.847	.323
	Rural	2.50	.885	
Comprehension Questions	Urban	3.25	.511	1.000
	Rural	3.00	.511	
Inference	Urban	2.00	.722	.155
	Rural	2.25	.442	
Critical Evaluation	Urban	2.25	.442	.600
	Rural	2.25	.511	

Table 48.2 Digital-based Reading Comprehension Tests: ANOVA

In order to analyse the effects of geographical location on the participants' scores in P- and D-environments, an ANOVA test was performed. The means of the different items range from 2.00 to 4.00.

In the P-environment, the mean of “*sentence reformulation*” is ranked in the hi-level category. The means of “*gap-filling*”, “*comprehension questions*”, and “*inference*” are ranked in the medium level. However, the scores obtained for “*critical evaluation*” are ranked in the high-level.

In the D-environment, the scores of the participants are ranked in the medium-level in “*gap-filling*”, “*sentence reformulation*”, “*comprehension questions*”.. However, “*inference*” and “*critical evaluation*” are ranked in the low-level.

As regards the comparison between the two groups, The P-value for the different items is superior to 0.05. Accordingly, it can be stated that no significant difference is observed between the two groups.

Regarding the two environments together, there is a difference between paper-based and digital-based scores. On the basis of the samples-paired t-tests, it has been found that the means of the two groups vary according to the environment. Indeed, their scores decrease in the D-environment.

5.3.4 Reading Comprehension Tests & Mother Tongue

Test item	L1	M	SD	Sig.
Gap filling	Berber	2.50	.511	.010
	Arabic	3.00	.511	
Sentence Reformulation	Berber	2.75	.511	.032
	Arabic	2.50	.511	
Comprehension Questions	Berber	3.25	.885	.323
	Arabic	2.75	.847	
Inference	Berber	3.75	.442	.014
	Arabic	3.50	.847	
Critical Evaluation	Berber	2.25	.847	1.000
	Arabic	2.00	.442	

Table 49 .1 Paper-based Reading Comprehension Tests: ANOVA

Test item	L1	M	SD	Sig.
Gap filling	Berber	2,50	.511	.001
	Arabic	3,25	.847	
Sentence Reformulation	Berber	2,25	.885	.323
	Arabic	2,00	.847	
Comprehension Questions	Berber	2,50	.511	1.000
	Arabic	3,00	.511	
Inference	Berber	2,00	.722	.155
	Arabic	2,25	.442	
Critical Evaluation	Berber	2,25	.511	.020
	Arabic	1,50	.442	

Table 49.2 Digital-based reading Comprehension Tests: ANOVA

An ANOVA test was performed to analyse the impact of the participants' L1 on their scores in P- and D-environments. Tables 49.1 and 49.2 indicate that a significant difference is observed between the two groups at different levels (Sig> 0.05).

In the P-environment, the scores obtained for “*inference*” are ranked in the high-level category. The means of “*gap-filling*”, “*sentence reformulation*”, and “*comprehension questions*” are ranked in the medium level. “*critical evaluation*” is ranked the low level.

As far as the differences that lie between Berber and Arabic speakers are concerned, Arabic speakers outperform Berber speakers in “*gap-filling*”. However Berber speakers did better in “*inference*” and “*sentence reformulation*”.

In the D-environment, the scores of the participants are ranked in the medium-level in “*gap-filling*” and “*comprehension questions*”. However, “*inference*”, “*sentence reformulation*” and “*critical evaluation*” are ranked in the low-level.

The comparison between the two groups reveals that a significant difference is observed at the level of “*gap-filling*” (Sig = 0.001), and “*critical evaluation*” (Sig = 0.02). While Arabic speakers outperform their Berber counterparts in “*gap-filling*”, Berber speakers did better in “*critical evaluation*”.

Regarding the two environments together, there is a difference between paper-based and digital-based scores. On the basis of the samples-paired t-tests, it has been found that the means of the two groups vary according to the environment. Indeed, their scores decrease in the D-environment.

5.4 Analysis and Results of the Interviews

The results obtained from the analysis of the interviews conducted with twenty-four (24) Algerian EFL students are reported. The interviews have been tape-recorded and manually transcribed into texts. Then, the transcripts have been analysed by means of Qualitative Content Analysis and Critical Discourse Analysis.

Unlike the results presented earlier, a new categorisation of the participants is suggested since this phase of the research is exclusively qualitative. The participants have been categorised into eight categories as follows:

Rural – Berber – Female	Rural – Arabic – Female	Rural- Berber- Male	Rural- Arabic- Male	Urban – Berber – Female	Urban – Arabic – Female	Urban- Berber- Male	Urban- Arabic- Male
3	3	3	3	3	3	3	3
participants	participants	participants	participants	participants	participants	participants	participants

Table50. Identification of the participants

Three informants from each category, as table 50 shows, voluntarily accepted to participate in the study.

Q1. What types of texts do you read for academic purposes? Could you describe them?

The interview respondents identify two types of texts that they read for academic purposes: descriptive and narrative texts. Their answers can be classified into two major categories: Arabic and Berber speakers. Arabic-speakers participants report that they tend to read descriptive texts. Conversely, Berber-speakers participants state that they mainly read narrative texts. When they have been asked to describe them, all the participants were unable to provide the moves that distinguish each type from the other.

Q2. Are there types of texts which are easier to be read? Why?

There is a consensus among the different categories of participants that descriptive and narrative texts are the easiest types of texts to be read. Specific reasons included the following:

- *“narrative texts are easier to be read... each event is related to another, so you do not need much effort to understand”*
- *“reading narrative texts is an easy task since I do not need a huge background”*
- *“I think that the descriptive texts are easier to be read because we can find definitions and examples that make of reading an easy task”*
- *“narrative texts are easier because they enhance imagination and ... you feel implied and part of the story”*

Q3. What are the criteria that you take into account to evaluate a text as easy or difficult to be read?

All the interviewees maintain that the basic criterion for evaluating a text as easy or difficult is the language used. More to the point, they focus on ‘vocabulary’. The latter is viewed as a key-element in understanding texts. Some participants point out that the more the reader is familiar with the vocabulary used, the better and the easier is the understanding. Others think that *“the words should be clear and unambiguous”*. It is worth noting that two Berber speaking participants stress the importance of sentence structures in understanding.

For them, in addition to the clarity of words, the complexity of sentences is likely to make of a text easy or difficult to be read.

Q4. What do you consider before starting reading?

All the participants indicate that they consider the title before reading any text. They think the reader may be attracted by a text through its title. However, on the point of pre-reading strategies, a disparity is noticed between male and female participants. While male participants declare that they directly read texts, female students report that they start by skimming the text, checking the organization and even the source of the text.

Q5. Do you take into account the moves of a text when you read?

As regards the moves of texts, the answers of the participants show that they do not really know what is meant by moves or text organization. While some of them confine the concept of moves to the text length, titles or subtitles, others relate it to coherence and cohesion. Here are some of their answers:

- *“I do pay attention to this point, the subtitles help me get an idea about the text content”*
- *“For academic purposes I consider the moves. In short texts I read everything but when it comes to long texts I a selective”*
- *“if the text is coherent, it will be easier for the reader to follow and create a link between ideas”*

Q6. While reading texts in digital and print-based environments, do you notice any difference in terms of text format?

Most of the participants are convinced that the format of texts in D- and P- environments is not the same. However, students living in urban areas seem to have a different view since five participants out of eight who live in urban areas think that no difference is noticed between the two formats. *“They are quite the same”* or *“I do not think*

that there are differences as long as the context is the same mainly when it is a matter of books” are examples of the answers provided by urban students.

Q7. What are the differences that lie between these formats? Which format is easier? Why?

The differences between the two formats, according to the participants, are mainly related to words’ size, use of colours and bold types. One the participants says that readers may notice a difference between P- and D- text even when there is no physical difference between them. She adds: *“I don’t know how to explain this, I think it is psychological”*.

Q8. What is the role of the title, illustrations, or specific text features in the reading process in D- and P- contexts?

All the participants agree that texts’ features play a vital role in the reading process in both P- and D-environments. Some think that they help attracting and motivating the reader, while others are convinced that they help to get the message from the text. Here are some of their answers:

- *“the bold and the italics attract me to indicate that something is important... find key words and make texts easier”*
- *“the title, the illustrations, the colours used, and the bold types play a huge importance for me”*
- *“Pictures help me understand better since they summarise the whole text. Different modes used in a text help to make it easier”*

Q9. Is there any text feature that you take into consideration to help you better understand?

When the interviewees have been asked about the text feature they think is the most important one, most of their answers fall into two categories. While male participants perceive the title as the only element that can help them decide to read or ignore the text, female participants tend to take into account the images, the layout in addition to the title. One of the male participants says: *“the titles, mainly when they are put in a bold type, have the biggest priority”*. Conversely, one of the female interviewees says: *“I can decide to read or not a text*

through reading its title, and then come the illustrations and pictures which add pieces of information needed for understanding. In addition, the colours, the bold types play a huge importance for me”.

Q10. Are there specific clues that you use to understand texts?

Most of the participants maintain that they read texts without bearing in mind the idea of exploiting or using specific clues.

Q11. Do you focus on the meaning of single words?

Varied answers have been provided by the different participants. Most of the female interviewees report that they mainly use digital dictionaries while reading to check the meaning of words. Conversely, male interviewees attempt to guess the meaning of words from the context or use paper-based dictionaries.

Q12. How can linguistic features (tenses, transition words etc.) help you understand the texts?

This question was not easy for the interviewees. Most of them asked for more clarification. They report that they do not consciously consider the linguistic features during the reading process.

Q13. What is the difference that lies between ‘text’ and ‘discourse’?

The interviewees’ answers to this question fall into two categories. Some of them do not know what the differences that lie between text and discourse. Others think that discourse is oral and text is written.

Q14. How do you proceed to interpret a text?

The answers of the participants reveal that they follow more or less the same procedure to interpret texts. They start by reading the text two or three times, and then they check the meaning of unknown words. Only one male-informant told me that he “*critically focus on the context in an attempt to interpret a text*”.

Q15. How can your background knowledge help you better interpret a text?

All the participants are aware that the more they are familiar with the topic, the easier is the reading process.

Q16. What are the criteria that you consider in order to evaluate or criticize a text?

When the interviewees have been asked about evaluating and criticising texts, divergent answers have arisen. While rural students think that “*coherence of ideas*” is the most important element while evaluating a text, urban informants consider the adequacy of the text content to their purpose as a main criterion to evaluate any text. Additionally, a discrepancy of views is noticed across gender. Female participants focus on the language used by the author, their male counterparts emphasise the content.

It is worth noting that nine (9) participants out of twenty-four (24) reported not being able to evaluate or criticise a text. “*well... I don't know how...*” or “*I don't have the status to criticise a text*” are some of the participants' answers.

Q17. Do you think that your attitudes towards a text genre, type or content are likely to influence your understanding? How?

All of the participants agree on the fact that their attitudes towards any genre, type or content doubtlessly impact their understanding. One of them said “*when you are interested in a specific genre, you are going to be focused*”.

Q18. Which type of text do you think is close to your culture, your language or your identity? Why?

With reference to the text type that the participants think is closer to their culture, the informants' answers fall into two categories. Berber speakers feel more at ease with narrative texts. Arabic speakers, on the other hand, think that descriptive texts are closer to their cultural background. However, it is worth noting that they were not able to provide any explanation.

Q19. Could you describe your reading process of different types of texts?

When asked to describe their reading process, most of the interviewees affirm that they cannot describe their reading process. One of them said that reading was part of their daily life and they were so accustomed to read different things that they did not care about the process or the procedure to follow. Another student stated “*reading is an unconscious process. I do things that I cannot explain...* ”.

Q20. Considering the various elements that interplay during the reading process (language, moves and generic features, & content), which one do you think is the most difficult?

All the participants affirm that language can be considered as the major obstacle to understanding texts in a foreign language. As regards reading in L1, the structure of text and its content are the most difficult elements since they do already master the language.

Conclusion

Through this chapter, I have embarked into a thorough analysis and presentation of the findings of the empirical study. By combining qualitative and quantitative tools of analysis notably statistical analysis, qualitative content analysis and critical discourse analysis, results have been presented in tables or narrative texts. These same findings are the main concern of the subsequent chapter in which they are thoroughly interpreted and discussed in an attempt to bring answers to the research questions raised at the beginning of the study.

Chapter 6

Discussion of Findings and Implications

Introduction

This chapter sets out to interpret and discuss the findings of the empirical study thoroughly presented in the previous chapter. The results obtained from the questionnaires, the SODPRS, the experimental reading comprehension tests, and the interviews are analysed in the light of the theoretical framework in order to bring answers to the research questions raised at the outset of the investigation and advanced in the general introduction. Furthermore, it aims at checking the validity of the hypotheses put forward in relation to Algerian EFL students' reading practices in P-and D-environments as well as the impact of sociocultural factors on their practices. It is organised in accordance with the four research questions and it is, accordingly, divided into five sections including answers to the four research questions as well as a section devoted to pedagogical implications and suggestions.

6.1. Answer to Research Question # One: Print Vs. Digital

6.1.1. Teleological Perceptions & Ambivalent Attitudes

The results obtained from the analysis of the questionnaire and the interviews indicate that Algerian EFL students' perceptions of reading are grounded in their sociocultural background. They are reflected in their attitudes towards reading in P-and D-environments. This is noticeable by the answers they provided to the various questions displayed in the previous chapter.

To begin with, when asked whether they like reading or not, most of the participants answered by 'yes'. Then, another result indicates that they enjoy reading classes and they feel motivated when they are asked to read aloud in the classroom. At first sight, reading seems to be perceived by Algerian EFL students as an enjoyable daily activity. Nevertheless, a further analysis shows that the majority of the participants prefer watching an adapted version film rather than reading a novel. Furthermore, during their spare time, the students prefer spending their time surfing the net rather than going to the library.

Taken together, an interpretation that seems plausible is that reading is perceived as a 'means to an end'. It is tightly related to the academic context and meant for academic purposes. Put differently, the students enjoy reading in the classroom as a tool to reach academic success. However, reading is not perceived as a spontaneous activity in their daily life.

These findings are not in line with what was found by some empirical studies reported in the literature that investigated EFL students' reading habits and attitudes. Sheorey and Mokhtari (1994) analysed the reading habits of college students enrolled in an elective development reading course at a university in Midwestern, USA. Their results indicate that students who scored higher on a test of reading comprehension report spending slightly more time on non-academic reading. This finding supports a correlation between students'

achievement and pleasure reading. In another study, Blackwood et al. (1991) investigated the pleasure reading habits of college students enrolled at a US Liberal Arts University. The results show that most of the participants read primarily newspapers. In addition, the majority estimated that the amount of time they spend reading during vacations is more important than when classes were in session.

One of the factors which is likely to develop this teleological perception of reading of Algerian EFL students is their sociocultural background and the environment where they grow up. A crucial factor is the role of their parents. Put differently, their attitudes towards reading are socioculturally constructed. Gergen (1985) states that attitudes cannot be examined or analysed in isolation of the social context because the meanings associated with attitude are largely socially constructed. In the same vein, Lantolf (1994) explains the process of knowledge construction by children as a result of their interaction with others. *“Symbolically mediated mental functions are appropriated by children as they carry out specific culturally defined tasks under the guidance (i.e., mediation) of other individuals (e.g., parents, older siblings, teachers, etc.)”*.

The reading practices of the parents, who are mostly educated, seem to have an opposite effect on the students' reading habits. In fact, the findings indicate that parents encourage their children to read. However, this is not faithfully reflected in their behaviour. As a matter of fact, the more the parents are educated, the less they read during their spare time. In addition, most parents used to tell stories to their kids. Conversely, the participants do not intend to reproduce what they experienced as children. Unlike their parents, the majority of the participants plan to read stories for their future kids. An explanation which seems plausible is that the Algerian EFL students are not satisfied with their own reading habits, and they are aware enough about the importance of developing reading skills at early stages of

life. They associate reading stories for children with “*cognitive development*”, “*open-mindedness*”, and “*linguistic abilities*”.

Algerian EFL students are accustomed with D-reading since more than 67% of the participants stated that they had already read a book or a novel in the D-environment. Yet, unlike P-reading, D-reading does not attract much the Algerian EFL students. As a matter of fact, more than 52% of the participants reported their dislike for D-reading. The latter is viewed as an easier means to get a piece of information but not enjoyable. They fall back on D-reading when they do not have enough time or when the needed document is not available in the traditional libraries. Peeters and Charlier (1995) distinguish three types of attitudes towards a D-text: (1) contemplation: it relates to passive reading; (2) navigation: it relates to dynamic reading. The reader attempts to activate different hypertext links; and (3) reflexion: it relates to critical reading. The reader relates what s/he reads to their previous knowledge or thinking, criticizing and evaluating the information presented in the text. The Algerian EFL students seem to adopt the second type of attitudes towards D-reading which is ‘navigation’.

Furthermore, the results indicate that in an academic context, D-reading is described as useful and important but not so funny. P-reading is perceived as easier than D-reading. One of the emphasised aspects is the time spent to read digital or print documents. The participants need more time to reach understanding when they read D-texts.

This perception of D-reading leads them to develop new reading habits like “selecting some parts to be printed”, or “highlighting words or phrases for more clarifications”. The findings of the present study have shown a correlation between D-reading perception and printing out documents that seems to be a fundamental reading habit of Algerian EFL students in the D-environment. As regard highlighting words or phrases, the participants prefer taking notes on paper while reading digital documents. This suggests that D-reading is assisted by P-reading.

A plethora of empirical studies are to be found in the literature attempting to bring insights into the reading habits of students in D-environments. Some researchers (e.g. Ramirez, 2003, Liu, 2005) have noticed the growing amounts of time that learners, particularly young adults, spend reading electronic materials. Another important result reported by researchers is that the amount of time does not mean that the students engage in deep reading. Both Liu (2005) and Ramirez (2003) argue that people would print from the digital devices in order to do close reading. When they read digitally, they mainly spend time on skimming and browsing for information on the internet. In the same vein, Liu (2005) highlights the differences that lie between P- and D-reading in terms of their nature and purpose. The negative implication of the electronic media on D-reading is the fact that students are less engaged in extensive reading and they lack the ability to read deeply.

When asked about EFL reading in P- and D-environments, the participants recognise the presence of differences lying between the two processes. Yet, they think that the challenge of EFL reading lies in the language itself or their reading habits more than the environment. Put differently, English is a foreign language in Algeria, so the participants are more familiar with Arabic or French. Moreover, they used to read some genres in Arabic or French so it becomes difficult for them to read the same genres in English either in print or digital. It can be concluded, then, that EFL reading in the Algerian context is confined to academic settings. The English language is perceived by the Algerian EFL students as a school subject. This leads them to develop teleological EFL reading habits.

As far as the participants' attitudes are concerned, the findings indicate that the Algerian EFL students hold ambivalent attitudes towards reading in P-environments. This ambivalence leads to various and unexpected practices. Alexander & Filler (1976) define attitudes towards reading as an individual's feeling about reading causing learners to approach or avoid a reading situation. Many studies investigated the correlation between attitudes and

learning. Their results sustain that investigating attitudes in education has the potential of determining learners' educational deficits and where assistance has to be given (Lind, 1984; Ajzen & Fishbein, 2005). The higher positive attitudes towards learning are, the more learners are involved and more efficient learning is. This suggests that Positive reading attitudes lead to positive reading experiences, which also lead to higher academic performance.

Attitudes towards reading and their impact on learners' achievement have attracted the interest of several researchers. Walberg and Tsai (1985) assert that one of the strongest correlates of reading achievement is positive attitude towards reading. They identified some factors which are likely to contribute to a positive attitude among secondary school learners including: believing that reading is important; enjoying reading; having a high self-concept as a reader; and having a verbally stimulating home environment where verbal interaction takes place regularly. Similarly, another study (Kubis, 1996) suggests that the positive attitudes of students towards reading may be assigned to a significant event or person. More to the point, the familial background plays a vital role in creating a positive reading attitude among children. A home literary environment created by the parents is likely to influence their children perception and their reading practices. Usually, students who were read to as children and who owned personal book collections exhibited more positive attitudes towards reading than those who did not.

In the same vein, another study conducted by Partin (2002) is reported in the literature. It has shown the presence of a strong correlation between students' home environment, attitudes and their reading achievement. The more the attitudes of the students are positive, the higher are their scores. Furthermore, the study indicates that a positive reading attitude of students is significantly related to their family circle habits. Some decisive factors have been identified: being read to as a child; parental interest in their child's reading; having books around the home; receiving books as gifts; and possessing a library card. Having friends who

like to read and with whom they can discuss and recommend books also correlated significantly with positive attitudes.

The findings of the present study are not in line with the results of other empirical studies reported in the literature. The positive attitudes of the parents towards reading are not reflected in the children's attitudes. However, the parents' practices have influenced the students' perceptions and their attitudes. This confirms the idea that attitudes are socioculturally constructed. SCT holds that cultural artefacts mediate the learning process; human beings behavioural and biological activities are regulated and modified by cultural activities. Learning processes result from child's participation in cultural, linguistic and historical settings such as getting involved in interactions within families (Lantolf, 2000).

When comparing the results of the present research to the findings of the previous empirical studies, I can safely claim that the attitudes of Algerian EFL students hold ambivalent attitudes towards reading. They are torn between reproducing their parents' behaviour and exhibiting opposite practices. From one side, they perceive reading, mainly EFL reading, as a key to reach successful career leading them to neglect pleasure reading. This behaviour may be considered as an imitation of their parents' practice. From the other side, they intend to adopt the opposite reading practice towards their future kids in terms of reading or telling stories; suggesting their dissatisfaction with their own experience.

Like their counterparts in different parts of the world, Algerian EFL students are attracted by technological devices and the charming exposure to social networking systems. It is visible that the arrival of the new technologies and their widespread throughout the country has called into question their reading habits and purposes. D-reading, as it has already pointed to, is used by EFL students for academic purposes and they do not describe their experience as enjoyable. Conversely, social networking is one of their favourite habits during their leisure time. So, I have come to the conclusion that D-reading has reduced the contact of

the Algerian EFL students with the world of books and other reading materials and plunged them into their teleological perception of reading in general and D-reading in particular. Indeed, every new digital device throughout the history of literacy has been a threat to people's interest in reading. Johnsson-Smaragdi and Jönsson (2006, p. 520) claim:

...both visual and ICT media are often presented as a threat to books and reading of literature. They are accused of taking time and interest away from children and adolescents' book reading in leisure time by offering them more approachable alternatives.

In this digital era, pleasure and recreational reading does not seem attracting the new generations; D-reading is mainly used by students to complete their educational tasks. In this context, Bowman (2002) reports that students turn to the Internet first when faced with a question or an assignment for class. By the same token, Ramirez (2003) infers that the digital generation of the students who grow up with this technology and who are acquainted with computers reveal different attitude towards reading in the D-environment.

As it has already pointed to in several parts of this thesis, reading is considered as one of the four basic language skills. One can never deny the importance of reading skills in academic and professional success (Carrell, 1989; Grabe, 1991). Yet, reading is also a powerful and indispensable way of learning and a window to other cultures. It enhances the cognitive and the thinking abilities. Hence, it is important that Algerian EFL students develop good reading habits and practices for a life-long learning experience.

6.1.2. Comprehension across Paper and Screen: Cognitive Focus, Cognitive Maps & Critical Comprehension

The growing set of digital sources available for EFL students is likely to have a profound impact on their reading behaviour. Unlimited amount of information is easily accessible making the learning process much easier for students. Most students now seem

resort to the internet as a first step whenever they need information for their educational tasks. Nevertheless, compared to P- reading, D-reading and more precisely online reading seems to be challenging. While reading online, many characteristics of the D-environment lead the students to be distracted. The distraction is mainly caused by the way readers keep moving from one source to another simultaneously leading to easily lose their reading focus.

A typical online reading behaviour is textual scanning and switching from an activity to another. This is what led some researchers (Rowlands et al., 2008; Liu et al., 2009) to come to the conclusion that in the print world, focused reading comes naturally. However, it is difficult to engage in deep thought about a topic in the digital world. Said differently, unlike P-reading, a lack of cognitive focus is to be noticed while reading D-texts.

At the heart of literacy, lies a key element most notably 'the text'. The shift from literacy to digital literacy results in a shift from text to hypertext. The findings show that the participants spend much more time reading digital documents in comparison to P-texts. In fact, many participants concentrate or rely on hyperlinks to reach understanding. Hyperlinks are perceived as an additional tool of comprehension. In addition, 88% of the participants state that hypertext tools contribute in the comprehension process. However, the Algerian EFL students' perception of hypertext is still traditional. They apply the same reading strategies they used to use for reading P-texts.

While reading hypertexts, readers display of several modes of information reception. Unlike the P-text, readers, to a certain extent, have the freedom of choosing how they can receive the information. Commenting on hypertext and cognition, Alec McHoul & Roe (1996) assert that some communication theorists claim that hypertext has revolutionised 'power' distribution among readers and writers.

Indeed this quality of hypertext can be identified in Roland Barthes' distinction between readerly and writerly texts. The sequence of information presentation in hypertext is

not predetermined by the author. Through hyperlinks, the reader may guide the comprehension process according to their purpose. Readers may choose the direction they want through interaction. They actively participate in the construction of the text by manipulating different sites to look for further information. Accordingly, P-texts may be categorised as ‘readerly texts’, while hypertext as ‘writerly texts’.

Another significant difference between the two modes is ‘linearity’. While online texts are often non-linear, P-texts are usually linear and a particular path is expected to be followed by the reader. Julie Coiro (2003) states that while reading online, due to the limited space on the computer screen, readers see less text at one time. So, readers are likely to face more challenges in their effort to comprehend texts. Another difference that makes of online reading more complex and more challenging is that of ‘intertextuality’. According to Coiro and Dobler (2007), intertextuality creates more complex texts for readers to navigate in their minds and on screens. It is a physical and a cognitive challenge.

Hypertexting is a double-sword though. In fact, those who ignore hyperlinks and hypertext tools argue that, when over-used, they are likely to lead the reader to lack of cognitive focus. While there is little published scientific research explaining the effects of D-reading on the brain, it is known that a substantial cognitive difference exists between the process of reading on screen or on paper in terms of brain activation, the contextual environment, cognitive focus, comprehension and reading speed. It has been shown that *“online reading is a more cognitively complex process than reading in print due to the phenomenon of hyperlinking”* (Coiro and Dobler, 2007). In this context, it is important to draw a distinction between reading a linear e-book and hypertextual reading. The latter tends to be cognitively more complex than linear e-reading as it requires from the reader more mental decisions to be made. Other scholars (such as Wästlund et al., 2008) state that

scrolling on a screen requires more mental workload than reading websites that do not require scrolling.

It has been reported in the literature that some of the characteristics of D-reading include more time spent on browsing or scanning, non-linear reading and reading more selectively while less time is spent on in-depth reading. Some researchers argue that the use of digital documents leads to less concentrated and shallower reading. *“For many readers, the technology of print or paper continues to be more suited to analytical in-depth reading than e-books on computer displays”* (Cull, 2011).

With respect to comprehension and speed, clear conclusions are not yet drawn and researchers’ views are divided. There is a common agreement among researchers that comprehension levels were lower on screen due to browsing and lack of cognitive focus as it has been previously mentioned. As for speed, it has been suggested that reading on paper is faster than D-reading (Dillon, 1992). However, it is worth mentioning that some empirical studies testify to the fact that no significant difference between the two environments is noticed (Noyes & Garland, 2008).

One of the issues investigated in the present study is Algerian EFL students’ reading comprehension abilities across P- and D-texts. The results of the reading comprehension tests indicate that the students’ abilities are different across environments; the scores of the participants decrease in the D-environment. The reading comprehension test comprises five test items targeting the three levels of reading comprehension: literal, inferential, and critical.

Also known as ‘gap-filling’, the first test item is ‘cloze test’. It is a well-known reading exercise which is widely employed in language teaching and testing. The students were presented with a text with several gaps. Then, to fill in each gap, they were asked to select the most appropriate term out of three choices. This kind of tests is very useful in proficiency testing. In addition, being multiple-choice, it is well suited for statistical analysis.

Cloze tests, as used in EFL contexts, aim at demonstrating the extent to which learners do understand vocabulary in context. It allows the students to demonstrate their inferential abilities while reading texts. The scores obtained by the students in both environments are ranked at the medium level. This suggests that Algerian EFL students' ability to understand words in their appropriate contexts is medium. In addition, the environment in this case does not impact on this skill. In short, at the word level, the comprehension process on paper or on screen is more or less the same.

The second test item relates to 'key-word transformation'. It is a reading and writing exercise. The students were asked to re-write a sentence by using a prompt word. So, the learners had to read and understand the first sentence so as to be able to write another by using a key-word. The meaning of the two sentences is the same. Two reading skills were targeted through this exercise. The First was the literal meaning of sentences, and the second was exploiting formal schemata in comprehension. The students could not transform a sentence which was not well-understood.

Similarly, the third test item aimed at checking the participants' literal comprehension of texts. It was a set of questions directly related to the text. Like the second item, the mean of the students' score ranked at the medium level on paper, but decreased on screen since it ranked at the low level.

The findings of item two and item three suggest that the first level of reading comprehension, namely the literal one was easily reached in print comparing to screen. The explanation that seems plausible is that the 'cognitive focus' varies across paper and screen. There is a common agreement among researchers that comprehension levels were lower on screen due to browsing and lack of concentration (e.g. Hou et al., 2017).

The fourth item was intended to check the participants' inferential comprehension. Also known as deep comprehension, it relates to a highly, richly integrated and coherent

understanding. Readers associate the information presented in the text to their background knowledge to build deeper understanding of the text (McNamara, 2007). A disparity in participants' scores is noticed across paper and screen. While their level in inferential comprehension was high on paper, it was low on screen.

Many empirical studies reported in the literature testify to the fact that some aspects of comprehension are better in print. More to the point, a distinction is made between general comprehension and specific questions. While no difference is noticed for general comprehension questions, the environment seems to have an impact on specific questions. The latter requires more cognitive focus from the part of the readers. A study at the Reading Centre of the University of Stavanger, Norway was carried in 2013 by Mangen Anne and her colleagues. Their objective was to depict differences between reading P-texts and PDF D-texts. The findings have shown that the participants who read on paper understood more than those who read on screen. A more recent research conducted in 2017 by Singer and Alexander found similar results.

Indeed, during the reading process, readers construct cognitive maps representing the physical location of the information within a text. It has been claimed that in order to depict a particular piece of information, readers regularly recall where it appears in the text (Jabr, 2013). It is one way, among others, that learners use to organize and control their learning process. In addition, the human brain processes each piece of information within its context and associates it to the background knowledge (Liu et al., 2013).

An important element that affects learners' reading performance is the way the reading text is presented. The design and the presentation of a text may facilitate or hinder readers' ability to form cognitive maps. During the reading process, readers construct cognitive maps of the text based on the spatial placement or presentation of any piece of information within a page (Payne and Reader, 2006; Liu et al., 2013; Hou et al., 2017). This is, indeed, what makes

of reading an interactive process. So, the physical characteristics of P-texts help the construction of mind maps. Conversely, the screen-based text lacks the physical rigidity preventing readers from constructing coherent cognitive maps.

The layout of P-texts is fixed leading to an easy formation of physical maps in readers' minds. Each piece of information is stored and organised within the map. So when the reader remembers what is read, they remember the location of each piece of information within the document. Conversely, the characteristics of D-text are likely to impede the construction of effective cognitive maps. Scrolling does not facilitate the reading process since the physical characteristics are not fixed. It has been reported in the literature that the weak efficiency for forming cognitive maps hinders comprehension, and increases readers' feeling of fatigue (Hou et al., 2017). The physical characteristics of a paper make of it a fixed and autonomous support. However, the digital document is characterised by its flexibility. This can make of the two ways of reading different even though the writer's message is the same. In this context, Vandendorpe (2011) states that the reading experience and the comprehension process depend on the support used for reading. This suggests that reading on paper, reading on screen or reading e-books cannot be the same.

The fifth item focuses on critical comprehension of texts. It requires from the participants to understand both the content and contexts of production of the text in order to be able to give their own opinions. Critical reading skills relate to the ability to "*analyze, synthesize and evaluate what is read*" (Hudson, 2007, p. 80). The strategies or skills that can be found at this level of comprehension are, among others, recognizing arguments, distinguishing a fact from opinion, the ability to depict cause-and-effect relationships, the ability to evaluate the author's intended meaning, to draw some conclusions from the text etc. The scores obtained by the participants on paper are ranked in the medium level. However, on screen, the results are ranked in the low level.

No common agreement is reached among researchers as regards critical comprehension. The results reported in the literature show that some studies found that critical comprehension from P-texts is better than screen reading (Singer and Alexander, 2017); findings which are similar to the results of the present study. Conversely, other studies reported no significant comprehension difference between readers using either medium (Muter & Maurutto, 1991).

In addition to the tests' results, the findings of the interviews indicate that most of the participants do not know what is meant by discourse. Furthermore, when asked about the steps they follow in order to interpret texts, the participants' answers over-emphasize vocabulary understating. Critical comprehension relates to higher-order skills; it requires developed cognitive skills from the part of the students. So, considering the results of the previous items, the scores obtained for this item are not surprising.

All in all, the environment does not matter for reading comprehension at the word level or some literal comprehension questions. However, a discrepancy across paper and screen is noticed among the participants' scores in terms of inferential and critical questions. Comprehension is significantly better when the students read P-texts.

6.1.3. Algerian EFL Students' Digital Literacy

Algerian EFL students, like their counterparts all over the globe, are confronted with new challenges while reading digital documents. D-reading in the Algerian context is characterised by some peculiarities which are worth exploring. What characterises the Algerian EFL D-reading is their awareness about the importance of using the new technologies to develop literacy. Unlike reading in French or Arabic, EFL reading is tightly related to academic purposes. It is viewed and described as useful and practical. However, they consider D-reading as less motivating than P-reading in academic contexts and they tend to use the new technologies for socialising. Another important point that deserves to be

discussed is the way the students approach P- and D-texts as well as the position of the digital libraries.

The results indicate that the participants are aware of using internet as a tool for literacy development, but they mainly use it for social purposes. This suggests the need to develop appropriate and adequate D-reading strategies and habits among Algerian EFL students. Indeed, within the framework of the digital era, Julie Coiro sustains that new literacy is required for FL learners since technological tools create new habits and skills of mind. Maryanne Wolf (2007, p. 225) expresses her apprehension as regards the role of readers in the digital era. She wonders whether learners are taught to approach texts *“from a critical perspective, whether they still learn to ‘go beyond the text’”*. The challenge of digital literacy, according to Wolf, is how readers can develop deep understanding of D-texts without being distracted during the reading process.

The emergence of new technologies is influencing literacy conception leading to its constant change. Walter Ong (1988) maintains that the invention of the written system has changed dramatically the way of thinking of literate people. Similarly, the new technologies are bringing about changes in the way of reading, information processing, the role of readers, etc. The notions of texts, readers, and reading activity have been modified and broadened within the digital era. One of the recent definitions of literacy is the one provided by Julie Coiro (2003) who asserts that *“today, the definition of literacy has expanded from traditional notions of reading and writing to include the ability to learn, comprehend, and interact with technology in a meaningful way”*. Digital literacy is a wide term which refers to a variety of concepts including digital media, new technologies, New Literacy Studies (NLS), blogs, webpage creation or social networking. Digital literacies are *“socially situated practices supported by skills, strategies, and stances that enable the representation and understanding*

of ideas using a range of modalities enabled by digital tools” (O’Brien & Scharber, 2008, p. 67). So, it is important to circumscribe the Algerian students’ EFL digital literacy.

Computers and internet play a significant role in the daily life of EFL learners. Indeed, internet is considered as an important technological revolution of the twentieth century as it is used by learners to communicate, retrieve information as well as problem solving task. As a result, the nature of literacy is undergoing fundamental changes. Leu et al. (2007) assert that new information and communication technologies, such as wikis, blogs, search engines, instant messaging, email, online gaming words which are important new contexts for literacy and learning, require *new literacies*. Similarly, readers have to develop new skills to decode, construct meaning, and develop the critical skills.

For many students decoding text is synonymous with 'reading' because this is the social practice they have been taught. This conception (code breakers) of the reader is related to the bottom-up reading model. Bottom-up strategies are fundamental to get the literal meaning. Readers cannot reach more complex levels of comprehension namely evaluation and critical reading without starting by decoding texts. Yet, it should not become an obsession and equate reading with using the dictionary to note down translation equivalents.

EFL readers should go beyond the decoding process to become meaning-makers. This conception of readers is related to the top-down process of reading. By using a higher level of thinking abilities, readers attempt to understand implicit ideas which are not directly stated in the text. They go beyond the literal level to get deep and implied meanings. Reading goes beyond the process of decoding the written symbols or identifying the literal meaning of texts (Bernhardt, 1991; Samuels & Kamil, 1984).

In addition to meaning construction, a reader has to develop their critical abilities. This conception of readers is tightly related to the interactive approach. Unlike early approaches to reading comprehension, the reader is no longer seen as a passive receiver of information.

Readers actively participate in constructing their own meaning from the P-text (Bernhardt, 1991; Carrell and Eisterhold,1988; Grabe & Xiangying, 2007). Reading is a constructive and individualized process involving the reader's prior and background knowledge interaction with text's features leading to a discrepancy from one reader to another.

The use of technology, nowadays, is increasingly becoming an indispensable element of the daily life in modern societies. The internet is, partially or fully, present in our daily activities. It is used for information and entertainment alike. Some researchers in different disciplines claim that the emergence of Internet has created an extraordinary revolution in the reading culture and the reading habits. Others go further in their analysis predicting the end of the print books to be replaced by D-reading . They argue that internet is a kind of addiction for the new generation. To illustrate, Roberts and Foehr (2004) alert that the Internet, more than all other technological innovations, has fixed dead roots in the reading behaviour and practices of the new generation.

One of the major consequences of digital literacy is the new role of the reader within the interwoven and complex reading process. As it has already been pointed to in the previous part, the reading process on print is linear while it is interactive and non-linear in the D-environment. This is what leads the reader to feel free to read in any direction while reading D-texts. So, to borrow the comment of Chartier (2004), Screen reading is generally a tiresome and a discontinuous reading process and is done without the identity or coherence of the entire text from which the fragment is extracted. Similarly, Birkerts (1994) believes that readers, in the D-environment, lack the ability to read deeply and to sustain a prolonged engagement with reading. He further observes that the D-environment tends to encourage people to explore many topics extensively, but at a more superficial level.

In the Algerian context, D-reading offers different opportunities and a new shape of the reading process. The Algerian EFL students are well acquainted with the new technology

and its applications. However, D-reading is not seemingly replacing P-reading. This requires the need of reviewing the way reading is taught in the Algerian school.

In terms of types of texts, in P-environment, Algerian EFL students read a variety of texts: novels, books, magazines, and academic texts. Yet, in the D-environment, they mainly read academic texts while the lowest observed frequency of reading is that of 'novels'. Reading requires the use of appropriate and adequate strategies. Being used to extract meaning from traditional paper-based documents, FL learners are likely to face difficulties while reading electronic texts since they provide new text formats to reading and new ways to interact with information (Coiro, 2003). The results reported in the present thesis indicate that Algerian EFL students apprehend P- and D-texts in the same way. All of them select texts that fit their reading purposes by focussing on the title and the content. This suggests that their awareness of the differences between D- and P- texts is not reflected in their practices. They are aware that print and digital documents are different, and the reading process is also different. However, they approach P- and D-texts in the same way. They relate these differences, as it has been pointed to earlier, to the amount of time they have to spend to understand texts, their cognitive focus, or their ability to take notes. Nevertheless, they are not aware about the importance of using appropriate reading strategies to read D-texts. Reading hypertext is a continuous decision-making process where a judicious use of strategies is a must to reach understanding. The Algerian EFL students transfer their P-reading strategies to the D-environment without being accompanied by additional strategies characterised by the features of environment. Julie Coiro (2003, p. 459) highlights the fact that internet provides

opportunities for interacting with new text formats (e.g., hypertext and interactive multiple media that require new thought processes); new reader elements (e.g., new purposes or motivations, new types of background knowledge, high-level metacognitive skills); and new activities (e.g., publishing multimedia projects, verifying credibility of images, participating in online synchronous exchanges).

For Coiro, the new technologies brought about new mechanisms for the reading process. These changes are to be noticed at the level of the text format, what the reader brings to the text, as well as what the reader does with the text. Similarly, as it has been reported by RAND (Reading Study Group) (2002, p. 14), new “*skills and abilities beyond those required for the comprehension of conventional, linear print*” are needed for reading electronic texts.

Many empirical studies testify to the importance of using relevant reading strategies to reach successful reading comprehension since reading is recognised as a complex cognitive process (Bernhardt, 2005; Grabe, 2004). Research on D-reading strategies is sparse compared to research on effective P-reading strategies. While the first studies in P- environments go back to the 1970s, the first attempts to explore D-reading strategies started at the beginning of the present century.

Coiro and Dobler (2007) conducted a study involving eleven skilled sixth grade students who completed tasks involving reading within multilayered websites. The findings of the study reveal that online reading is much more complex than reading on paper requiring the use of further and more complicated strategies, most notably

- Prior knowledge sources,
- Inferential reasoning strategies, and
- Self-regulated reading processes.

Another aspect of digital literacy which is worth discussing is the way Algerian EFL students perceive and make use of digital libraries. The new technologies revolutionise the reading process in different aspects. Libraries are no longer viewed as repositories of physical volumes of texts. Recently, reading has been profoundly changed by the technological progress. Some scholars go further in their predictions by stating that the relationship between the reader and the writer is likely to change too. In the last few years, different libraries throughout the western world purchase electronic texts. Starting from the assumption that D-

text is likely to have a long future, most academic libraries have also become publishers of electronic texts by digitising their books' holdings.

One of the fascinating offshoots of modern reading produced by new technology is that scientific publishing is no longer stuck to printing. Many books and articles appear only in hypertext on the net. They can be accessed at anytime from anywhere in the world. "*Soon most of the world , it appears, will be accessing the PC more frequently than books*" (Fisher, 2003, p. 319). The issue raised is whether traditional libraries would be dropping to be replaced by digital libraries. The latter enable, with a simple touch, immediate electronic visit to each of the world's libraries.

The results of the present study show that the participants widely prefer the traditional libraries. The print-based book is considered as more reliable than the digital one. In addition, they feel more comfortable and more motivated when they read P-texts. As regards the D-text, it is perceived as easy to access and a practical means to get any piece of information.

The Algerian EFL students do not feel comfortable with digital assignments. Yet, all of them show their will and enthusiasm towards introducing D-reading in language classes. This suggests their conscious awareness of the importance of D-reading in language classes.

Although more and more Algerian learners are engaging in reading D-texts, Algerian universities are almost exclusively print-based. Traditionally, the department of English promotes print-based literacies in instruction, curriculum content, and assessment. However, recently, new modules related to ICTs are gradually becoming part of the master's course. It seems that Algerian learners are engaging in different literacy practices inside and outside university.

New possibilities should be offered as such to bridge the old with the new in ways that will gradually transform how Algerian learners learn at universities using new emerging digital tools. Eco (1996) asserts that computers are diffusing a new form of literacy but are

incapable of satisfying all the intellectual needs they are stimulating. Readers should be well-equipped for this revolution. Language learning in general and reading instruction in particular should be handled from a holistic approach. Learners ought to be taught to be active meaning-makers and problem-solvers in P- as well as D-environments.

A challenging issue within introducing digital literacies to Algerian universities is that the institutionalised structures of the latter are incompatible with the purpose of new literacy. The latter does not fit the traditional scheduling or organisational routines of the Algerian university. Indeed, Algerian EFL students are inhibited by the bitter reality of the Algerian universities which are not yet ready to put into practice D-reading instruction. Their awareness of the challenges of implementing D-reading instruction in the Algerian universities lead them develop a negative attitude towards D-reading . The latter is perceived as a practical tool when P-reading does not work, or does not satisfy their needs. When they were asked to describe their experience with D-reading , most of them chose the answer ‘neutral’ showing a kind of ambivalence in their attitudes which is reflected in their practices.

6.1.4. Students’ Awareness about P- & D-Texts’ Generic Structure

Starting from the assumption that reading in P- and D-environments is different; the participants in the present study have been asked about their formal schematic knowledge of P- and D-texts. Formal schema relates to knowledge of generic structures which is a vital factor to the meaning construction process. It relates to the characteristics or features of texts, and how those characteristics or features are arranged.

Each EFL text type has some generic structure that distinguishes it from other types. EFL students need to visualise texts through their formal schemata to make their understanding deeper. Each text feature has a communicative purpose, so the more the students’ formal schemata is developed, the easier is the reading comprehension process. Students need to understand how writers construct meaning through the features they choose

to use, and the way they arrange those features. It is this understanding that is fundamental to reading comprehension. In the D-environment, John M. Slatin predicted that the new medium of hypertext would “*involve (...) both a new practice and a new rhetoric*” (1990, 870).

The results obtained, mainly from the interviews, show that the Algerian EFL students overlook considering the generic characteristics of texts. While the majority acknowledge their lack of awareness about the text organisation or text moves, others limit their generic structure knowledge to the title. In addition, they over-focus on ‘vocabulary’ as a basic criterion to evaluate a text as easy or difficult.

Algerian EFL students’ perception of reading comprehension is traditional; it falls into the bottom-approach to reading. Bottom-up models describe the reading process in terms of serial steps in which “*the direction of processing is from ‘bottom-level’ features of text to ‘higher levels’*” (Davies, 1995, p. 169). Stated differently, the bottom-up models perceive reading as a decoding process which involves reconstructing the author’s meaning via recognising the letters and words (Carrell et al, 1988). Formal schema helps the readers perceive language as a set of options available for constructing a variety of meanings. Through the analysis of the various forms, readers construct meaning from texts. It is worth noting that with good formal schemata knowledge, EFL students are likely to be proficient readers and good writers as well. Their understanding of the way writers present their texts helps them improve their reading skills.

Knowledge about different texts types is part of the suggested syllabus in the department of English at the university level in Algeria. Nevertheless, the limited awareness of the participants confirms what has been asserted earlier concerning the teleological perception of EFL reading. EFL Writing is viewed as a school subject, and the students have not tried to extend what they learned in writing classes to their daily reading practices.

6.2. Answer to Research Question # Two: Gender Differences

6.2.1. Male & Female Reading Habits: Gender Gap

Describing gendered experience is a must in research in language education because gender issues are to be found in any social or human experience. It is pertinent in the first place to expose the various perspectives to research into gender and language education. Indeed, the studies can be divided into two categories. Some studies have been influenced by the modern women's movement and aim to expose female disadvantages. These studies hold a feminist stance. Their subject matter has been the educational disadvantages and inequality of opportunities experienced by female learners. Examples of issues in this research area include male dominance in the classroom, representation of women in the textbooks, male dominance in pair or group work etc. Many studies, on the other hand, set out to depict the differences that lie between male and female learners' behaviour with a less explicit feminist stance. As far as the present study is concerned, it rather falls into the second category. My aim is to depict the differences between male and female EFL Algerian students' reading practices, and then interpret the findings in the light of the sociocultural approach.

Because literacy learning doesn't occur only in educational settings, experience at home and in society is likely to influence FL learners' reading practices as well as their attitudes towards literacy. Drawing on a sociocultural model of literacy, Hamer and Adams (2003) define early literacy as

The experiences, practices, attitudes and knowledge encountered in their early years across a range of settings which contribute to children understanding, enjoying, engaging with and using oral, visual and written language and symbols of their own and other cultures to express their individual identity and allow them to become active participants in a literate society. (Cited in Hamer, 2005, p. 71)

The results of the questionnaire indicate that girls are encouraged to read by their parents more than their male-counterparts. In addition, female students used to read stories

during their childhood more than male learners. In terms of genres read by boys and girls, a discrepancy is noticed. In the P-environment, female students read novels and magazines while boys read academic texts and book chapters. As regard the D-environment, girls read mainly texts for academic purposes while their male-counterparts prefer magazines.

Story reading has a fundamental impact on the way children develop their reading skills. The two senses of hearing and sight are combined while reading stories. As a consequence, the child develops the two conflicting reading processes most notably; bottom-up and top-down. The first considers reading as an exclusively linguistic and linear process requiring decoding sounds then linking language's units together in order to achieve understanding. The second views reading as a visual semantic process which does not require from the reader to deconstruct sentences or words individually sounded-out letters. Many reading specialists maintain that both processes are complementary mainly at early stages of reading instruction. That is "*elementary reading is indeed a phonological linear process, whereas fluent reading is a visual semantic process*" (Fisher, 2003, p.13).

Surprisingly, the findings of this research show that even though girls are encouraged to read by their parents more than boys, and their reading experience started at early stages of their life, their male counterparts outperform them in P-reading comprehension tests. Another important result is that female students enjoy reading classes more than male students. A result which is not in line with the findings of other empirical studies reported in the literature claiming that female students outperform male students in literacy achievement (Klinger et al., 2006).

A plausible interpretation is that Algerian female students need to be assisted and encouraged to read since their parents keep encouraging them at early stages of their literacy development. As for boys, it seems that they develop some autonomous learning strategies at early stages of their life. As a matter of fact, most of them reported not having being

encouraged by their parents to read. This result challenges the cognitive approaches that maintain a gender gap in favour of female learners in terms of reading achievement. Once again, the sociocultural approach proves to be more adequate to explain this gap between male and female students' reading achievement in the Algerian context.

6.2.2. Digital Reading as a 'Female Territory'

When asked about their favourite reading environment, females have selected the D-environment while boys have chosen the print-based one. In addition, female students spend more time online than males. During their spare time, girls prefer surfing the net while boys prefer reading books. Furthermore, boys are attracted by traditional libraries, while girls show their preferences for digital libraries.

Females use internet for social activities and academic purposes while males use internet to get access to web sites of news. This suggests that females perceive D-reading as a means of socialising and academic success. However, males perceive D-reading as an additional means of information and getting access to other cultures. It is worth mentioning that two female participants mentioned '*the reliability of the source*' as a criterion for selecting digital documents to be read. In addition, while reading online, girls seem to enjoy their reading activities more than boys, and their level of interaction with hypertext is higher since they tend to perceive them as additional tools to get information.

It is worth mentioning that up to the 19th C, reading was considered as a male activity in Europe and North America. It was considered unseemly for a female to be observed reading (Fisher, 2003, p. 273). However, recent research testifies to the fact that female readers are better in comparison to their male counterparts in P-reading .

As far as D-reading is concerned, empirical research indicates that digital literacy has been tightly related to males. This claim is mainly supported by media and social beliefs that link interest and success with computers to boys (Morgolis & Fisher, 2002). Indeed, Men are

depicted as experts in computing and media. Furthermore, the societal expectations of boys and girls are different.

Surprisingly, the findings of the present research show an opposite result indicating that Algerian EFL female students enjoy D-reading , and they outperform their male counterparts in terms of D-reading abilities. Conversely, male seem to enjoy reading in the P-environment as they show a high level of P- reading abilities.

According to Holte (1998, p. 80), reading “*adds quality to life and provides access to culture and cultural heritage*”. He pointed out that reading empowers and emancipates citizens and brings people together. In the same vein, Roger Fisher maintains that the marginalised reader shares one’s difference by reminding them that one is not alone. “*All marginalised readers, women, gays, blacks, exiles and many more read for just this reason and in just this way*” (Fisher, 2003, p. 315). Starting from these claims, a plausible explanation of this phenomenon is that D-reading is unconsciously viewed by Algerian EFL female students as a voice of emancipation. Djamilia Debeche and Mouloud Feraoun are two Algerian writers who write about their own society in a literary genre called ethnographic novels. Both of them present Algerian men and Algerian women as different sub-groups in society; a society which is described as patriarchal. The Algerian woman is never free from male dependence. So, D-reading seems to be a powerful tool for Algerian female learners to show their freedom and emancipation.

The same phenomenon, namely D-reading as a ‘female territory’ may be explained from another perspective. I do believe that these current reading practices are rooted in a long tradition of storytelling in the Algerian culture. Indeed, storytelling is mainly perceived as a female territory in the Algerian context. As a consequence, girls show better speaking skills compared to boys. Starting from this assumption, I think that Algerian female students have

transferred their oral abilities grounded in storytelling to D-reading which shares some characteristics with the oral discourse.

6.2.3. Gendered Reading Strategies: Holistic vs. Atomistic Approaches to Reading

The results of the SODPRS show a significant finding related to some gendered practices in terms of strategy-use. The framework of the reading process adopted in the present study is the three-phase procedure: pre, while, and post-reading. During each phase, readers are required to use appropriate strategies to reach efficient comprehension. A discrepancy between boys and girls is observed in some phases.

In the Pre-reading phase, the participants show a high level use of pre-reading strategies in P- and D-environments alike. Males use mainly “*anticipating*” while females use “*question raising*” and “*checking text organisation*”.

During the while reading phase, no difference of strategy-use is observed in the D-environment. However, in the P-environment, females use mainly “*activating background knowledge*” and “*relating information to background knowledge*” while males use “*note taking*”, and “*stopping from time to time*”. A conclusion that can be drawn from this analysis is that the strategies used by males are mainly concrete strategies while girls use abstract strategies. A result which is in consistency with the previous one sustaining that female learners prefer D-reading (abstract) while male learners feel more at ease with P-reading .

As regard the post-reading phase, no significant discrepancy between the two groups is noticed. Yet, a result that is worth mentioning is that Critical evaluation and distinguishing between facts and opinions are ranked at the low level for both groups mainly in the D-environment. In addition, male students tend to print out a hard copy of D-texts more than their female counterparts. .

All in all, girls seem to use more reading strategies than boys in the D-environment. In addition, females make use of a variety of strategies while boys stick to “*note taking*”, “*closer attention*”. However, boys show a high level of awareness about the importance of using reading strategies in the D-environment. This supports the claim asserted earlier. D-reading seems to be a natural and an unconscious process for females who were used to storytelling. However, boys’ awareness about the importance of using reading strategies does not seem sufficient to help them more efficient reading strategies.

These findings clearly show that the approaches of boys and girls to reading are different. These differences may be explained by ‘Atomistic’ vs. ‘Holistic’ approaches to reading. I have borrowed these two concepts from early linguistic theories that attempt to describe language as a ‘relational system’ (holistic) rather than a ‘set of isolated units’ (atomistic). Indeed, females tend to focus and use holistic strategies aiming to reach understanding through exploiting the text as a whole. Conversely, the strategies used by boys are mainly related to single words; this leads me to claim that boys’ approach is rather atomistic.

It is worth noting that no common agreement among researchers in different parts of the world is reached concerning gender divide in reading strategy-use. The plausible explanation of the disparity between the results reached is that the differences between girls and boys are not exclusively related to cognitive differences but rather to their sociocultural background. This supports my claim that reading is a sociocultural practice.

As far as the Algerian context is concerned, it is well known that one of the characteristics of the Algerian society is that it is patriarchal (Bourdieu). The patriarchal structure of the Algerian society gives males considerable authority and grants them power in the family and the public spheres alike. This leads them to enjoy their personal characteristics and perceive themselves as ‘unique individuals’ within society (Lacoste-Dujardin, 1985). This

individualistic perception is reflected in their reading practices by focussing on individual words. They perceive the text as a set of units bound together. As regards females, they are perceived as part of the whole society (Lacoste-Dujardin, 1985). This perception is reflected in their approach to reading which is holistic. They apprehend any reading text as a whole, or more precisely as discourse. So, they attempt to get a general idea of any text by exploiting all the available hints in the text and relate them to their background knowledge.

In terms of reading comprehension abilities, females are better than males in ‘cloze tests’ while males are better in ‘inference’ and ‘critical comprehension’ in the P-environment. In the D-environment, females are much better than boys in ‘cloze test’ and ‘inference’. This suggests that critical comprehension seems to be out of reach in the D-environment for both groups.

The male students favoured comprehension strategies breaking lexical items into smaller parts and focussed on matching key vocabulary in the text to key vocabulary in the item. In contrast, the female students favoured a different set of comprehension strategies involving connecting or relating information presented in different parts of the text and drawing inferences based on information in the text. In other words, the male students adopted the use of detail-oriented linguistic cues and strategies, whereas the female students preferred to integrate semantic cues by relying on big-picture-oriented strategies and the global structure of text.

6.3. Answer to Research Question # Three: Urban Vs. Rural

6.3.1. Rural-Urban Divide in the Algerian Context

The third research question raised in the present study addresses the impact of the participants' geographical location on their reading practices in the P- and D-environments. This independent variable is of less frequency among researchers in the field of education.

One of the subjects investigated within the framework of urban and rural sociology is learning. Researchers were mainly interested in the inequalities between learners from urban and rural areas. Indeed it is not easy to draw a clear cut distinction between rurality and urbanity. The approach can be different depending on whether one speaks of rural territory as a geographical stance, as a social entity which is culturally circumscribed, or economically considering that the city (the urban) is synonymous with trade and the countryside (the rural) is related to agriculture.

The problem of rural and urban education in the contemporary context of globalization may seem archaic. However, it is important to note that almost half of the world's population still lives in areas considered rural, which makes it possible to affirm the timeliness of a reflection on the education that is provided and the need for an in-depth analysis of the learning opportunities and styles in urban and rural areas

Informed by a sociocultural perspective, current research in reading instruction addresses the issue of disparity between learners in relation to socio-economic conditions. It has been found that *“Minority students and children living in poverty disproportionately perform in the lowest quartile on standardized measures of reading ability”* (Perie & Donahue, 2005 cited in Scott, & Palincsar, 2013). My aim, then, is to check the extent to which the rural-urban divide could be applied in the Algerian context in terms of EFL reading practices.

The findings show that some discrepancies are noticed at the level of preferences and some reading strategies, yet no difference is observed in terms of reading abilities. The results of the present study, reported earlier in the previous chapter, indicate that the P-value for the different test items is superior to 0.05. Accordingly, it can be stated that no significant difference is observed between the urban and rural students in terms of reading abilities.

One of the results yielded is that rural students used to read stories more than urban ones. Furthermore, they tend to prefer the traditional libraries. At first sight, it seems that rural students feel more at ease with P-reading and they show a kind of reluctance towards D-reading. However, when asked about the reasons and circumstances in which they prefer P-reading over D-reading, most of them stated that lack of money and difficulty of access are the main reasons that lead them to stick to traditional libraries. Accordingly, one can safely claim that the socioeconomic conditions of rural students drive them to develop some attitudes towards reading in P- or D-environments.

As far as the reading strategies are concerned, all over the three reading phases notably pre-, while-, and post- reading, the rural-urban divide is not significant since both groups show a higher level of strategy-use in the P-environment. It is worth mentioning though that rural students tend to use some pre-reading strategies mainly in the D-environment more than the urban ones. This can be related to their attitudes as it has been mentioned earlier. Since they feel more at ease with P-texts, they apprehend D-texts by developing adequate strategies.

Urbanity may be defined differently by a great deal of sociologists (e.g. Durkheim; Simmel; Wirth). Nonetheless, the numerous conceptions converge in that urbanity is a way of living and a set of shared abstract values and the physical characteristics are of less importance (Laghouag, 2014). One of the empirical studies reported in the literature is the one conducted by Pandian (2000) in Malaysia. It has been found that ethnicity, home environment, reading models, gender and school environment are important indicators of

reading achievement. Furthermore, Students from the urban areas are found to be heavier readers than their rural counterpart. This result is not in line with the findings of the present research that shows a quasi-absence of the rural-urban divide in Algeria.

All in all, the rural-urban dichotomy is surrounded by a lot of stereotypes and overloaded by clichés. The two concepts are generally defined by opposition. Rurality is commonly linked to localism and lack of civilization. In contrast, urbanity is commonly related to courteousness and refinement of manner. It may be viewed as a lifestyle as it may be perceived as a geographical area. The dichotomy in the Algerian context seems to be more geographical than social since the differences between the two groups are not of great significance. The movement of rural inhabitants into cities (exodus) and the urbanization of many rural areas in Algeria lead to transformations and transfer of habits making the distinction between cities and countryside purely geographical without any sociocultural differences. (Ossman, 1994) states that in some contexts, it becomes more relevant to transform the idea of “*urbanity as a lifestyle*” to something more like “*urbanity as a movement*”.

6.3.2. ‘Anticipating’ & ‘Activating Formal Schemata’ as Rural-Specific Strategies

The results of this study show that unlike the urban students, the rural ones use two pre-reading strategies which are ‘*anticipating*’ and ‘*checking the text organisation*’. These two strategies echoed the significant role of background knowledge in reading comprehension. As Anderson et al. (1977, p.369) point out, “*every act of comprehension involves one’s knowledge of the world as well*”. It allows the readers to appreciate and anticipate the content embedded in the text. This anticipation helps the learners to decode the text easily and deepen the understanding of its meaning. The more the reader’s background knowledge is adequate to the text, the better is the understanding.

'*Anticipating*' is a reading strategy in which the reader uses their own background and personal experiences together with information from a text to anticipate what they are about to read to make connections between prior knowledge and the text. It is a strategy that makes the reader constantly active as they are continually thinking ahead, refining, revising, and verifying their predictions. '*Checking the text organisation*' is also known as exploring formal schemata. Both strategies focus on scrutinising the structural characteristics of texts and relate them to the background knowledge. The aim is to localise each piece of information in relation to the whole text and its main idea. Conversely, the urban students seem to skip these strategies as they directly focus on the text content.

This difference in text apprehension can be explained by making reference to the sociocultural organisation of both entities. Culture is viewed as the social cement of all human relationships (Scovel, 1991). This suggests that it is a factor which is likely to influence human practices, and language learning is no exception. According to Lantolf (1994), knowledge construction is a mental process resulting from interactions that arise between children and representatives of the culture. "*As children participate in these collaborative interactions, they appropriate for themselves the patterns of planning, attending, thinking, remembering*". So, through interaction, the socially mediated mental processing develops into self-mediated processing. It is a process of shifting from mediation to internalisation.

A rural-urban discrepancy that ought to be emphasised is 'organisational communities' and 'individualism'. The idea of 'the collective' where the individual is assimilated to the group ideology and logic is the key characteristic of the inhabitant of rural areas (Griffiths, 1969). Notwithstanding, heterogeneity is the key feature of cities in comparison to countryside in the Algerian context.

Inhabitants of rural areas participate in multiple network systems of exchange and communication; they take part in several social and structural activities. Their life style may be described as harmonious. Living in a community where the individual is perceived as an important element of a whole system leads the rural students to develop these strategies. Before reading any text, they check its organisation and the way each element is presented to anticipate the reading process. Conversely, urban inhabitants grow in another social composition which is likely to determine some of their daily practices. Cities are generally related to individual activities. So, much focus is put on the individual at the detriment of the community.

6.4. Answer to Research Question #Four: Mother Tongue & EFL Reading

6.4.1. Algerian EFL Students' Linguistic Background & their Reading Habits

The results indicate that the reading habits of Berber and Arabic speakers during their childhood are slightly different leading to their divergent practices as adult students. To begin with, Berber students used to read stories in French and Arabic, while Arabic speakers used to read only in Arabic. In addition, Berber speakers were used to hear stories from their parents, while Arabic speakers were used to have stories read on them by their parents. As a consequence, their perceptions of reading are different. Berber speakers plan to read stories for their future kids; believing that reading is a window to other cultures. As for the Arabic speakers, they intend to adopt the two modes together, telling and reading stories. They believe that reading is a way of developing the cognitive abilities of their kids. In addition, they are aware that telling stories is part of the Algerian cultural background and they need to transmit it to their kids.

Surprisingly the rate of the Arabic speakers who want to keep the oral tradition of storytelling is higher than the Berber speakers who mainly choose reading over telling stories. It can be concluded then, that multilingual reading practices of the Berber speakers lead them to perceive reading as a cross-cultural practice, while the Arabic speakers who were used to monolingual reading at early stages of their life lead them to perceive reading as a way of developing cognitive abilities.

Another significant result is the fact that Berber speakers are motivated when they are asked to read aloud. One of the reasons behind this behaviour is that Berber tradition wanted stories to be heard collectively. Like mediaeval Europe, Berber learners were used to have stories read on them. So, like speaking, reading aloud is perceived as a common practice within the Berber community.

In terms of strategy-use, both categories of participants show a higher level of strategy-use in the P-environment. However, the observed difference relates to the use of some pre-reading strategies by Berber speakers. '*Prediction*', '*checking the organisation of the text*' and '*checking the appropriateness of the text*' seem to be specifically used by Berber speakers in both P- and D-environments.

A plausible explanation of these differences may be found in some historical background of the two communities in Algeria. Language is a symbolic mediation tool which is claimed to be collaboratively and culturally constructed (Lantolf, 1994). This suggests that members of different communities shape various symbolic mediation tools through time. These tools and artefacts are constructed under specific cultural and historical conditions (Lantolf, 2000). Each society and every generation is characterised by some traits and features that shape these tools and artefacts which are likely to have a profound impact on the way individuals conceptualise phenomena. As far as the Arabic and Berber speakers are concerned, some historical factors have made of the two communities different in Algeria. In his book, *La genèse de Kabylie*, Yassine Temlali refers to the differences between the Algerianist and the Coranic schools in Algeria. After the first world war, in order to legitimise its colonisation of Algerian territories, the French authorities adopted a colonial policy that consisted mainly of building schools and spreading education in Kabylia. This specific region has been chosen on the basis of some historical background and the physical features of its inhabitants who were perceived as descendents of Europeans (Romans). Accordingly, two distinct types of schools were spread in Algerian territories: Algerianist school in Kabylia and the Coranic school in other parts of the country. Learning by heart different chapters of the Coran was the key-principle of teaching in the Coranic schools.

As regard reading comprehension tests, the results indicate that Arabic speakers outperform their Berber counterparts in '*cloze tests*' in both environments, while the Berber

speakers outperform in ‘*inferential comprehension*’ and ‘*key word transformation*’ in print and ‘*critical comprehension*’ in the D-environment. These differences may be related to some features of the Algerian Arabic. It is so close to the classical Arabic. Boukra (2012) states that the Algerian Arabic is a continuum of the classical Arabic. Similarly, Khaoula Taleb Ibrahim (1995, p. 81) asserts that:

L’arabe classique et dialectal, Il s’agit plutôt d’un continuum qui rend compte d’une situation linguistique multiple et dynamique, organisée suivant une échelle de classifications allant du pôle le plus normé à un autre pôle moins normé, débouchant ainsi vers une expression dialectale.

In another reference (1998, p. 228), Khaoula Taleb Ibrahim describes the Algerian Arabic as patch-work language created by Algerians and it is composed of French, Berber, and Arabic. She perceives this mixture as a factor that conveys a rich and varied culture. This feature of the Algerian Arabic may explain the fact that Arabic speakers are good in ‘cloze tests’. Language education is mediated by the individual’s history and social context meaning that “*not that social activity [merely] influences cognition... but that social activity is the process through which human cognition is formed*” (Lantolf & Johnson, 2007, p. 878). In this context, Cobb and Yackel (1996) claim, “*this aspect of vygotskian theory constitutes a transmission model in which students inherit the cultural meanings that constitute their intellectual bequest from prior generations*” (as cited in Scott & Palincsar, 2013).

In the light of the results presented above, one can claim that reading is a voice of human civilisation and a way of reviving the human’s mind. In addition, reading in several languages at early stages of life is likely to have life-long offshoots on the part of learners. Developing the habit and the culture of reading is the key to knowledge acquisition and skills improvement. Reading is one of the oldest habits of human civilization and is regarded as the passion of the greatest personalities of all times.

Centuries ago reading was considered as a discriminating factor among communities. The manuscript was accessible only to the elite class of society. Later, the arrival of the Gutenberg printing press ended such discrimination by making the printed word available to all. Nowadays, the arrival of the new technologies leads to the emergence of new reading habits that are generally viewed pejoratively. They are consuming a big slice of time and reducing the amount of time spent on reading printed books. However, no discriminatory aspects of D-reading among various communities are reported in the literature. Simply put, the differences observed between communities are mainly explained from a cognitive perspective. Conversely, the present study goes further in the analysis of the obtained results to interpret and explain some phenomena from a sociocultural perspective. Lantolf & Thorne (2006) claim that *“learning is embedded within social events and occurring as an individual interacts with people, objects, and events in the environment”*. Similarly, John-Steiner and Mahn (1996) state that sociocultural approaches highlight the relationship between social and individual processes in the co- construction of knowledge. It is *“based on the concept that human activities take place in cultural contexts, are mediated by language and other symbol systems, and can be best understood when investigated in their historical development”* (p. 191)

Indeed, no discrepancy in terms of cognitive abilities is noticed among Berber and Arabic speaking communities in the Algerian context. However, the different literary background and the reading habits of children who grow up in these communities lead to the emergence of unexpected and different reading practices among Berber and Arabic EFL students in Algeria. My aim, through this study, is not to focus on any discriminatory perspective among the two communities. I rather target depicting any possible differences between the two groups of Algerian EFL learners in order to suggest any pedagogical implication which is likely to be beneficial for learners and teachers alike.

6.4.2. Digital Literacy as an Echo of Freedom and a Continuum of Oral Tradition

The results of the study show some reading practices which are particular to either the Berber or the Arabic Algerian EFL students. In the P-environment, Berber speakers view reading as a channel to get access to other cultures. This is what leads them to like reading more than the Arabic students. In addition, as it has already pointed to, they do enjoy reading aloud and reading classes. Furthermore, they do prefer traditional libraries over the digital ones.

In the D-environment, Arabic speakers seem to be acquainted with D-reading more than their Berber counterparts. As a matter of fact, the percentage of Arabic speakers who have already read a book or a novel in the D-environment is very important. Berber speakers spend less time online. Nevertheless, in terms of abilities, Berber speakers seem outperforming the Arabic ones. Their scores are higher. They tend to explore hyperlinks to get access to new or additional information while Arabic speakers, generally, prefer ignoring hyperlinks. Another distinction between the two groups of student is observed in terms of text types. In the D-environment, Berber speakers read academic texts and books chapters while Arabic speakers prefer academic texts and magazines.

These findings show that Berber speakers are better digital readers. Indeed, they perceive D-reading as a practical tool to get information. What makes their D-reading process easier is their linguistic background. I do believe that the fact of reading in several languages at early stages of their life lead them to increase their will to get in touch with other cultures via reading. In addition, a significant explanation is the correlation between their multilingual background and their abilities to easily interact with hypertext. Said differently, they do not perceive reading as a linear process. Accordingly, I can safely claim that

encouraging children to read in different languages is likely to increase their cultural open-mindedness and their cognitive abilities alike.

Besides, the etymological name of the Berbers is 'Imazighen' that designates freedom. This value of freedom is reflected in their attitudes and reading abilities. D-reading mainly hypertext is related to freedom. In his book *Weaving the web*, Tim Berners-Lee explains the dimension of freedom that characterizes hypertext reading. "*The vision I have for the web is [...] a vision that provides us with new freedom, and allow us to go faster than we ever could*" (p. 01).

A further explanation of the discrepancy between Arabic and Berber speakers' reading practices may be found in their cultural heritage. Indeed, I do believe that the oral tradition has an impact on EFL D-reading skills of Berber and Arabic speakers. The repercussions of the oral tradition are different in Berber and Arabic communities. It is more visible in the Berber sphere which is mainly characterized by storytelling. My claim, then through this thesis, is that the oral tradition helps the Berber to be more efficient in D-reading compared to their Arabic counterparts. Indeed, some characteristics of D-reading make it closer to oral discourse more than the written text. Like the oral discourse, the D-text is abstract and not linear. So, the Berber speakers have transferred their oral abilities to the D-environment.

As far as the Arabic students are concerned, the oral tradition is less visible in their daily cultural practices, but what is interesting to emphasize is the fact that they perceive the oral tradition, mainly storytelling, as part of their cultural heritage and identity. This is what leads them to choose telling stories as part of their future plans for their future kids.

In many parts of the globe, orality is defying literacy. Some researchers expect the end of the oral mode as a result of the widespread of digital literacy. In this context, Steven Roger Fisher states that "*several Neolithic tribes in New Guinea are only now encountering the*

wonder of writing [...] but in a few short years their children will be active netizens in the wired world of information technology” (2003, p. 317). It is inevitable, as he states.

Nevertheless, starting from the empirical findings of the present study, I can safely claim that the oral tradition in the Algerian context is a cultural heritage and it is related to the cultural identity. So, digital literacy which is perceived as a means to an end, mainly for academic success is not likely to replace the oral tradition. I do believe that it is rather a continuum of the oral tradition in the Algerian context.

6.4.3. A Limited Repertoire of Text Types: Descriptive & Narrative

The text types are broken into three genres: Narrative, Non-fiction and poetry. Each of these genres is sub-divided into specific text types. Adventures, fairy tales and historical fictions are examples of narrative texts. Explanatory, discussion or descriptive texts fall into Non-fiction genre. As for the third genre, it consists mainly of poems.

Several types of texts are suggested in the curriculum for Algerian EFL university students. However, the results of the study show that the repertoire of text types that they usually read is limited to narrative and descriptive texts. They believe that the narrative and the descriptive texts are the easiest to be read.

More to the point, a distinction between Arabic and Berber speakers’ choice of texts is noticed. While the Berber speakers prefer the narrative texts, their Arabic counterparts prefer the descriptive texts. When asked to explain their choices, the participants of both groups stated that this is part of their reading habits and they used to read these types of texts. In addition, some participants argued that the descriptive and the narrative texts were respectively related to the Arabic and the Berber cultures. In accordance with this context, Roger Fisher states that “*as food is with the body, so is reading with the mind. We become what we read*” (2003, p. 316). Berber speakers relate narration to storytelling tradition, while Arabic speakers make reference to the Muslim religious text. What is important to emphasise

is that both groups of students are aware that their literary and cultural background lead them to adopt and develop particular reading practices.

6.5. Pedagogical Implications & Suggestions

6.5.1. Adopting a Sociocultural Approach to EFL Reading Instruction

A great deal of research has focused on the cognitive aspects of reading grounded mainly in psycholinguistics. In a previous study, which was mainly cognitive-oriented, it has been found that reading instruction in the Algerian context is mainly grounded in the principles of the interactive approach to reading (Ammour, 2009). The interactive approach focuses on the various kinds of knowledge that readers make use of to reach understanding of texts. At the heart of the interactive approach lies the use of a variety of reading strategies and skills.

The major issues investigated within the cognitive approach are the learners' difficulties and the reading strategies. The major contribution that the sociocultural approach makes to research, that the psycholinguistic/cognitive theories cannot offer, is its focus on the way some sociocultural factors shape reading practices.

Within the framework of the sociocultural approach, reading is perceived as an interactive process between the reader and the text, and this interaction is determined by some societal factors. Thus, the sociocultural approach does not focus only on the cognitive and psychological factors of reader-text interaction, but "*views reading as a social and cultural event around written language*" (Hudson, 2007, p. 56). The factors investigated in the present study are gender differences, the rural-urban divide, as well as the students' L1.

The empirical findings of this study recommend adopting a sociocultural approach to reading in the Algerian school. Sociocultural approach tries to explain human cognitive development with regard to social and cultural development. In this theory, human cognition and its development cannot be separated from the society and culture in which it is used. As a matter of fact, sociocultural theory puts the emphasis on social aspect and regards it as primary for cognitive development to occur.

Within the framework of the sociocultural approach, reading is perceived as a social practice. So teachers may design teaching strategies and techniques and create an environment which is conducive to efficient learning. Cooperative and collaborative learning, derived from Vygotsky' theory, are highly recommended in EFL classes. Collaborative learning requires the presence of a peer or expert-peer that provides learners with opportunities to correct themselves and at the same time to learn the strategic processes needed for the learning of new and difficult skills. This allows EFL learners to be active constructors of their own learning environments

In addition, one of the fundamental teachers' tasks is to get a global view of the sociocultural background of their learners at the outset of any language learning in general and EFL reading courses in particular. James Paul Gee, one of the prominent figures of the sociocultural approach states that literacy is not primarily a mental phenomenon, but, rather, a sociocultural one. Literacy is a social and cultural achievement. It is about ways of participating in social and cultural groups, not just a mental achievement. Thus, literacy needed to be understood and studied in its full range of contexts, not just cognitive, but social, cultural, historical, and institutional, as well.

Reading practices may vary across different communities. Indeed, understanding literacy as social practice offers insights into the multiple ways readers interact with texts. In addition, understanding multiliteracies, results in implications for language teaching/learning and literacy instruction. Finally, understanding critical literacy enlightens the different ways social and cultural factors are likely to shape the readers' practices and "*the ways in which people may appropriate or reject certain practices*" (Perry, 2012, p. 51)

Perceiving the reading process as socially-contextualised implies a better understanding of what readers actually do with texts. It helps researchers to get a clear idea of

“the various types of complex knowledge that users need to have in order to effectively practice literacy” (Perry, 2012, p. 51).

Also known as New Literacy Approach, the sociocultural approach goes beyond the interactive approach to include the anthropological and the social aspects of reading. As it has been shown throughout this thesis, the Algerian sociocultural characteristics of EFL learners have a significant impact on their reading practices in terms of attitudes, strategy-use as well as choice of texts. It is an attempt to explain the way the learners’ reading practices are intimately connected with their sociocultural background. Consequently, the findings of the present research can be explored in literacy instruction to meet the needs of the Algerian EFL learners. Indeed, the sociocultural approach suggests itself as the most appropriate approach to reading instruction in the Algerian schools and universities.

6.5.2. Implementing Genre-based Instruction

The results of the present study have shown that Algerian EFL students over-focus on vocabulary recognition during the reading process. The strategies that they commonly use are mainly concrete strategies targeting inferring the meaning of unknown words from the context. Furthermore, when asked about the differences that lie between text and discourse, most of them were unable to answer. In addition, as it has already pointed too, their repertoire of types of texts is limited to descriptive and narrative texts. Accordingly, I suggest integrating genre-based pedagogy to teach reading in the Algerian school; a suggestion which is in line with the principles of the sociocultural approach to reading.

Since the late 1980’s, researchers in Foreign Language Teaching have shown a considerable interest in the genre-based approach to teaching. They have pointed to the positive effect of integrating genre instruction in the teaching of the four language skills.

Indeed, a key concept within the sociocultural approach to reading is ‘genre’. A genre-approach to literacy perceives readers and writers as engaged in social or cultural practices.

Written language is used differently in different practices by different social and cultural groups. Genres are highly structured and conventionalized; they are relatively stable in form.

Reading conception is not confined to the processes of decoding language and relating the retrieved information to reader's background knowledge. James Paul Gee explains that reading is, rather, integrated with different ways of using oral language; different ways of acting and interacting; different ways of knowing, valuing, and believing. People do not read religious, literary, or biology texts in the same way. Furthermore, the same text may be read in different ways for different purposes. To borrow the example cited by James Paul Gee, readers can read the Bible as theology, literature, history, or as a self-help guide. They can read a comic book as entertainment, as insider details for expert fans, as cultural critique, or as heroic mythology. So, the reading process is determined by "*the conventions, norms, values, and practices of different social and cultural groups*" (Gee, 2000).

Genre-based pedagogy focuses on the principle that language manifest itself in a social context. Each genre is composed of a set of distinguishing moves structured in such a way to serve a communicative purpose. A common agreement is reached among researchers (e.g. Grabe and Kaplan, 1996; Bazerman, 1997) that people of a certain culture in recurring situations develop consensual, conventional ways of understanding and responding to genres. This is visible in the case of Arabic and Algerian EFL students who develop some reading preferences of certain types of texts: descriptive for Arabic speakers and narrative for the Berber speakers. Toledo (2005) argues that "*we cannot be certain whether or not readers have grasped the message unless we are aware of their knowledge of the contextual dimensions that constrain it at different levels*". This implies that one who learns a language should have knowledge about genres in the language in order to obtain the purpose of communication successfully. Some scholars (Paltridge, 2002) argue that genre knowledge which includes an understanding of the social and cultural contexts of genres, the language

choices within the genres, and a sense of what is and what is not appropriate in certain contexts which reflect the norms and values of a discourse community is important for L2 learners. As for reading, Hyons (2002), for example, asserts that knowledge about genres which includes awareness of their names, purposes, and language features is essential for effective reading. Similarly, Johns (2008) states that students need to have genre awareness through which they learn the characteristics of a certain text type (genre) to help them interpret and produce that genre.

Hyons (2002) reported a classroom study she conducted to look at the effects of genre instruction on ESL students' reading abilities. The study revealed that genre instruction had heightened the students' attention to formal rhetorical features, increased their awareness of the position of key ideas, enhanced their reading speed, and improved their enjoyment of reading.

In short, instructing students to read different genres, which are culturally-sensitive, helps them develop their procedural knowledge and their formal schemata. It has been reported in this study, that some of the participants claim their reluctance to read in English because they used to read the same genres in French or Arabic at their early literacy development stages. So, it is indispensable to make explicit the cultural and the social basis of language in use. More to the point, it is important to focus on the teaching of the social and functional purpose of the language in reading classes. The students will be exposed to several types of texts to foster their formal schemata emphasizing the overall text structure and not only on the grammar features.

The genre-based approach was first introduced in the field of English for Specific Purposes. It has been defined differently by different scholars and its implementation gains grounds after the publication of 'Genre Analysis' of Swales in 1990. According to Richards and Schmidt (2002), a genre may be defined as "*a type of discourse that occurs in a*

particular setting, that has distinctive and recognizable patterns and norms of organization and structure, and that has particular and distinctive communicative functions” (p. 224).

The genre-based approach is generally used to teach writing as it provides systematic steps to be followed. As regards reading instruction, Patricia Carrell (1985) believes that genre-based approach is close to Schema Theory since the latter has demonstrated positive outcomes of teaching genre structure on reading comprehension. In addition, Hyon (2002) found that students who were interviewed immediately after an EAP genre-based reading course reported paying greater attention to rhetorical features in texts than before the course.

6.5.3. D- & P- Strategy-based Instruction

Strategic knowledge is of paramount importance in the reading comprehension process. It relates to the cognitive procedures that EFL students make use of to interact with the text using their background knowledge. As it has been shown in this study, D-reading seems to be very challenging for the Algerian EFL students, and one of the determining factors is their lack of digital strategic knowledge. Accordingly, one of the pedagogical implications is to suggest P- and D-reading strategies instruction in the Algerian school and mainly at the university level where students are supposed to be heavy digital devices users.

The characteristics of hypertext or still-screen based texts make the interaction between the information retrieved and the readers’ background knowledge difficult. The main reason, as it has already pointed to, resides in the fact that this particular D-reading will give chances to the students to switch from the reading task to another activity leading to distraction and lack of cognitive focus.

The results of this study indicate that the Algerian EFL students score higher in print suggesting that their reading abilities are better in P-reading. Yet, strategy-based instruction on paper is also of paramount importance since it has been found that some strategies are completely overlooked by the students. The main strategy that ought to be developed is

‘critical evaluation’ of texts. Indeed, the students perceive EFL reading as tightly related to language and more precisely to vocabulary knowledge. They over-focus on the literal meaning of texts and neglect other levels of comprehension mainly the critical one.

According to Neil Anderson (1991), reading comprehension success is not limited to readers’ awareness of the strategies to be used. It has been found that both high and low proficient learners are aware of the use of the same kind of strategies. However, high proficient readers tend to use the strategies in an efficient way. So, to reach successful reading, the readers should know what strategy to use and how to use it.

While reading D-texts, readers face new supports that may have an effect on their ability to understand. Indeed, the new technologies suggest “*new text formats, new purposes for reading, and new ways to interact with information that can confuse and overwhelm people taught to extract meaning from only conventional print*” (Coiro, 2003).previous studies revealed the existence of differences between P- and D-reading. Sutherland-Smith (2002, p. 664) reports that the way reading is perceived in the two environments is different. He adds, while reading online, readers are easily frustrated when the results of their research are suitable for their expectations.

Within the digital era, learners’ academic success is tightly related to strategic use of digital devices. Among the four language skills, reading seems to be the most important skill to master. Reading is an individual process requiring the efficient use of variety of reading strategies. Accordingly, reading strategies instruction is a significant component that reading teachers need to consider. Anderson (2003) claims that having strengthened reading strategies, English learners tend to make great progress in their FL learning process.

A common agreement among researchers is reached concerning the vital role that reading strategies play in the reading process. Many empirical studies attempted to explain how EFL learners manage interactions with written texts and how strategies are related to

reading comprehension. However, reading strategies instruction is challenging for researchers and teachers alike because it is not enough to know about the reading strategies, “*a reader must also be able to apply them strategically*” (Anderson, 1991, p. 469). So, teachers’ task is to help their learners become alert and aware of the right kinds of reading strategies that they may use. In addition, learners have to be trained to use the strategies appropriately to build meaning out of the reading material.

Within the digital era, the teachers’ challenge is twofold as they have to help EFL learners develop appropriate strategies for P- and D-texts. New strategies and skills are required in the D-environment to meet the challenges established by the new technologies. Julie Coiro (2003) affirms that the traditional view of reading, reading strategies, and reading instruction is no longer sufficient.

As far as the Algerian context is concerned, the results reached in the present research is that Algerian EFL learners apprehend P-texts and D-texts in the same way leading to less efficient D-reading . Accordingly, I do strongly believe that D-reading strategies ought to be explicitly taught in the Algerian school. It has been testified in the literature that reading strategies relate to an important variable in L1 (e.g. Sarig, 1987) and L2 comprehension alike (e.g. Anderson, 2003; Carrell, 1989). Instructing a learner to make a judicious choice of reading strategies is complicated since reading, as it has already been pointed to, is an individual and sometimes a unique process.

An important factor that should not be overlooked to reach efficient reading instruction is the teachers’ awareness about their teaching practices. Commenting on the importance of teachers’ awareness, Block (1986) noted that teachers’ knowledge of the EFL reading process is likely to help them design appropriate reading activities and avoid suggesting programs based on intuitions and guesses about the learners’ problems.

6.5.4. Raising Students' Metacognitive Awareness

Reading comprehension is a complex process that requires the use of a variety of reading strategies to reach understanding. Reading in a foreign language is a two-fold challenge for learners as they have to struggle to understand the language and apply the appropriate reading strategies.

One of the implications of the present research is the importance of metacognitive awareness in EFL reading instruction in the Algerian school. Indeed, many empirical studies are reported in the reading research literature indicating the various benefits of metacognitive awareness on students' comprehension (e.g. Tang & Moore., 1992; Anderson, 1999; Sheorey and Mokhtari 2001;Cohen, 2003; Wang et al, 2009). In fact, proficient readers make use of various metacognitive reading strategies before, while, and after reading. In contrast, less proficient readers do not use these strategies. Similarly, Barnett (1988) conducted a study of L2 reading with French language students, and the result showed that the proficient readers indicated more awareness of their use of metacognitive reading strategies in reading comprehension than less proficient readers.

Sheorey & Mokhtari (2001) investigated the differences of reading strategy-use among native and non-native English speakers when reading academic materials. The results of their study revealed the more the students use the strategies, the better are their results. Furthermore, proficient readers are much more metacognitively aware than non-proficient readers. Their awareness enables them to use the strategies more efficiently.

So, this study may be considered as an extension of the findings of previous studies in the Algerian context. It has been found that Algerian EFL students show a low level of metacognitive awareness since they do not think about what they do during the reading process. As a matter of fact, during the interviews, when asked about the reading strategies

they use, most of the students said that they did not use strategies or they did not think about the type of strategies they use.

Because students' metacognitive awareness is positively associated with their achievement results, developing the learners' ability to control their learning process becomes crucial in EFL classes. In other words, students ought to develop their ability to recognize and monitor their cognitive processes. Koda (2005) stated that metacognitive reading strategy awareness includes the awareness of whether or not comprehension is happening leading to its strong correlation with reading comprehension.

During reading classes, teachers can assist their students' strategy-use by enhancing their metacognitive awareness. This can be done through modelling or explicit instruction about how to successfully orchestrate the use of strategies and how to monitor their own improvement. In the same vein, Sheorey and Mokhtari (2001) claim that metacognitive reading strategy instruction ought to be integrated with the overall reading curriculum as it helps "*promote an increased awareness of the mental processes involved in reading and the development of thoughtful and constructively responsive reading*" (p. 446). Developing EFL learners' metacognitive awareness leads them to reflect upon their reading strategies and make conscious decisions about what they can do to foster their understanding.

6.5.5. Suggestions for Reading Instruction and Curriculum Design

One cannot deny the various virtues of reading ranging from being a key of success at school and the enjoyment of leisure time to playing an important role in "*promoting social awareness and growth*" (Dechant,1991, p. vii). The literature of both L1 and L2 testifies to the importance of the reading skill in improving education and reducing illiteracy. "*Reading is to the mind what exercise is to the body. It is wholesome, and bracing for the mind to have its faculties kept on the stretch*". (Hare, as cited in Bettmann ,1992, p. 07). In our modern

time, people become functional only if they are literate, that is, capable of using the needed skill to fulfil daily activities.

In educational contexts, the goal of reading instruction is to help foreign language readers to understand different texts that they are likely to encounter in their daily life. Reading is a spontaneous activity taken for granted that we all do every day. However, one should not forget *“how crucial reading continues to be to the formation and communication of human knowledge”* (Cull, 2011).

On the basis of my findings, here are some suggestions for reading instruction in the Algerian context. It is worth noting that these suggestions are meant for teachers at the Algerian secondary, high, and higher education because EFL reading instruction does not start at the university level. EFL learners ought to be prepared for higher education where they are no longer viewed as learners, but rather students of English:

- Help the EFL learners to perceive reading as a key of success inside and outside school.
- To focus on developing the learners metacognitive awareness and make of reading a conscious process during the learning process.
- Teachers’ task is to create classroom setting conducive to developing explicit reading strategies.
- Enhance teachers’ awareness about reading instruction and the various sociocultural factors that are likely to have an impact on EFL learners’ reading comprehension during teacher training sessions.
- Activating the formal schemata during the reading process of learners living in urban areas.
- The psychologist James Hillman believes that *“today’s society measures a child’s progress primarily in reading ability”* (Fisher, 2003, p. 324). Accordingly, the parents’

task is to develop a love of reading among their children in various languages by enjoying books together every day. This would be the first step towards reading proficiency. Positive, fun and playful experiences with books and stories foster a desire to read and encourage your child to keep trying to read.

- The teachers' task and challenge is to get the students inspired and help them love reading during their leisure time.
- Develop the critical evaluation strategies of the learners at early stages of the learning process and teach them not to take anything for granted.
- Introduce D-reading strategies as part of the reading course mainly at the university level. The focus ought to be put on: developing formal schemata, developing critical evaluation, and inferential strategies.
- Raise the learners' awareness about the differences lying between D- texts and P-texts.
- Raising the learners' awareness about the differences that lie between various types of texts and develop genre-based reading strategies instruction.
- Help the students' develop tolerant attitudes towards D-reading to be perceived as another medium of communication which is not likely to replace the P-reading neither in the near nor in the far future.
- Implementing a genre-based approach to reading instruction at the university level.

Conclusion

This chapter has attempted to circumscribe the four research questions raised at the outset of the present study. The aim was to interpret and discuss the results of the empirical study in the light of the theoretical framework and the previous studies reported in the literature.

The interpretation of the findings have shown that reading practices of the Algerian context are not constantly in line with what has been reported in the literature. The sociocultural features of the Algerian society make of reading a unique activity shared by social groups and determined by various sociocultural variables.

The first and the second hypotheses have not been confirmed. Algerian EFL students approach D- and P-texts in the same way leading to some deficiencies during reading D-texts. In addition, the urban-rural dichotomy is shallow in the Algerian context in terms of P- and D-reading skills. However, the second and the fourth hypotheses have been confirmed. A disparity is noticed among male and female students in terms of attitudes and strategy-use. Furthermore, the linguistic background of the students has a significant impact on their way of approaching and selecting texts to be read.

General Conclusion

My first contact with EFL reading research goes back to 2007 when I conducted a study as part of the requirements for the Magister degree. The approach followed was mainly cognitive-oriented since my focus was to explore the reading strategies instruction in the Algerian middle school. Then, as an assistant-teacher at Mouloud Mammeri University, I noticed that discrepancies among Algerian EFL students' reading abilities and practices deserve a thorough exploration that goes beyond the cognitive approach. These reasons, among others, led me to endeavour into a research aiming to get insights into Algerian EFL students' reading practices in the digital era. More to the point, my aim was to compare the Algerian EFL reading practices in the P- and D-environments.

The digital era is a new era of human communication that brought about a revolution in the way information is transmitted and received. One of the significant changes is the amount of information readers are exposed to thanks to the digital libraries and the easiness of getting digital documents. Using digital devices for language teaching and learning purposes is an opportunity for learners to get in touch with authentic materials and authentic language, and to take a new challenge as well.

The technology of reading has been built up over centuries of tradition. The digital revolution has provided reading with new devices. By using a simple binary principle, computers encode information making up letters, words, texts, images or sounds. The electronic nature of the digital information makes of it nonmaterial, virtual, reproducible, modifiable and more easily transferable. The shift from P- to D-reading has led to numerous new possibilities for the exchange of information leading to the rise of a series of new questions on the nature of reading and interpretation. It is, then, worth asking whether the Algerian EFL learners' reading practices are influenced by the shift from paper to the computer screen.

For the sake of exploring the issue, the analytical framework draws upon a sociocultural approach to reading. It offers much to the field of reading in general and D-reading in particular. Literacy conception has been shifting over the years moving from the traditional view conceptualising literacy as a set of separated skills to the current view which considers it a socially-contextualised practice. The latter view has helped theorists, educationists and practitioners understand the different ways learners from different cultural backgrounds engage with a variety of texts. Originally developed by Lev Vygotsky, then brought to Second Language Acquisition by several researchers including Lantolf, Thorne, and Swain among others, the sociocultural approach explains the way in which the social, cultural, historical and even biological characteristics of learners are related to higher mental functioning.

Reading has been perceived and conceived differently by various researchers and in numerous contexts. Yet, current approaches converge in that reading is a sociocultural practice. Literacy in P- and D-environments is socioculturally-sensitive. Different perceptions and different literacy practices in different communities can not fall into the same conception of literacy. Accordingly, it becomes clear that a thorough examination of reading practices in this new emerging context is a must in order to define or re-define reading and readers.

A systematic understanding of the nature of reading is not that simple because reading is not an unconscious and simple process. It is rather a complex mental activity when examined in all its details. Moving from the bottom-down models to the current sociocultural approach, reading has undergone several changes. For the sake of systematicity, I started by suggesting a model of reading practice composed of three components: attitudes, strategies, and formal schemata to be explored as dependent variables in the study. Indeed, I strongly believe that these three components are crucial in EFL reading proficiency in addition to other

aspects of the reading process. This choice is backed by theoretical and empirical studies reported in the literature that revolves around reading. My aim then, was to explore Algerian EFL students' attitudes as socially-constructed, their reading strategies as socially-oriented and their formal schematic knowledge as mediated by sociocultural factors.

Starting from the common agreement among researchers that higher forms of human mental activity are always, and everywhere, mediated by symbolic means, I have attempted to explore the Algerian sociocultural context in order to determine some of the various factors which are likely to shape the Algerian EFL reading practices. Inspired by several works in sociology, anthropology, ethnography and literature, I have selected three factors rooted in the Algerian sociocultural context as independent variables to guide the empirical study. The three variables are: gender differences, geographical location and L1

Disparities between girls and boys are visible in the Algerian society which is generally described as 'patriarchal'. Several scholars testify to the fact that the differences between men and women in the Algerian society go back to centuries ago, and they are still visible in some fields of life. Then, as a consequence of some socioeconomic and historical factors, Algeria experienced a movement of rural displacement during the revolutionary war, the 1970's and the 1980's, as well as a policy of urbanisation of rural areas. These factors boosted the emergence of the urban-rural divide in the Algerian society. Given the complexity of the Algerian linguistic landscape, and starting from the assumption that language shapes thought, the L1 of the Algerian EFL students has been selected as a third variable of the study. The peculiarity of the Algerian society is the coexistence of two mother tongues: Berber and Algerian Arabic. In a nutshell, it is important to know more about the reading practices of Algerian male and female students, Berber-speakers and Arabic-speakers, urban and rural EFL learners. My aim was to check whether the sociocultural differences between these categories are reflected in their literacy practices or not.

All in all, the historical background, the linguistic diversity, and the sociological characteristics of the Algerian society make of Algeria a kaleidoscopic country composed of sociocultural communities that do not fall into a single category. Consequently, a thorough understanding of the correlation between sociocultural factors and the Algerian EFL students' reading practices is likely to have considerable pedagogical implications on the Algerian education system.

Taking the dependent and the independent variables together, a model of EFL reading practice as socioculturally-oriented in the Algerian context has been suggested at the outset of the present research. Its appropriateness and its adequacy to the research context are confirmed by its empirical results and their interpretation in the light of its underpinning theoretical framework and the previous studies. Thus, I can safely claim that P- and D-reading in the Algerian context is a sociocultural-sensitive practice. The students' attitudes, their strategies as well as their formal schematic knowledge are determined by some sociocultural factors including gender, L1, and geographical location. The diagram below is designed to show the correlation between the dependent and the independent variables explored in the present study.

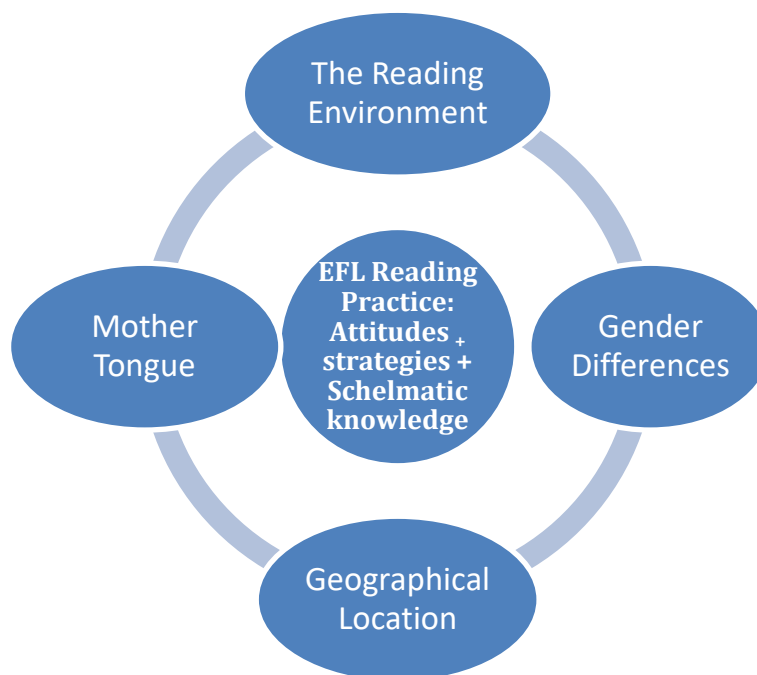


Figure 2. Sociocultural EFL Print and Digital Reading Practice Model

Each of the three elements of reading practice overlaps an array of factors and types of knowledge which are required to reach reading proficiency. In addition, each element is determined and shaped by the sociocultural background of the learner.

Attitudes relate to the psychological aspect of the learning process. Strategies represent the cognitive dimension of reading. As for schematic knowledge, it relates to the linguistic and rhetorical aspect of language learning. It represents the rhetorical differences that lie between languages, and it goes beyond the atomic perception of language learning to embrace the discourse perspective.

These three components are mediated by the reading environment which is a material mediator in addition to three other external factors: gender differences, L1 and geographical location. They are claimed to be symbolic mediators of EFL reading as they represent a set of sociocultural constructed principles shared by communities. Unconsciously, all these factors mediate and influence the learning process in general and reading practices in particular. As a

consequence, Algerian EFL students internalise particular attitudes and specific reading habits. This is why it is important to shed light on the peculiarities of the Algerian EFL learners for the aim of designing more efficient reading instruction techniques. Teachers, textbook designers, and syllabus designers are in need of clarifications and insights about the way Algerian EFL learners apprehend and read various texts in P- and D-environments.

From the array of constructs of SCT reported in the literature, two main concepts have been selected for their appropriateness to the issues raised at the outset of the study. The applications and implications of ‘mediation’ and ‘internalisation’ to the corpus have been exposed at different levels of the study.

To start with, ‘mediation’ is at the core of the learning process from a sociocultural perspective. It has been found that various types of mediators are used by Algerian EFL learners to mediate between their higher mental functioning and the external world during the reading process. The digital screen and the paper are perceived as ‘material mediators’. The language is considered as a ‘symbolic mediator’. Indeed, it has been found that the participants are aware of the differences that lie between various languages during the reading process. The way they approach EFL reading or reading in another language such as Arabic or French is different. Another factor that has a major role in EFL reading is the surroundings of the learners. The three independent variables of the study namely, gender differences, the students’ geographical area and their L1 relate to three factors embodied in the participants’ surroundings. Simply put, they represent the third type of mediation which is mediation through other human beings. It has been found that the Algerian EFL reading practices are influenced and even determined by their sociocultural background.

As far as ‘internalisation and appropriation’ are concerned, their application to the corpus is twofold. First, nowadays EFL learners have to appropriate ICTs to construct knowledge when they read in D-environments. Second, the sociocultural background of the

Algerian EFL learners is reflected in their reading practices as it has been shown through the empirical study.

My aim through this study was twofold. My first objective was to investigate D- and P-reading in the Algerian context from a sociocultural perspective by suggesting a thoroughgoing working EFL reading model. Algerian EFL students are increasingly integrating various digital devices for academic purposes. So, it is indispensable to understand the way they approach different texts as well as their attitudes towards D-reading. The second purpose was to explore the findings of the empirical study and the issues addressed for effectively preparing Algerian EFL students for their literacy futures in P- and D-environments. Indeed, one of the urgent educational problems in EFL instruction is the development of the learners' reading strategies and skills.

As I have come to the end of my dissertation, and considering that the general conclusion is a summary of the answers to the questions raised in the general introduction, I suggest a brief recall of my four research questions. My enquiry into P- and D- Algerian EFL reading practices started by raising four research questions. They were inspired by my personal experience as an EFL teacher at the department of English, and rooted in the Algerian sociocultural context. Accordingly, I set four hypotheses: first, Algerian EFL learners do not approach D-texts and P-texts in the same way; second, there is a disparity between male and female learners' reading practices; third, the geographical location of EFL learners plays a major role in determining their reading practices; and finally, the Algerian EFL students' L1 has an impact on their reading practices.

The findings of my investigation have resulted in my new representation of the complexity that lies behind the reading process. They have also engendered new convictions about the issue. To begin with, I strongly believe that P-reading and D-reading are different on various grounds. The Algerian EFL students, for instance, have proven to be excited about

the changes brought about by the new technologies, but they are not yet ready for the new literacy practices as they need to reshape their perceptions, their attitudes towards reading, as well their reading strategies.

Reading in general, and D-reading in particular is perceived as a means to an end; it is confined to academic settings and academic purposes. In spite of their awareness about the differences lying between D- and P-reading, Algerian EFL students have shown indistinguishable approaches to the two reading modes. They extend their use of P-reading strategies to the D-environment without amending or adding adequate D-reading strategies. This behaviour makes of their D-reading shallow, superficial, and less efficient than P-reading. Furthermore, the findings deriving from the various research tools suggested that the reading behaviour and habits of Algerian EFL students are declining. The reasons cannot be confined to the introduction of the new technologies. I do, rather, believe that the reasons are grounded in their sociocultural background.

As far as attitudes are concerned, Algerian students show ambivalent attitudes towards reading reflecting their parents' reading practices. In terms of perception, no discrepancy is observed between the Algerian EFL students and their counterparts in different parts of the world. D-reading is perceived as tool for academic success. Yet, it is worth mentioning that unlike what has been reported in the previous literature, Algerian EFL students perceive D- and P-reading as a continuum. They are not predicting the end of P-reading, but they perceive D-reading as a new literacy tool mainly related to their oral tradition. This is mainly visible among female students who consider D-reading as their territory permitting their emancipation, and continuing the cultural heritage of female storytelling in the Algerian context as well.

One of the findings of the present study shows that paper will still continue to be the preferred medium for the Algerian EFL students. D-reading cannot be considered as an

alternative to paper documents. Both of reading in-print and in-screen have their advantages and limitations depending on the context. D-reading tends to be more useful for conducting academic research and extensive reading, while P-reading is more appropriate for in-depth and leisure reading. This suggests a probable co-existence of the two modes together in the future.

Another significant finding is the close sociocultural link between the oral tradition and D-reading . It was found that Berber speakers and female students feel at ease in the D-environment and outperform their counterparts. This suggests an oral tradition-digital literacy continuum in the Algerian society. Concerning the impact of the geographical location on reading practices, it has been found that the urban-rural divide is shallow in the Algerian context.

All in all, of the four research hypotheses two hypotheses (the second and the fourth) are confirmed and two others are refuted (the first and the third). The reading environment does not seem to have a profound impact on the Algerian EFL reading since they approach both types of texts in the same way; a practice which is likely to have a negative impact on their reading efficiency. Similarly, the rural-urban dichotomy seems to have a more geographical dimension than sociocultural in the Algerian context. Even though some differences have been depicted between the rural and urban students, the discrepancies remain insignificant. As for gender and L1, these two variables seem to have a serious impact on the students' reading practices.

The disparities that lie between different readers remain a contentious issue complicated by methodological limitations. As a researcher in social sciences, I have to acknowledge some limitations of the study from a methodological standpoint. First, the study conducted is described as a 'critical ethnography' which is challenging to use. An in-depth knowledge of cultural-anthropology and the sociocultural system of the participants is

indispensable. Commenting on the challenges of ethnography research, Creswell (2009) claims that ethnographers face a complex array of fieldwork issues. The second challenge and limitation of the study, is that it is highly categorised as part of survey research, a research method, like others, which is subject to some limitations, as it has been pointed at in the Research Design chapter.

Current reading research is increasingly oriented towards New Literacy Studies and the sociocultural approach. The latter is the one that gives a realistic picture of EFL reading in a variety of social contexts. Without ruling out important aspects from the different approaches to reading, I would argue that the sociocultural approach to reading, and, by implication, to reading instruction, ought to be implemented in the Algerian school. It has profound implications for Foreign Language Teaching and education. Its main tenet is that social interaction is responsible for the development of higher order cognitive functions.

My strongest belief is that disparities between the different categories of readers can be only explained from a sociocultural perspective. My objective through this research is far from showing degrees of superiority or inferiority between the different groups who participated in the study and by implication between communities in the Algerian society. My only objective was to explore some cognitive aspects of EFL learning in the Algerian context to depict differences that lie between groups of learners and explain these differences from a sociocultural perspective. My aim, then, was not to show that one group was better than another, but to attempt to explain the sociocultural disparities that are reflected in the Algerian EFL learners' reading practices.

The findings of the present study hold implications for EFL learners, teachers, material developers and researchers. Further research may also probe into the way the principles of the sociocultural approach could be faithfully translated in the syllabuses, consistently fleshed out in the EFL textbooks, and efficiently implemented by teachers in the EFL classroom. My

hope, then, is that Algerian education policy makers, syllabus designers, textbook designers, and practitioners in the field would take into account the sociocultural differences of Algerian EFL learners to make of this difference an advantage rather than an obstacle that may hinder the EFL learning process.

In essence, because reading is a voice of civilisation and a key-success in academic and professional life, scholars from various traditions and disciplines, including psychology, sociology, and language teaching/learning converge on the primacy of reading. Whatever is its form or its mode, reading opens up our lives to new insights and understandings. It brings us a new inspiration, a new interpretation of the world, and probably a deeper culture.

Reference List

- Abou, S. (1995). *L'identité culturelle : Relations interethniques et problème d'acculturation*. Paris, France : Anthropos.
- Addi, L. (2004). Femme, famille et lien social en Algérie. In Kian-Thiebaut, Azadeh, Lader-Fouladi, & Marie (Eds.), *Famille et mutations sociopolitiques. L'approche culturaliste à l'épreuve* (pp.71-87). Paris, France : Editions de la Maison des Sciences de l'Homme.
- Aebersold, J. A., & Field, M. L. (1997). From reader to reading teacher issues and strategies for second language classroom. Cambridge, UK: Cambridge University Press.
- Alderson, C. J. (2000). *Assessing reading*. Cambridge, UK: Cambridge University Press.
- Alexander, J.E. & Filler, R.C. (1976). *Attitudes and reading*. Newark, DE: International Reading Association.
- Alexander, P. A., & Singer, L. M. (2017). Reading on Paper and Digitally: What the Past Decades of Empirical Research Reveal. *Review of Educational Research* · DOI: 10.3102/0034654317722961
- Allport, G. W. (1935). Attitudes. In C. Murchison (Ed.), *Handbook of social psychology* (pp. 798–844). Worcester, MA: Clark University Press.
- Ammour, K. (2009). *Teaching reading strategies and skills in the Algerian middle school: the case of Tizi-ouzou* (unpublished Magister Thesis), Mouloud Mammeri University of Tizi-ouzou, Algeria.
- Anderson, N. J. (1999). *Exploring Second Language Reading: Issues and Strategies*. Boston, MA: Heinle & Heinle Publishers
- Anderson, N. J. (1991). Individual differences in strategy use in second language reading and testing. *The Modern Language Journal*, 75, 460-472.
- Anderson, N. J. (2002). *The role of metacognition in second/foreign language teaching and learning*. ERIC Digest. Washington, DC: ERIC
- Anderson, N. J. (2003). Teaching reading. In D. Nunan (Ed.), *Practical English language teaching* (pp. 67-86). New York: McGraw Hill Publishers.
- Anderson, R. C. (1994). *Role of the reader's schema in comprehension, learning, and memory*.
- Anderson, R. C., Reynolds, R. E., Schallert, D. L., & Goetz, E. T. (1977). Frameworks for comprehending discourse. *Laboratory for Cognitive studies in Education, University of Illinois*.
- Anderson, R.C., & Pearson, P.D. (1984). A schema-theoretic view of basic processes in reading. In P.D. Pearson (Ed.), *Handbook of Reading Research* (pp.255-291). New York: Longman.

- Au, K.H. (1997). Ownership, literacy achievement, and students of diverse cultural backgrounds. In J.T. Guthrie & A. Wigfield (Eds.), *Reading engagement: Motivating readers through integrated instruction* (pp. 168–182). Newark, DE: International Reading Association.
- Babou, A. (2012). *Male/Femal linguistic practices and miscommunication in Chlef* (Magister Thesis), Es-Senia university, Oran, Algeria.
- Barnett, M. A. (1988). Reading through context: how real and perceived strategies use affects L2 comprehension. *Modern Language Journal*, 72 (2), 150-162.
- Barnett, M. A. (1989). *More than meets the eye: foreign language reading: theory and practice*. New Jersey: Centre of Applied Linguistics.
- Barrett, D., & Frank, D. J. (1999). Population Control for National Development: From World Discourse to National Policies. In J. Boli, & G. M. Thomas (Eds.), *Constructing World Culture: International Nongovernmental Organizations since 1875* (pp. 198-221). Stanford, CA: Stanford University Press.
- Barry, A. L. (2013). Reading Preferences and Perceptions of Urban Eight Graders. *Reading Horizons: A Journal of Literacy and Language Arts*, 52 (4). Retrieved from https://scholarworks.wmich.edu/reading_horizons/vol52/iss4/4.
- Barthes, R. (1970). *S/z. Essais*. Paris, France: Editions du Seuil.
- Bartlett, F.C. (1932). *Remembering: a study in experimental and social psychology*. London: new psychological linguistics. Shanghai: Shanghai Foreign Education Publication.
- Barton, D., & Hamilton, M. (2000). Literacy practices. In D. Barton, M. Hamilton, & R. Ivancic (Ed.), *situated literacies: reading and writing in context* (pp. 7-15). London, UK: Routledge.
- Bazerman, C. (1997). The life of genres, the life in the classroom. In W. Bishop & H. Ostrom (Eds.), *Genre and writing: Issues, arguments, alternatives*, (pp.19-26). Portsmouth, NH: Boynton/Cook.
- Bekkouche, A. (2006). L'oeuvre de Mostefa Lacheraf sous le regard des universitaires algériens. In O. Lardjane (Ed.) *Actes du colloque scientifique « L'Algérie 50 ans après. Nation/ Société/ Culture*. Alger, Algeria : CASBAH Editions.
- Bell, J. (2010). *Doing your research project*. London, UK: Open University Press.
- Benrabah, M. (2007). Language in education planning in Algeria: historical development and current issues. *Language Policy*, 6 (2), pp. 225-252.
- Benrabah, M. (2013). *Language Conflict in Algeria. From Colonialism to Post-Independence*. Bristol: Multilingual Matters.

- Bensafi, Z. (2002). Bilingualism in Algeria and the making of the nation, *second international symposium on bilingualism*, University of Vigo, p. 831.
- Bergval, V. L. (1999). Toward a comprehensive theory of language and gender. *Language in Society*, 28 (2), 273-293.
- Berners-Lee, T. (2000). *Weaving the Web*. N.Y, USA : Harper Collins Publishers.
- Bernhardt , E. B. (1991). *Reading development in a second language: Theoretical, research, and classroom perspectives*. Norwood, NJ: Ablex.
- Bernhardt, E. B. (1987). Cognitive processes in L2: An examination of reading behaviors. In Lantolf, J. P. & Labarca, A. (Eds.), *Delaware symposium on language studies: Research on second language acquisition in the classroom setting* (pp. 35–50). Norwood, NJ: Ablex
- Bernhardt, E. B. (2005). Progress and procrastination in second language reading. *Annual Review of Applied Linguistics*, 25, 133-150.
- Bettmann, O. L. (1992). *The delights of reading*. Massachusetts: David R. Godine, publisher, Inc.
- Birch, B. (2002). *English l2 reading: getting to the bottom*. Mahwah, NJ: Lawrence Erlbaum Associates, Inc.
- Birkerts, S. (1994). *The Gutenberg elegies: The fate of reading in an electronic age*. Boston: Faber and Faber.
- Blackwood, C. et al. (1991). Pleasure reading by college students: fact or fiction?. Paper presented at *the Annual Meeting of the Mid-South Educational Research Association*.
- Blelguidoum, S., Cattedra, R., & El Iraki, A. E. (2015). Cities & urbanity in the Maghreb. Retrieved from [https://www.researchgate.net/publication/283839979_Cities_and_Urbanity_in_the_Maghreb].
- Block, E. (1986). The comprehension strategies of second language readers. *Teachers of English to Speakers of other Languages*, 20 (3), 463-494.doi: 10.2307/3586295
- Bohner, G., & Wanke, M. (2002). *Attitudes and attitude change*. Hove: Psychology Press.
- Boukra, M. (2012). Autour de la question de l'arabe dialectal en Algérie: approches sociolinguistique et socio-didactique. *Éducation et Sociétés Plurilingues*, 32.
- Bourdieu, P. (1960). *Sociologie de l'Algérie*. Collection « Que sais-je? ». *Annales. Économies, Sociétés, Civilisations*, 2, 402-404.
- Bowman, V. (2002). Reading between the lines: an evaluation of Window Eyes Screen reader as a reference tool for teaching and learning. *Library Hi Tech*, 20(2), 162-168.

- Brosnan, M. (1998). The impact of computer anxiety and self efficacy upon computer performance. *The Journal of Computer Assisted Learning*, 14(3), 223-234.
- Brown, A. (1978) Knowing When, Where and How to Remember: a problem of metacognition, in R. Glaser (Ed.) *Advances in Instructional Psychology*, vol. 1. Hillsdale: Lawrence Erlbaum.
- Bügel, K., & Buunk, B. P. (1996). Sex differences in foreign language text comprehension: The role of interests and prior knowledge. *The Modern Language Journal*, 80 (1), 15-31.
- Butler, J. (1990). *Gender Trouble: Feminism and the Subversion of Identity*. California, USA: Routledge.
- Carrell, P. (1989). Metacognitive awareness and second language reading. *The Modern Language Journal*, 73(2). 121-134.
- Carrell, P. & Eisterhold, J.C. (1983). Schema Theory and ESL Reading Pedagogy, in Carrell, P., Devine, J. & Eskey, D.E. (eds.) (1988) *Interactive Approaches to Second Language Reading*. Cambridge, UK: CUP.
- Carrell, P. (1985). Facilitating ESL reading by teaching text structure. *TESOL Quarterly*, 19, 727-752.
- Carrell, P. (1998). Can reading strategies be successfully taught? *ARAL*, 21(1), 1-20.
- Carrell, P. L. (1983). Three components of background knowledge in reading comprehension. *Language Learning. Applied Linguistics*, 33 (2), 183-207.
- Carver, R. P. (2000). *The causes of high and low reading achievement*. Mahwah, NJ: Lawrence Erlbaum Associates.
- Chaker, S. (n.d.). Berber, a long forgotten language of France. Retrieved from: https://www.utexas.edu/cola/insts/franceut/_files/pdf/resources/chaker_english.pdf
- Chapelle, C. A., & Duff, P. A. (2003). Some guidelines for conducting quantitative and qualitative research in TESOL. *TESOL Quarterly*, 37(1), 157-178.
- Chartier, R. (2004). Languages, books, and reading from the printed word to the digital text. (T. L. Fagan, Trans.). *Critical Inquiry*, 31(1), 133-152.
- Chavez, M. (2001) *Gender in the language classroom*. Boston: Heinle & Heinle.
- Chemami, M. A. (2011). Plurilingualism in Algeria: the status of French and English languages through the educational policy. *International Journal of Arts & Sciences*, 4(18), 227-234.

- Chen, N. S., Teng, D. C. E., Lee, C. H., & Kinshuk. (2011). Augmenting paper-based reading activity with direct access to digital materials and scaffolded questioning. *Computers & Education*, 57, 1705–1715.
- Clark, E.V. (2009). *First Language Acquisition* (2nd Ed.). Cambridge : Cambridge University Press.
- Clarke M. A. (1980). The short circuit hypothesis of ESL reading: Or when language competence interferes with reading performance. *Modern Language Journal*, 64, 203–209.
- Coady, J. (1979). A psycholinguistic model of the ESL reader. In: R. Mackay, B. Barkman, & R. R. Jordan (Eds.), *Reading in a second language*, Rowley, MA: Newbury House, 5-12
- Cohen, A. D. (2003). The learner’s side of foreign language learning: where do style, strategies, and tasks meet? *International Review of Applied Linguistics*, 41, 279-291.
- Cohen, G., kiss, G., & Le Voi, M. (1993). *Memory: Current issues* (2nd ed.). Philadelphia, PA: open university press.
- Coiro, J. (2003). Reading comprehension on the internet: Expanding our understanding of reading comprehension to encompass new literacies. *The Reading Teacher*, 56 (5), 458–464 .
- Coiro, J. (2007). Exploring changes to reading comprehension on the Internet: Paradoxes and possibilities for diverse adolescent readers (Unpublished dissertation). Storrs, CT: University of Connecticut.
- Coiro, J., & Dobler, E. (2007). Exploring the online reading comprehension strategies used by sixth-grade skilled readers to search for and locate information on the internet. *Reading Research Quarterly*, 42 (2), 214–257. Doi:10.1598/rrq.42.2.2
- Connor U. (1984). Recall of text: Differences between first and second language readers. *TESOL Quarterly*, 18, 239– 255.
- Cook, G. (1989). Discourse in ‘Language Teaching: A scheme for Teacher Education’. Oxford, UK: Oxford University Press.
- Cooper, J. (2006). The digital divide: The special case of gender. *Journal of Computer Assisted Learning*, 22, 320–334.
- Cote, M. (1991). Blida. *Encyclopédie Berbère*, 10. Doi : encyclopedieberbere.revues.org/1767
- Creswell, J. W. (2009). *Research design: Qualitative, quantitative, and mixed methods approaches* (3rd ed.). Thousand Oaks, CA: Sage.
- Creswell, J. W., & Plano Clark, V. L. (2011). *Designing and conducting mixed methods research* (2nd ed.). Thousand Oaks, CA: Sage.

- Crystal, D. (2003). *English as a global language* (2nd ed.). Cambridge, UK: Cambridge University Press
- Cull, B. W. (2011). Reading Revolutions : Online digital text and implications for reading in academia. *First Monday*, 16 (6).
[<https://firstmonday.org/ojs/index.php/fm/article/view/3340/2985>].
- Davies, F. (1995). *Introducing reading*. London, UK: Penguin Books.
- Dechant, E. (1991). *Understanding and teaching reading: an interactive model*. London, UK: Lawrence Erlbaum Associates, Publishers.
- Delany , P. & Landow, G. P. (1991). Introduction. In: P. Delany & G. P. Landow (eds.), *Hypermedia and literary studies* (pp. 3-50). Cambridge: Mit Press
- Derni, A. (2009) *Ecolinguistic Implications in Language Change towards A New Paradigm in the Study of Lexical Variation in Ghazaouet Spoken Arabic* (Doctorate Thesis), University of Tlemcen, Algeria.
- Devine J. (1981). Developmental patterns in native and non-native reading acquisition. In S. Hudelson (Ed.), *Learning to read in different languages* (pp. 110– 114). Washington, DC: Center for Applied Linguistics.
- Devine J. (1987). General language competence and adult second language reading. In J. Devine, P. L. Carrell, & D. E. Eskey, *Research in reading in English as a second language* (pp. 73– 86). Washington, DC: Teachers of English to Speakers of Other Languages.
- Devine, J. (1984). ESL Readers' Internalized Models of the Reading Process. In J. Handscombe, R. Orem and B. Taylor (Eds.), *On TESOL* . Washington: TESOL.
- Dey, I. (1993). *Qualitative Data Analysis: A User Friendly Guide for Social Science*. London, UK: Routledge.
- Dillon, A. (1992). Reading from paper versus screens: A critical review of the empirical literature. *Ergonomics*, 35 (10) pp. 1297–1326. Retrieved from <http://www.informaworld.com/smpp/content~db=all~content=a779187888~frm=titlelink>.
- Dornyei, Z. (2007). *Research methods in applied linguistics*. London, UK : Oxford University Press.
- Downing, J., & Che, K. L. (1982). *Psychology of reading*. New York: Macmillan.
- Durrell, D . (1949). Development of comprehension and interpretation. In B.Nelson (Ed.), *Reading in the elementary school*. Chicago, USA: The National Society for the Study Education.

- Eagly, A., & Chaiken, S. (1993). *The psychology of attitudes*. Orlando, FL: Harcourt Brace.
- Eckert, P. (2000). *Linguistic variation as social practice*. Oxford, UK: Blackwell.
- Eco, U. (1996). *From Internet to Gutenberg*. Retrieved from <http://www.umbertoeco.com/en/from-internet-to-gutenberg-1996.html>.
- Edwards, J. (1999). Refining our understanding of language attitudes. *Journal of Language and Social Psychology*, 18(1), 101–110.
- Emerald, D. V. (1991). *Understanding and Teaching Reading: An Interactive Model*. Hillsdale, NJ: L. Erlbaum Associates.
- Eskey, D. (1997). Models of reading and the ESOL student: Implications and limitations. *Focus on Basics*, 1(B), 9–11.
- Fairclough, N. (1995). *Critical Discourse Analysis: the critical study of language*. London and New York : Longman.
- Farkas, D. K. (2004). Hypertext and hypermedia. *Berkshire Encyclopedia of Human-Computer Interaction*, pp. 332-336.
- Fezzioui, F. Z. (2013). *Sociolinguistic Variation in the Speech Community of Béchar* (Magister Thesis), University of Oran Es-Sénia, Algeria.
- Field, J. (2004). *Psycholinguistics: The key concepts*. London, UK: Routledge.
- Fishbein, M., & Ajzen, L. (1975). *Belief, attitude, intention and behaviour: an introduction to theory and research*. Reading, MA: Addison-Wesley.
- Fishbein, M., & Ajzen, L. (2005). The influence of attitudes on behavior. In D. Albarracín, B. T. Johnson, & M. P. Zanna (Eds.), *The handbook of attitudes* (pp. 173-221). Mahwah, NJ: Erlbaum.
- Fisher, S. R. (2003). *A history of reading*. London, UK: Reaktion Books Ltd.
- Flavell, J. H. (1976). Metacognitive aspects of problem solving. In L. B. Resnick (Ed.), *The nature of intelligence* (pp.231-236). Hillsdale, NJ: Erlbaum
- Fotos, S. (2004). Writing as talking: e-mail exchange for promoting proficiency and motivation in the foreign language classroom. In S. Fotos & C. Browne (Eds.), *New perspectives on call for second language classrooms*. New Jersey: Lawrence Erlbaum Associates.
- Fotovatian, S., & Shokrpour, N. (2007). Comparison of the Efficiency of Reading Comprehension Strategies on Iranian University Students' Comprehension. *Journal of College Reading and Learning*, 37(2), 47-63.
- Frawley, W. J. & Lantolf, P. (1985). Second Language Discourse: A Vygotskyan Perspective. *Applied Linguistics*, 6 (1), 19-44. doi.org/10.1093/applin/6.1.19

- Freebody, P. (1992). A socio-cultural approach: resourcing four roles as a literacy learner. In A. Watson & A. Badenhop (Eds.), *Prevention of reading failure* (pp. 48-60). Sydney, Australia: Ashton-Scholastic.
- Gardner, R. C. (1985). *Social psychology and language learning: the role of attitudes and motivation*. London, UK: Edward Arnold.
- Garner, R. (1987). *Metacognition and Reading Comprehension*. Norwood, NJ: Ablex Publishing.
- Garson, G. D. (2002). *Guide to writing empirical papers, theses, and dissertations*. New York: Marcel Dekker.
- Gee, J. P. (2000). Discourse and sociocultural studies in reading. In M.L. Kamil, P.B. Mosenthal, P.D. Pearson, & R. Barr (Eds.), *Handbook on reading research, volume iii* (pp. 195-208). London, UK: Routledge.
- Gee, J. P. (1990). *Social linguistics and literacies: ideology in discourses*. London & New York: Routledge.
- Gee, J. P. (1991). Socio-Cultural Approaches to Literacy (Literacies). *Annual Review of Applied Linguistics*, 12, 31-48. doi.org/10.1017/S0267190500002130
- Gentile, L. M., & McMillan, M. M. (1987). Stress and reading difficulties: Teaching students self regulating skills. *The Reading Teacher*, 41, 170-178.
- Gergen, K. J. (1985). The social constructionist movement in modern psychology. *American Psychologist*, 40, 266-275.
- Gibbons, P. (2002). *Scaffolding language, scaffolding learning: teaching second language learners in mainstream classroom*. Portsmouth, NH: Heinemann.
- Goodman, K. S. (1967). Reading: a psycholinguistic guessing game. *Journal of the reading specialist*, 6, 126-135.
- Goodman, K. S. (1970). Reading: a psycholinguistic guessing game. In H. Singer & R. B. Ruddell, (Eds.). *Theoretical Models and Processes of Reading*. Newark, DE: International Reading Association.
- Gough, P. B. (1972). Theoretical models and processes of reading. In J.F. Kavanagh & I.G. Mattingly (Eds.), *Language by Ear and by Eye*. Cambridge, MA: MIT Press, (pp. 661-685).
- Grabe, W. & Xiangying, J. (2007). Graphic organizers in reading instruction: research findings and issues. *Reading in a Foreign Language*, 19 (1).
- Grabe, W. (1991). Current developments in second language reading research. *TESOL Quarterly*, 25, 375-406. doi10.2307/3586977.

- Grabe, W. (2004). Research on teaching reading. *Annual Review of Applied Linguistics*, 24, 44– 69.
- Grabe, W. (2009). *Reading in a second language: moving from theory to practice*. Cambridge, UK: Cambridge University Press.
- Grabe, W., & Kaplan, R. B. (1996). *Theory and practice of writing : an applied linguistic perspective*. New York : Longman.
- Graff, H. J. (1987). *The Legacies of Literacy: Continuities and Contradictions in Western Society and Culture*. Bloomington: Indiana University Press.
- Grellett, F. (1981). *Developing Reading Skills: A Practical Guide to Reading Comprehension Exercises*. Cambridge, UK: Cambridge University Press.
- Griffiths, V. L. (1969). Les problèmes de l'enseignement en milieu rural. L'UNESOCO ; Institut international de planification de l'éducation.
- Hall, J. K. & Walsh, M (2002). Teacher-students interaction and language learning. *Annual Review of Applied Linguistics*, 22, 186-203.
- Hall, L.A. (2005). Teachers and content area reading: Attitudes, beliefs, and change. *Teaching and Teacher Education*, 21, 403-414.
- Hamdan, A. R., Ghafar, M. N., Sihes, A. J. & Atan, S. B. (2010), The Cognitive and Metacognitive Reading Strategies of Foundation Course Students in Teacher Education Institute in Malaysia, *European Journal of Social Sciences*, 13(1).
- Hamer, J. & Adams, P. (2003). *The New Zealand early childhood literacy handbook: Practical literacy ideas for early childhood centres*. Palmerston North: Dunmore Press.
- Hamer, J. (2005). Exploring literacy with infants from a sociocultural perspective. *New Zealand Journal of Teachers' Work*, 2 (2), 70-75.
- Hanrahan, M., & Madsen, L.D. (Eds.). (2006). *Teaching, technology, textuality. Approaches to New Media*. New York, USA: Palgrave Macmillan.
- Hauptman, P. C. (1979). A comparison of first and second language reading strategies among English-speaking university students. *Interlanguage Studies Bulletin*, 4, 173-201.
- Hayes d. A., & Stahl S. A. (1997). *Instructional models in reading*. Mahwah, NJ: Lawrence Erlbaum Associates.
- Holleran, T. A., & Murphy, P. K. (2004). Do Virtual Environments Lead to Virtual Learning? In E. b. Cleghorn, *Missing the Meaning: The Development and Use of Print and Non-Print Materials in Diverse School Settings*. New York: Palgrave Macmillan.
- Holmes, J. (2001). *An introduction to sociolinguistics* (2nd Ed.). Essex: Pearson Education Ltd.

- Holte, M. S. T. (1998). *Creating an optimum reading culture in the low countries: The role of Stichting Lezen*. Paper presented at the 64th IFLA General Conference, Amsterdam, Netherlands. Retrieved from [<https://archive.ifla.org/IV/ifla64/098-80e.htm>].
- Hosenfeld, C. (1977). A preliminary investigation of the reading strategies of successful and not successful learners. *System*, 5, 110-123.
- Hou et al. (2017). Reading on paper and screen among senior adults: cognitive map and technophobia. *Frontiers in Psychology*, 8. Doi: [10.3389/fpsyg.2017.02225](https://doi.org/10.3389/fpsyg.2017.02225)
- Housen, A. (2002). Paramètres liés à l'environnement dans l'apprentissage guidé d'une langue seconde. *Acquisition et Interaction en Langue Etrangère*, 16, 23-46.
- Hsieh, H. F., & Shannon, S. E. (2005). Three approaches to qualitative content analysis. *Qualitative Health Research*, 15(9), 1277-1288. Doi: [10.1177/1049732305276687](https://doi.org/10.1177/1049732305276687)
- Huang, H., Chern, C., & Lin, C. (2009). EFL learners' use of online reading strategies and comprehension of texts: An exploratory study. *Computers & Education*, 52, 13-26.
- Hudson Maxim papers, Manuscripts and Archives Division, The New York Public Library. Retrieved from [<http://archives.nypl.org/mss/1918>].
- Hudson, T. (1982). The effects of induced schemata on the "short circuit" in L2 reading: Non-decoding factors in L2 reading performance. *Language Learning*, 32, 1-31.
- Hudson, T. (2007). *Teaching second language reading*. Oxford: Oxford University Press.
- Hyon, S. (2002). Genre and ESL reading: A classroom study. In A. M. Johns (Ed.), *Genre in the classroom: Multiple perspectives* (pp. 121–141). Mahwah, NJ: Lawrence Erlbaum Associates.
- Iamarene Djerbal, D. & Oussedik, F. (2014). Le réseau Wassila, un collectif algérien pour les droits des femmes et l'égalité. *Nouvelles Questions Féministes*, 33, 136-140.
- Jabr, F. (2013). Why the brain prefers paper. *Scientific American*, 309, 48 – 53.
- Johns, A. M. (1997). *Text, role, and context: developing academic literacies*. Cambridge: Cambridge University Press.
- Johns, A. M. (2008). Genre awareness for the novice academic student: An ongoing quest. *Language Teaching*, 41 (2), 237–252.
- Johnson-Smaragdi, U., & Jonsson, A. (2006). Book reading in leisure time: long-term changes in young peoples' book reading habits. *Scandinavian Journal Of Educational Research*, 50(5), 519-540.
- John-Steiner, V. & Mahn, H. (1996). Sociocultural approaches to learning and development: a vygotskian framework. *Educational Psychologist*. 31 (3/4). 191-206

- Jolly, R. (1978). In J. C. Alderson & Urquhart (Eds.). (1984). *Reading in a Foreign Language*. London and New York: Longman.
- Kalof, L., Dan, A., & Dietz, T. (2008). *Essentials of Social Research*. London, UK: Open University Press.
- Kern, R. G. (1989). Second Language Reading Strategy Instruction: Its Effects on Comprehension and Word Inference Ability. *The Modern Language Journal*, 73, 135-149.
- Klinger, J. K., Artiles, A. J. & Barletta, L. M. (2006). English language learners who struggle with reading. *Journal of Learning Disabilities*, 39, 108-128.
- Knight, S. L., Padron, Y. N., & Waxman, H. C. (1985). The cognitive reading strategies of ESL students. *TESOL Quarterly*, 19, 789-792.
- Koda, K. (1987). Cognitive strategy transfer in second language reading. In Devine, J., Carrell, P. L., & Eskey, D. E. (Eds.), *Research in reading in English as a second language* (pp. 125–144). Washington, DC: TESOL.
- Koda, K. (2005). *Insights into second language reading: a cross-linguistic approach*. Cambridge: Cambridge University Press.
- Kozulin, A. (1998). *Psychological tools. A sociocultural approach to education*. Cambridge, MA: Harvard University Press.
- Kramsch, C. (Ed.). (2002). *Language Acquisition and Socialization. Ecological Perspectives*. London, UK: Continuum.
- Kramsh, C. (1998). *Language and culture*. Oxford, UK: Oxford University Press.
- Krashen, S. (2002). Defending whole language: the limits of phonics instruction and the efficacy of whole language instruction. *Reading Improvement*, 39 (1).
- Kubis, M. (1996). The relationship between home literary environments and attitudes toward reading in ninth-graders. Retrieved from www.eric.ed.gov/ERICWebPortal/recordDetail?accno=ED385822.
- Kucer S. B. (2005). *Dimensions of literacy: a conceptual base for teaching reading and writing in school settings*. Mahwah, NJ: Lawrence Erlbaum Associates.
- Kush, J., & Watkins, M. (1996). Long-term stability of children's attitudes toward reading. *Journal of Educational Research*, 89, 315-319.
- LaBerge, D., & Samuels, S. J. (1974). Toward a Theory of Automatic Information Processing. *Reading. Cognitive Psychology*, 6, 293-323.
- Labov, W. (1966). *The social stratification of English in New York City*. Washington DC: Center for Applied Linguistics.

- Lacoste-Dujardin, C. (1985). *Des mères contre des femmes*. Paris : La Découverte.
- Laghouag, H. (2014). La Ville algérienne : Mal-gouvernance et déficit d'urbanité Réflexions partir de l'exemple des quartiers de l'habitat social. *Revue de Sciences Sociales*, 18.
- Lakoff, R. T. (1975). *Language and Woman's Place Text and Commentaries*. New York : Harper & Row.
- Lanham, R. (1995). Digital literacy. *Scientific American*, 273 (3), 160–161.
- Lantolf, J. P. & Appel, G. (1994). Theoretical framework: an introduction to vygotskyan approaches to second language research. In: J. Lantolf & G. Appel (Eds.) *Vygotskyan approaches to second language research*. NJ: Ablex Publishing Corporation.
- Lantolf, J. P. & Thorne, S. (2006). *Sociocultural theory and the genesis of second language development*. Oxford, UK: Oxford University Press.
- Lantolf, J. P. (1994). Sociocultural theory and second language learning: Introduction to the special issue. *The Modern Language Journal*, 78(4), 418-420.
- Lantolf, J. P. (2000a). Second language learning as a mediated process. *Language Teaching: The International Abstracting Journal for Language Teachers, Educators, and Researchers*, 33.
- Lantolf, J. P. (2000b). Introducing sociocultural theory. In J. P. Lantolf (Ed.), *Sociocultural theory and second language learning* (pp. 1–26). Oxford, UK: Oxford University Press.
- Lantolf, J. P. (2004). An overview of sociocultural theory. In K. Van Esch & O. St. John (Eds.), *New insights into foreign language learning and teaching* (pp. 13–34). Frankfurt, Germany: Peter Lang.
- Lantolf, J. P. (Ed.). (2001). *Sociocultural theory and second language acquisition*. Oxford, UK: Oxford University Press
- Lantolf, J. P., & Thorne. S.L. (2007). Sociocultural theory and second language learning. In B. Van Patten & J. Williams (Eds.), *Theories in second language acquisition: an introduction* (pp. 693-701). N.J: Lawrence Erlbaum Associates, Inc.
- Larsen-Freeman, D. (1991). Second language acquisition research: staking out the territory. *TESOL Quarterly*, 25, 315–350.
- Larsen-Freeman, D. (2000). *Techniques and Principles in Language Teaching*. Oxford, UK: Oxford University Press.
- Lave, J., & Chaiklin, S. (Eds.) (1993). *Understanding Practice: Perspectives on Activity and Context*. Cambridge: Cambridge University Press.

- Lawless, K. A., Brown, S. W., Mills, R., & Mayall, H. J. (2003). Knowledge, interest, recall and navigation: A look at hypertext processing. *Journal of Literacy Research, 35*(3), 911–934.
- Lee, J. F. (1988). On Hierachies of reading skills and text types. *The Modern Language Journal*.
- Lehto, M., Zhu, W. and Carpenter, B.. (1995). The relative effectiveness of hypertext and text. *International Journal of Human-Computer Interaction, 7*, 293-313.
- Leu, D. J. (2002). The New Literacies: Research on Reading Instruction with the Internet and Other Digital Technologies. In: A.E. Farstrup & S.J. Samuels (Eds.). *What Research Has to Say about Reading Instruction* (3rd Ed.) (pp. 310–336). Newark, DE: International Reading Association.
- Leu, D. J., Zawilinski, L., Castek, J., Banerjee, M., Housand, B., Liu, Y., & O'Neil, M. (2007). What is new about the new literacies of online reading comprehension? In L. Rush, J. Eakle, & A. Berger, (Eds.), *Secondary school literacy: What research reveals for classroom practices* (pp. 37–68). Urbana, IL: National Council of Teachers of English.
- Lewis, C., Enciso, P., & Moje, E.B. (2007). *Reframing sociocultural research on literacy: identity, agency, and power*. Mahwah, NJ: Lawrence Erlbaum Associates.
- Li, J. (2005). The mediation of technology in ESL writing and its implications for writing assessment. *Assessing writing, 11*(1), 5-21.
- Lind, G. (1984). *Dynamic-structural attitude unit: concept and measurement*. Paper presented at the European symposium on concept formation and measurement, Rome.
- Lipson, M. Y., & Wixson, K. K. (1986). Reading disability research: An interactionist perspective. *Review of Educational Research, 56*(1), 111-136.
- Liu P. D., McBride-Chang C., Wong T. T., Shu H., & Wong A. M. (2013). Morphological awareness in Chinese: unique associations of homophone awareness and lexical compounding to word reading and vocabulary knowledge in Chinese children. *Appl. Psycholinguist, 34*, 755–775.
- Liu, A., Aamodt, S., Wolf, M., Gelernter, D., & Mark, G. (2009). Does the brain like e-books?. *New York Times*. Retrieved from [<http://roomfordebate.blogs.nytimes.com/2009/10/14/does-the-brain-like-e-books/>].
- Liu, Z. (2005). Reading behavior in the digital environment: changes in reading behavior over the past 10 years. *Journal of Documentation, 61* (6), 700-712.

- Liu, Z., & Huang, X. (2008). Gender differences in the online reading environment. *Journal of Documentation*, 64 (4), 616-616.
- Logan, S., & Johnston, R. (2009). Gender differences in reading ability and attitudes: Examining where these differences lie. *Journal of Research in Reading*, 32, 199-214.
- Mackay, R., Barkman, B., & R. R. Jordan. (1979). *Reading in a second language*. New York: Newbury House Publications.
- Mackworth, J. F. (1972). Some models of the *reading* process: Learners and skilled readers. *Reading Research Quarterly*, 8, 701-733.
- Maio, G., & Haddock, G. (2010). *The psychology of attitudes and attitude change*. London: Sage Publications Ltd.
- Margolis, J & Fisher, A. (2002). *Unlocking the Clubhouse: Women in Computing*. Massachusetts: The MIT Press Cambridge.
- Massaro, D. W. (1975). *Experimental psychology and information processing*. Chicago: Rand McNally.
- Mayring, P. (2014). *Qualitative content analysis theoretical foundation, basic procedures and software solution*. Retrieved from <http://nbn-resolving.de/urn:nbn:de:0168-ssoar-395173>.
- Mc Namara, D. S. (2007). *Reading comprehension strategies: theories, interventions, and technologies*. London, UK: Lawrence Erlbaum Associates.
- Mcdougall, J. (2006). *Discourses of Algerian nationalism -History and the culture of nationalism in Algeria*. Cambridge, UK: Cambridge University Press.
- McHoul, A., & Roe, P. (1996). Hypertext and reading cognition. *Advances in Psychology*, 113, 347-359.
- McKenzie, R.M. (2010) *The social psychology of English as a global language: attitudes, awareness and identity in the Japanese context*. London: Springer.
- McLaughlin, B. (1987). Reading in a second language: Studies with adult and child learners. In S. R. Goldman, & H. T. Trueba, (Eds.), *Becoming literate in English as a second language* (pp. 57-70). Norwood, NJ: Ablex.
- McMillan, J. H. & Schumacher, S. (1993). *Research in education: A conceptual understanding*. New York, NY: Harper Collins.
- Miliani, M., (2000). Teaching English in a multilingual context: the Algerian case. *Mediterranean Journal of Educational Studies*, 6(1), pp. 13-29.
- Mills, S. (1997). *Discourse*. London & New York: Routledge.

- Min, G. (2006). Vygostky sociocultural theory and the role of input and output in second language acquisition. *CELEA Journal*, 29(4), 87-92.
- Mitchell, G. D. (1968). *A dictionary of sociology*. Michigan: Aldine Pub. Co.
- Mogashoa, T. (2014). Understanding Critical discourse analysis in qualitative research. Retrieved from [<https://www.researchgate.net/publication/264215347>].
- Mokhtari, K., & Sheorey, R. (2002) Measuring ESL students' awareness of reading strategies. *Journal of Developmental Education*, 25 (3), 2-10.
- Montagnon, P., (1998). *Histoire de l'Algérie des origines à nos jours*. Algiers, Algeria : Pygmalion Editions.
- Muter, P., & Maurutto, P. (1991). Reading and skimming from computer screens and books: the paperless office revisited?. *Behaviour & Information Technology*, 10 (4), 257-266.
- Nassaji, H. (2003). Higher-level and lower-level text processing skills in advanced ESL reading comprehension. *The Modern Language Journal*, 87(2), 261-276.
- Nowak, L. (2008). Digital reading theory and its relationship to academic reading practices. *Design of Electronic Text*, 1(1), 1-7.
- Noyes, J. M., and Garland, K. J (2008). Computer- vs. paper-based tasks: Are they equivalent? *Ergonomics*. 51 (9), 1352-1375.
- Nuttal, C. (1996). *Teaching reading skills in a foreign language*. Oxford, UK: Heinemann.
- O'Brien, D., & Scharber, C. (2008). Digital literacies go to school: Potholes and possibilities . *Journal of Adolescent & Adult Literacy*, 52 (1), 66-68.
- O'Malley, J. M., & Chamot, A. U. (1990). *Learning strategies in second language acquisition*. Cambridge, UK : Cambridge University Press.
- Ong, W. J. (1988). *Orality and literacy: The technologizing of the word*. New york: Routledge.
- Ossman, S. (1994). *Picturing Casablanca: Portraits of power in a modern city*. Berkeley: University of California Press.
- Ouahmiche, Gh. Beddiaf, A. Beddiaf, A. (2017). Reflections on the linguistic landscape and the prospects of English language teaching in Algeria. *International Journal of Language and Linguistics*, 31 (5), 15-23. Doi: 10.11648/j.ijll.s.2017050301.13
- Oxford, R. L., & Burry-stock, J. A. (1995). Assessing the use of language learning strategies worldwide with the ESL/EFL version of the strategy inventory for language learning. *System*, 23(1), 1-23.
- Oxford, R. L., & Nyikos, M. (1989). Variables Affecting Choice of Language Learning Strategies by University Students. *Modern Language Journal*, 73, 291-300.

- Padrón, Y.N. & Waxman, H.C. (1988). The effect of ESL students' perceptions of their cognitive strategies on reading achievement. *TESOL Quarterly*, 22, 146-150.
- Paltridge, B. (2002). Genre, text type, and the English for Academic Purposes (EAP) classroom. In A. Johns (Ed.), *Genre in the classroom: Multiple perspectives* (pp. 73–90). Mahwah, NJ: Lawrence Erlbaum.
- Pandian, A. (2000). *A study on readership behavior among multi-ethnic, multi-lingual Malaysian students*. A paper presented at the 7th international literacy and education research network (LERN) conference on learning, RMIT University, Melbourne.
- Paris, S. G., Wasik, B. A., & Turner, J. C. (1991). The development of strategic readers. In R. Barr, M. L. Kamil, P. B. Mosenthal, & P. D. Pearson (Eds.), *Handbook of reading research, Volume II* (pp. 609-640). New York: Longman.
- Partin, K. (2002). The relationship between positive adolescent attitudes toward reading and home literary environment. *Reading Horizon*, 43 (1).
- Payne, S. & Reader, W. (2006). Constructing structure maps of multiple on-line texts. *International Journal of Human-Computer Studies*, 64(5), 461–474.
- Peeters, H., & Charlier P. (1995). Pour une sémio-pragmatique des hypertextes multimédia: proposition théorique de catégories d'analyse pertinentes. Retrieved from [<http://www.comu.ucl.ac.be/reco/grems/hugoweb/semhptxt.htm>].
- Peirce, C. S. the Fixation of belief. *Popular Science Monthly*, 12, 1-15. Retrieved from [<http://www.peirce.org/writings/p107.html>].
- Perloff, R. M. (2003). *The dynamics of persuasion: Communication and attitudes in the 21st century* (2nd Ed.). Mahwah, NJ, US: Lawrence Erlbaum Associates.
- Perry, K. H. (2009). Genres, contexts, and literacy practices: literacy brokering among Sudanese refugee families. *Reading Research Quarterly*, 44(3), 256-276
- Perry, K. H. (2012). What Is Literacy?--A Critical Overview of Sociocultural Perspectives. *Journal of Language and Literacy Education* , 8 (1), 50-71.
- Phakiti, A. (2003). A closer look at the relationship of cognitive and metacognitive strategy use to EFL reading achievement test performance. *Language Testing*, 20, 26–56.
- Pinkard, N. (2005). How the perceived masculinity and/or femininity of software applications influences students' software preferences. *Journal of Educational Computing Research*, 32(1), 57-78. [doi.org/10.2190/3LEE-MLCE-NK0Y-RUEP].
- Pollatsek, A. & Rayner, K. (1989). *The psychology of reading*. Hillsdale, NJ : Lawrence Erlbaum Associates.

- Pressley, M. (1994). Commentary on the ERIC whole language debate. In C.B. Smith (Ed.), *Whole language: The debate* (pp. 155–178). Bloomington, IN: ERIC/REC.
- Pressley, M. (2002). Effective beginning reading instruction. *Journal of Literacy Research*, 34 (2), 165-188. [Doi: 10.1207/s15548430jlr3402_3] .
- Pritchard, R. (1990). The effects of cultural schemata on reading processing strategies. *Reading Research Quarterly*, 25, 273–295.
- Purcell-gates, V., Perry, K.H., & Briseño, A. (2011). Analyzing literacy practice: Grounded theory to model. *Research in the Teaching of English*, 45(4), 439-458.
- Rabahi, H. (2013). Investigating gender-related use of language in Meghnia speech community (unpublished Magister Thesis), Aboubeker Belkaid University, Tlemcen, Algeria.
- Ramirez, E. (2003). *The impact of the internet on the reading practices of a university community: the case of UNAM*. A paper presented at the world library and information congress: 69th IFLA general conference and council, Berlin.
- Rand Reading Study Group. (2002). Reading for understanding: toward an R &D program in reading comprehension. Retrieved from [\[//www.rand.org/multi/achievementforall/reading/readreport.html\]](http://www.rand.org/multi/achievementforall/reading/readreport.html). Accessed on November, 22nd, 2015.
- Reid, G., Soler, J., Wearmouth, J. (2003). *Meeting difficulties in literacy development: research, policy and practice*. London : Routledge Falmer.
- Richards, C. & Schmidt, R. (2002). *Longman dictionary of language teaching and applied linguistics* (3rd Ed.). London, UK: Pearson Education Limited.
- Richards, J. C. & Rodgers, T. S. (2014). *Approaches and Methods in Language Teaching*. (3rd Ed.), Cambridge: Cambridge University Press.
- Rigg, P. (1977). The miscue-ESL project. In P. Carrell, J. Devine, & D. E. Eskey (eds.) (1988) *Interactive Approaches to Second Language Reading*. Cambridge, UK: CUP.
- Rivalland, C.M.P. (2007). When are beliefs just 'the tip of the iceberg'? Exploring early childhood professionals' beliefs and practices about teaching and learning. *Australian Journal of Early Childhood*, 32(1), 30-37.
- Roberts, D. E., & Foehr, U. G. (2004). *Kids and media in America*. Cambridge: Cambridge University Press.
- Rohloff, C., (2012). Reality and Representation of Algerian Women: The Complex Dynamic of Heroines and Repressed Women. *Honors Projects*, 6. [Doi: http://digitalcommons.iwu.edu/french_honproj/6].

- Rowlands, I., David, N., Williams, P., Huntington, P., Fieldhouse, M., Gunter, B., Withey, R., Jamali, H. R., Dobrowolski, T., & Tenopir, C. (2008). The Google generation: The information behaviour of the researcher of the future. *Aslib Proceedings*, 60 (4), 290–310. Retrieved from <http://www.emeraldinsight.com/journals.htm?articleid=1733495&show=abstract>.
- Rudell, Ruddell, & Singer. (Eds.). (1994). *Theoretical models and processes of reading* (4th ed.). Newark, DE: International Reading Association.
- Rumelhart, D. E. (1980). Schemata: The building blocks of cognition. In R. J. Spiro, B. C. Bruce, & W. F. Brewer (Eds.), *Theoretical issues in reading comprehension: Perspectives from cognitive psychology, linguistics, artificial intelligence, and education* (pp. 33-58). Hillsdale, NJ: L. Erlbaum Associates.
- Rylander, A. (2012). *Pragmatism and Design Research - An Overview*. Stockholm, Sweden: Designfakultetens serie kunskapssammanställningar
- Salatacil, R., & Akyel, A. (2002). Possible Effects of Strategy Instruction on L1 and L2 reading. *Reading in a Foreign Language*, 14 (1), 1-17.
- Samuels, S. J., & Kamil M. L. (1984). Models of the reading process. In P. D. Pearson *Handbook of reading research* (pp. 185– 224). New York: Longman.
- Sarig, G. (1987). High-level reading in the first and in the foreign language: Some comparative process data. In J. Devine, P. L. Carrell, & D. E. Eskey (Eds.), *Research in reading in English as a second language* (pp. 105-120). Washington, DC: TESOL.
- Schmar-Dobler, E. (2003). Reading on the Internet: The Link between Literacy and Technology. *Journal of Adolescent & Adult Literacy*, 47 (1).
- Scott, S. & Palincsar, A. (2013). *Sociocultural theory*. Retrieved from [<http://www.education.com/reference/article/sociocultural-theory/>].
- Scovel, T. (1991) .The Effect of Affect on Foreign Language Learning: A Review of the Anxiety Research. In E.K. Horwitz & , D. J. Young (eds.) *Language Anxiety: From Theory and Research to Classroom Implications* (pp. 15-24). Englewood Cliffs, NJ: Prentice Hall.
- Shaw, H. (1959). *Expository reading for writers*. New York: Harper & Brothers Publishers.
- Sheorey, R., & Mokhtari, K. (1994). The reading habits of college students at different levels of reading proficiency. *Reading Improvement*, 31, 156-66.
- Sheorey, R., & Mokhtari, K. (2001). Differences in the metacognitive awareness of reading strategies among native and non-native readers. *System*, 29, 431-449.
- Skinner, B. F. (1957). *Verbal behavior*. New York: Appleton-Century-Crofts.

- Slatin, J. M. (1990). Reading hypertext: order and coherence in a new medium. *College English*, 52 (8), 870–883.
- Smail Salhi, Z. (2010). The Algerian feminist movement between nationalism, patriarchy and Islamism. *Women's Studies International Forum*, 33 (2), 113-124.
- Smith, F. (1971). *Understanding reading*. New York: Holt, Rinehart and Winston.
- Street, B. (1984). *Literacy in theory and practice*. Cambridge: Cambridge University Press.
- Street, B. (1993). Introduction: the new literacy studies. In B. Street (ed.), *Cross-cultural approaches to literacy* (pp. 1-21). New York: Cambridge University Press.
- Sutherland-Smith, W. (2002). Weaving the literacy Web: Changes in reading from page to screen. *The Reading Teacher*, 55, 662–669.
- Swalander, L., & Taube, K. (2007). Influences of family based prerequisites, reading attitude, and self-regulation on reading ability. *Contemporary Educational Psychology*, 32, 206–230.
- Swales, J. *Genre analysis: English in academic and research settings*. Cambridge: Cambridge University Press.
- Taki, S., & Soleimani, G. H. (2012). Online Reading Strategy Use and Gender Differences: The Case of Iranian EFL Learners. *Mediterranean Journal of Social Sciences*, 3 (2) · DOI: 10.5901/mjss.2012.v3n2.173.
- Taleb-ibrahimi, KH. (1995). *Les algériens et leurs langues*. Algiers, Algeria: éditions Elhikma.
- Taleb-Ibrahimi, KH. (1998). De la créativité au quotidien, le comportement langagier des locuteurs algériens. *De la Didactique des Langues à la Didactique du Plurilinguisme*. Université Grenoble 3, 291-298.
- Tang, W. N., & Moore, D. W. (1992). Effects of cognitive and metacognitive pre-reading activities on the reading comprehension of ESL learners. *Educational psychology*, 12(3/4), 315-331.
- Temlali, Y. (2015). *La genèse de la kabylie*. Algiers, Algeria : Barzakh.
- Tillion, G. (n.d). A la rencontre de Germaine Tillion. Retrieved from [germaine-tillion.org/a-la-rencontre-de-germaine-tillion/biographie/].
- Todman, J. & Dick, G. (1993). Primary Children and Teachers' Attitudes to Computers. *Computers & Education*, 20(2), 199-203.
- Toledo, P. F. (2005). Genre analysis and reading of English as a foreign language: Genre schemata beyond text typologies. *Journal of Pragmatics*, 37(7), 1059-1079.

- Tracey, D. H., & Morrow, L. M. (2006). *Lenses on reading: an introduction to theories and models*. New York: The Guilford Press.
- University of Sydney Library. (2017). Your guide to APA 6th style referencing. Retrieved from: [https://libguides.library.usyd.edu.au/ld.php?content_id=22193083].
- Upton, T. A. (1998). Yuk, the skin of insects! Tracking sources of errors in second language reading comprehension. *Journal of College Reading and Learning*, 29(1), 5-20.
- Urquhart, A. H. & Weir, C (1998), *Reading in a Second Language: Process, Product and Practice*. London, UK: Longman.
- Vaezi, S. (2005). Theories of reading. *Language Teaching Journal*, 1 (1).
- Van Dijk, D. A. (Ed.). (2006). *A Handbook of Discourse Analysis*. New York: Academic Press.
- Vandendorpe, C. (2011), *Quelques questions clés que pose la lecture sur écran*. In C. Belisle (Eds.) *Lire dans un Monde Numérique* (pp. 50-66), Lyon :Presses de l'ENSSIB.
- Vygotsky, L. S., & Cole, M. (1978). *Mind in society: The development of higher psychological processes*. Cambridge, MA: Harvard University Press.
- Walberg, H. & Tsai, S. (1985). Correlates of reading achievement and attitude: a national assessment study. *Journal of Educational Research*, 78 (3), 159-67.
- Wallace, C. (1992). *Reading*. Oxford, UK: Oxford University Press.
- Wang, J., Spencer, K., Minjie, & Xing, M. (2009). Metacognitive beliefs and strategies in learning Chinese as a foreign language. *System*, 37(1), 46-56.
- Warschauer, M. (1997). Computer-mediated collaborative learning: theory and practice. *The Modern Language Journal*, 81, iv. 470-481.
- Wästlund, E., Norlander, T., & Archer, T. (2008). The effect of page layout on mental workload: A dual-task experiment. *Computers in Human Behavior*, 24(3), 1229- 1245. doi.org/10.1016/j.chb.2007.05.001.
- Widdowson, H.G. (1979). *Explorations in applied linguistics*. Oxford, UK: Oxford University Press.
- Williams, M., & Burden, R. (1997). *Psychology for language teachers*. Cambridge: Cambridge University Press.
- Williams, S., & McGee, R. (1994). Reading attainment and juvenile delinquency. *Journal of Child Psychology & Psychiatry & Allied Disciplines*, 35, 441-459.
- Wolf, M. (2007). *Proust and the Squid*. New York, USA: Harper Collins.

- Young, D. J., & Oxford, R. (1997). A gender-related analysis of strategies used to process written input in the native language and a foreign language. *Applied Language Learning*, 8, 43-73.
- Zanna, M.P., & Rempel, J.K. (1988). Attitudes: A new look at an old concept. In G. Haddock & G. R. Mayo (Eds.), *contemporary perspectives on the psychology of attitudes* (pp. 9-10). New York: Psychology Press.
- Zintz, M . V . (1980). *The reading process: The teacher and the learner*. Michigan: W. C. Brown Co. Publishers.

Appendixes

Appendix A Questionnaire

This questionnaire is part of an empirical study investigating Algerian EFL learners' reading practices in the digital era. You are kindly requested to answer all the questionnaire items by ticking off the appropriate box (es) or by providing a full answer when necessary.

We promise to keep all the questionnaires anonymous, so, please answer honestly. We thank you in advance for your collaboration.

Section One: Participants' Profile

- **Gender:** male female
- **Mother Tongue (L1):**
- **Where do you live?** Urban area rural area
- **Age:**

Section Two: Background and Practices

1. Are your parents educated?
- Yes - No
2. Do your parents read during their spare time?
- Yes - No
3. Do they encourage you to read?
- Yes - No
4. In childhood, were you used to read stories?
- Yes - No
If yes, in which language (S)?
.....
5. In childhood, did your parents?
 - a. Read stories for you.
 - b. Tell stories to you.
6. For your future kids which mode are you going to adopt?
 - a. Reading stories for them
 - b. Telling them stories
 - c. Both

Why?.....
.....

7. When reading (in paper or in digital environment), do you notice a difference between reading in English and reading in another language (French, Arabic, or Berber)?

Yes - No

If yes, what is the difference?

.....
.....

8. How much time a day do you spend online?

a. Less than one hour

b. More than One hour

c. More than Two hours

9. What is/are your purpose(s) for accessing internet?

a. Social networks

b. Websites of news

c. Browsing

d. Academic purposes

- Rank the previous mentioned purposes in order of frequency of access.

.....
.....

- Rank the previous mentioned purposes in order of importance.

.....
.....

10. Do you prefer the digital libraries or the traditional ones?

a. Digital Libraries - b. Traditional Libraries

Why?.....

.....

11. Do you have access to any digital library?

- Yes - No

- If No, what can prevent you to get access to digital libraries?

a. Lack of money

b. Lack of interest

c. Difficulty to access

d. Time constraint

12. What do you do when you read a text with hyperlinks?

- Ignore them
- Concentrate on them
- Rely on them to understand the text
- Other,

Explain.....
.....

13. Do you think that the tools like sounds, files and videos included in hypertexts may help you understand better?

- c. Yes - No

14. While reading digital text for academic purposes, how many times do you read it?

- Once
- Twice
- Three times
- More than three times

15. If you get the same text on print, how many times do you need to read it in order to reach understanding?

- Once
- Twice
- Three times
- More than three times

16. Which reading process do you think is easier?

- a. Digital -b. on print -c either one is fine

17. Do you print out electronic documents for reading?

- Always - Never
- Frequently - Occasionally

18. What types of reading texts do you read on paper? (you can choose more than one answer)

- Novels - Books' Chapters
- Scientific/ Academic texts - Magazines/Newspapers

19. What types of reading texts do you read online or on screen?

- Novels
- Books' Chapters
- Scientific/ Academic texts
- Magazines/Newspapers

20. What are the things you consider when choosing a digital document to be read for academic purposes?

.....
.....

Section Three: Attitudes

21. Do you like reading?

- Yes
- No

22. Do you find any pleasure at the end of a reading class?

- Yes
- No

23. How do you feel when you are asked to read a passage in a reading class?

- a. Motivated
- b. Not motivated
- c. Anxious

24. Do you prefer reading a novel or watching an adapted version film?

- a. Reading a novel
- b. Watching a film

25. Do you like digital reading?

- Yes
- No

26. Have you ever read a book/novel online or on screen?

- Yes
- No

27. Do you prefer reading a digital version of a book or reading its printed one?

- a. Digital
- b. Printed version

Why?.....
.....

28. During your spare time, do you prefer

- a. Reading books and going to the library
- b. Surfing the net

29. What does motivate you to read digital texts?

- a. More enjoyable
- b. Easier to get a piece of information

c. Other

Explain.....
.....

30. How can you qualify digital reading in an academic context?

- a. Useful
- b. Useless
- c. Important
- d. Uninteresting

31. Digital reading may be important to my studies, but I don't expect it to be much fun.

- a. Strongly agree
- b. Agree
- c. Neither agree nor disagree
- d. Disagree
- e. Strongly disagree

32. Do you think that lack of using reading strategies would impede students' comprehension of hypertexts?

- a. YES
- b. NO

Explain.....
.....

33. What do you think of your digital and print reading ability?

- a. The same
- b. Different

Explain.....
.....

34. If you are asked to complete an assignment on the computer, how comfortable would you feel in doing that assignment?

.....
.....

35. Do you think that it is necessary to teach digital reading in language classes? Why?

.....
.....

36. According to you, can digital reading be integrated in the Algerian university course?

.....
.....

37. How do you describe your overall experience with digital reading?

a. Enjoyable

d. Satisfactory

b. Neutral

e. Not comfortable

c. Frustrating

❖ **Please use this section for any additional comments you would like to add that might help this study.**

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

Thank you!

Appendix B
Survey Of Digital and Print-based Reading Strategies (SODPRS)

Adapted from Kouider Mokhtari and Ravi Sheorey, 2002 (SORS)

&

Neil J. Anderson 2003 (OSORS)

The purpose of this survey is to collect information about the various strategies you use when you read **academic materials in English** in digital and print-based environments.

Each statement is followed by five letters, and each letter means the following:

‘N’ means that ‘I **never or almost never** do this’.

‘O’ means that ‘I do this **only occasionally**’.

‘S’ means that ‘I **sometimes** do this’. (About **50%** of the time.)

‘U’ means that ‘I **usually** do this’.

‘A’ means that ‘I **always or almost always** do this’.

After reading each statement, *circle the letter* (a, b, c, d, or e) which applies to you.

Note that there is no right **or wrong response** to any of the items on this survey.

Participants’ Profile

- **Gender:** male female
- **Mother Tongue (L1):**
- **Where do you live?** Urban area rural area
- **Age:**

SECTION ONE: Pre-reading Strategies

Print-based reading

1. I state a purpose in mind when I read.
N O S U A
2. I take an overall view of the text to see what it is about before reading it.
N O S U A
3. I think about whether the content of the text fits my reading purpose.
N O S U A
4. I review the text first by noting its characteristics like length and organization.
N O S U A
5. I try to guess what the content of the text is about when I read.
N O S U A
6. I ask myself questions I like to have answered in the text.
N O S U A

Digital-based reading

1. I state a purpose in mind when I read D-texts.
N O S U A
2. I take an overall view of the D-text to see what it is about before reading it.
N O S U A
3. I think about whether the content of the D- text fits my reading purpose.
N O S U A
4. I review the D- text first by noting its characteristics like length and organization.
N O S U A
5. I ask myself questions I like to have answered in the D-text.
N O S U A
6. I scan the D- text to get a basic idea of whether it will serve my purposes before choosing to read it
N O S U A

SECTION TWO: While-reading Strategies

Print-based reading

1. I take notes while reading to help me understand what I read.
N O S U A
2. I think about what I know to help me understand what I read.
N O S U A
3. When text becomes difficult, I read aloud to help me understand what I read.
N O S U A
4. I read slowly and carefully to make sure I understand what I am reading.
N O S U A
5. I try to get back on track when I lose concentration.
N O S U A
6. I underline or circle information in the text to help me remember it.
N O S U A
7. I adjust my reading speed according to what I am reading.
N O S U A
8. When reading, I decide what to read closely and what to ignore.
N O S U A
9. I use reference materials (e.g. a dictionary) to help me understand what I read.
N O S U A
10. When text becomes difficult, I pay closer attention to what I am reading.
N O S U A
11. I use tables, figures, and pictures in text to increase my understanding.
N O S U A
12. I stop from time to time and think about what I am reading.
N O S U A

13. I use context clues to help me better understand what I am reading.
N O S U A
14. I use typographical features like bold face and italics to identify key information.
N O S U A
15. I go back and forth in the text to find relationships among ideas in it.
N O S U A
16. I check my understanding when I come across new information.
N O S U A
17. When text becomes difficult, I re-read it to increase my understanding.
N O S U A
18. I check to see if my guesses about the text are right or wrong.
N O S U A
19. When reading, I translate from English into another language.
N O S U A
20. When reading, I think about information in both English and another language.
N O S U A

Digital-based reading

1. I take notes while reading D-texts to help me understand what I read.
N O S U A
2. I think about what I know to help me understand what I read in the digital environment
N O S U A
3. When D- text becomes difficult, I read aloud to help me understand what I read.
N O S U A
4. I read slowly and carefully to make sure I understand what I am reading.
N O S U A
5. I try to get back on track when I lose concentration.
N O S U A
6. I adjust my reading speed according to what I am reading.
N O S U A
7. When reading D-texts, I decide what to read closely and what to ignore.
N O S U A
8. I use reference materials (e.g. an on-line dictionary) to help me understand what I read.
N O S U A
9. When D-text becomes difficult, I pay closer attention to what I am reading.
N O S U A
10. While reading online, I activate hyperlinks for academic purposes.
N O S U A
11. I use tables, figures, and pictures in the D-text to increase my understanding.
N O S U A

12. I stop from time to time and think about what I am reading.

N O S U A

13. I use context clues to help me better understand what I am reading.

N O S U A

14. I use typographical features like bold face and italics to identify key information.

N O S U A

15. I go back and forth in the D-text to find relationships among ideas in it.

N O S U A

16. I check my understanding when I come across new information.

N O S U A

17. I try to guess what the content of the D- text is about when I read.

N O S U A

18. When D- text becomes difficult, I re-read it to increase my understanding.

N O S U A

19. I check to see if my guesses about the D- text are right or wrong.

N O S U A

20. When I read D-texts, I guess the meaning of unknown words or phrases.

N O S U A

21. While reading online, I activate hyperlinks for fun.

N O S U A

22. When reading D-texts, I translate from English into another language.

N O S U A

23. When reading D-texts, I think about information in both English and another language. **N O S U A**

SECTION THREE: Post-reading Strategies

Print-based reading

1. I paraphrase (restate ideas in my own words) to better understand what I read.

N O S U A

2. I try to picture or visualize information to help remember what I read.

N O S U A

3. I critically analyze and evaluate the information presented in the text.

N O S U A

4. When I read, I guess the meaning of unknown words or phrases.

N O S U A

Digital-based reading

1. I print out a hard copy of the D-text then underline or circle information to help me remember it.

O S U A

2. I paraphrase (restate ideas in my own words) to better understand what I read.
N O S U A
3. I try to picture or visualize information to help remember what I read.
N O S U A
4. I critically analyze and evaluate the information presented in the D- text.
N O S U A
5. I critically evaluate the D- text before choosing to use information.
N O S U A
6. I can distinguish between fact and opinion in D-texts.
N O S U A

Please use this section for any additional comments you would like to add in relation to reading in print-based and digital environments.

Appendix C

Reading Test (on paper)

Part 1. Cloze test (10 min)

Read the text below and choose the correct answer for each gap.

Is coffee really the devil's brew?

Many of us can't start the day without it, but new research says it stops us working well. Oliver Burkeman searches for the truth about coffee. The coffee-drinker's last excuse seems finally to have vanished. For years 1)_____ office workers, long-distance lorry drivers and students 2)_____ all-nighters have been able to rebut fears about the health risks of caffeine consumption with a simple truth: drinking coffee helps you stay 3)_____ and get the job done. Except that now, it seems, it does not. According to a study published this week, coffee-drinking in British workplaces is 4)_____ concentration and damaging productivity. The survey found 76% of workers drinking three or more cups of coffee, tea or cola every day - enough caffeine to act, in the words of researcher Dr David Lewis, "as a powerful diuretic [causing] people to visit the toilet more frequently, which can lead to power-zapping dehydration." You'd be entitled to feel confused: few substances in recent years have been 5)_____ to so many entirely contradictory clinical studies as caffeine - not even wine and beer, the other once frowned-upon stimulants now periodically presented as elixirs of good health. Depending on whom you believe, coffee-drinking either raises blood pressure, increases the chances of miscarriage and the risk of developing Alzheimer's, arthritis and infertility - or is a powerful protection against the worst effects of bronchial asthma, colon cancer, bladder cancer, hayfever, Parkinson's, heart disease, depression, anxiety, gallstones, dermatitis, chronic angina and hypotension. A web of sponsors on both sides of the debate means that few studies are entirely free of commercial interests: this week's study, in one of the more clunkingly obvious examples, was funded by Volvic, manufacturers of an ideal water-based alternative to latte-slurping. Besides dehydration, coffee blocks the receptors of adenosine, a chemical in the brain that normally counters the effects of adrenaline - which explains why it does enhance the sense of alertness. But related effects of this process, some researchers believe, can be 6)_____: "The daily blood pressure elevations caused by caffeine consumption," says Dr James Lane of Duke University in North Carolina, "could contribute to an increased risk of coronary heart disease in the general population that consumes caffeine." A group of Swedish researchers reported in December that women who drank more than four cups of coffee per day in early pregnancy doubled the chances of 7)_____ abortion, while caffeine intake is also thought to affect birthweight - though the precise mechanisms by which it contributes to any of these problems remain mysterious. An unresolved argument 8)_____, too, over its addictiveness: even a single cup of instant coffee daily is sufficient to induce withdrawal symptoms when it is taken away; on the other hand, studies into the parts of the brain which are most affected by cocaine, nicotine and morphine addictions have repeatedly failed to reveal any such effect from coffee drinking.

But the issue reaches far beyond coffee. Caffeine makes a regular appearance in the ingredients lists of numerous common painkillers. But since most researchers deny that it has any painkilling function, and argue that one of the key symptoms of caffeine 9)_____ is headaches, it doesn't take a particularly paranoid conspiracy theorist to suggest that something 10)_____ suspicious might be going on. And non-coffee-drinkers are not, of course, immune: there is around 50mg in a cup of tea, and up to 20mg in a cup of hot chocolate.

Choice of words:

- 1) Beleaguered- plagued- badgered- besieged
- 2) Spending- doing- pulling- having
- 3) Real- vigilant- humble- alert
- 4) Sabotaging- undermining- subverting- destroying
- 5) Subject- question- point- matter
- 6) Woeful- sad- calamitous- disorganised
- 7) Impulsive- spontaneous- impromptu
- 8) Rages- battles- fights- writhes
- 9) Drawbacks- recalls- disclaims- withdrawal.
- 10) Indistinctly- unclearly- vaguely- ambiguously

Part 2. Complete the second sentence so that it has a similar meaning to the first sentence, using the word given. (5 min)

- 1) The problem that his team had been working on was solved by Jake.
SOLUTION
Jake came up the problem which his team had been working on.
- 2) Maria immediately accepted the offer of a place at the country's top university.
HESITATION
Maria the offer of a place at the country's top university.
- 3) Employees can choose to work additional hours at the weekend.
EACH
It's up they work additional hours at the weekend.

Part 3: reading comprehension (25 min).

Passage For Question 1 to 9

Recent years have brought minority-owned businesses in the United States unprecedented opportunities-as well as new and significant risks. Civil rights activists have long argued that one of the principal reasons why Blacks, Hispanics and the other minority groups have

difficulty establishing themselves in business is that they lack access to the sizable orders and subcontracts that are generated by large companies. Now congress, in apparent agreement, has required by law that businesses awarded federal contracts of more than \$500,000 do their best to find minority subcontractors and record their efforts to do so on forms field with the government. Indeed, some federal and local agencies have gone so far as to set specific percentage goals for apportioning parts of public works contracts to minority enterprises. Corporate response appears to have been substantial. According to figures collected in 1977, the total of corporate contracts with minority business rose from \$77 to \$1.1 billion in 1977. The projected total of corporate contracts with minority business for the early 1980's is estimated to be over \$3 billion per year with no letup anticipated in the next decade. Promising as it is for minority businesses, this increased patronage poses dangers for them, too. First, minority firms risk expanding too fast and overextending themselves financially, since most are small concerns and, unlike large businesses they often need to make substantial investments in new plants, staff, equipment, and the like in order to perform work subcontracted to them. If, there after, their subcontracts are for some reason reduced, such firms can face potentially crippling fixed expenses. The world of corporate purchasing can be frustrating for small entrepreneur's who get requests for elaborate formal estimates and bids. Both consume valuable time and resources and a small company's efforts must soon result in orders, or both the morale and the financial health of the business will suffer. A second risk is that White-owned companies may seek to cash in on the increasing apportionments through formation of joint ventures with minority-owned concerns, of course, in many instances there are legitimate reasons for joint ventures; clearly, white and minority enterprises can team up to acquire business that neither could Third, a minority enterprise that secures the business of one large corporate customer often runs the danger of becoming – and remaining dependent. Even in the best of circumstances, fierce competition from larger, more established companies makes it difficult for small concerns to broaden their customer bases; when such firms have nearly guaranteed orders from a single corporate benefactor, they may truly have to struggle against complacency arising from their current success.

Question 1

The primary purpose of the passage is to

- A. present a commonplace idea and its inaccuracies
- B. describe a situation and its potential drawbacks
- C. propose a temporary solution to a problem
- D. analyze a frequent source to a problem
- E. explore the implications of a findings.

Correct Answer : B

Question 2

The passage supplies information that would answer which of the following questions?

- A. What federal agencies have set percentage goals for the use of minority owned businesses in public works contracts?
- B. To which governments agencies must businesses awarded federal contracts report their efforts to find minority subcontractors?

- C. How widespread is the use of minority-owned concerns as “fronts; by White backers seeking to obtain subcontracts?
- D. How many more minority owned businesses were there in 1977 than in 1972?
- E. What is one set of conditions under which a small business might find itself financially overextended?

Correct Answer : E

Question 3

According to the passage, civil rights activists maintain that one disadvantage under which minority owned businesses have traditionally had to labor is that they have

- A. been specially vulnerable to governmental
- B. been denied bank loans at rates comparable to those afforded larger competitors
- C. not had sufficient opportunity to secure businesses created by large corporations
- D. not been able to advertise in those media that reach large numbers of potential customers
- E. not had adequate representation in the centers of government power.

Correct Answer : C

Question 4

The passage suggests that the failure of a large business to have its bids for subcontracts results quickly in order might cause it to

- A. experience frustrations but not serious financial harm
- B. face potentially crippling fixed expenses
- C. have to record its efforts on forms filed with the government
- D. increase its spending with minority subcontractors
- E. revise its procedure for making bids for federal contracts and subcontracts

Correct Answer : A

Question 5

The authors implied that the minority owned concern that does the greater part of its business with one large corporate customer should

- A. avoid competition with the larger, more established concerns by not expanding
- B. concentrate on securing even more business from that corporation
- C. try to expands its customers base to avoid becoming dependent on the corporation
- D. pass on some of the work to be done for the corporation to other minority owned concerns.
- E. use its influence with the other corporation to promote subcontracting with other minority concerns.

Correct Answer : C

Question 6

It can be inferred from the passage that, compared with the requirements of law, the percentage goals set by “some federal and local agencies” are

- A. more popular with large corporations
- B. more specific
- C. less controversial
- D. less expensive to enforce
- E. easier to comply with

Correct Answer : B

Question 7

Which of the following if true, would most weaken the author’s assertion that, in 1970’s, corporate response to federal requirements (lines 18-19) was substantial?

- A. Corporate contracts with minority owned business totaled about \$2 billion in 1979
- B. Between 1970 and 1972, corporate contracts with minority owned businesses declined by 25 percent
- C. The figures collected 1977 underrepresented the extent of corporate contracts with minority owned businesses.
- D. The estimate of corporate spending with minority owned businesses in 1980 is approximately \$10 million too high
- E. The \$1.1 billion represented the same percentage of total corporate spending in 1977 as did \$77 million in 1972.

Correct Answer : E

Question 8

The passage most likely appeared in

- A. a business magazine
- B. an encyclopedia of black history to 1945
- C. a dictionary of financial terms
- D. a yearbook of business statistics
- E. an accounting textbook

Correct Answer : A

Question 9

The author would most likely agree with which of the following statements about corporate response to working with minority subcontractors?

- A. Annoyed by the proliferations of “front” organizations, corporates are likely to reduce their efforts to work with minority owned subcontractors in the near future.

- B. Although corporations showed considerable interest in working with minority businesses in the 1970's their aversion to government paperwork made them reluctant to pursue many government contracts.
- C. The significant response of corporation in the 1970's is likely to be sustained and conceivably be increased throughout the 1980's
- D. Although corporations re eager to co-operate with minority owned businesses, a shortage of capital in the 1970's made substantial response impossible.
- E. The enormous corporate response has all but eliminated the dangers of over expansion that used to plague small minority owned businesses.

Correct Answer : C

Appendix D Reading Test (on Screen)

Part 1. Cloze test (10 min)

Read the text below and choose the correct answer for each gap.

The Future of Food

Anyone reading Brian Ford's "The Future of Food" might be excused for wanting to give up eating entirely. Take, for example, the humble and immensely useful hen's egg. Humble, but beautiful in shape, a natural piece of minimalist sculpture. There naturalism ends. The golden-yellow look of the egg's yolk is produced by feeding the hen with something called carotenoids, the amount of which controls the colour 1)_____ most appealing to the buyer. Carotenoids are considered to be safe, but the natural look of a yolk is pale yellow, and that is what most egg eaters would probably prefer if they knew that hens' feed was being 2)_____ with. Never mind, at least the egg is free-range: it says so on the box. Well, yes, but hens are descended from woodland birds, and are unlikely to be at ease in open fields. Keeping _____ them _____ in _____ a 3)_____ could, it is argued, actually be more humane. Then there is disease. Most people have heard of salmonella and hope that their breakfast egg is not the one in 1,000 that is, on average, infected with this organism that can give you a tummy pain or worse. Mr Ford, a biologist, lists ten diseases that you can get from 4)_____ foods, such as cheese and meat, and gives warning that more unpleasant discoveries are on the way. He has some interesting notions about the future. He reckons that people will eventually stop eating roast beef, and not just because it might kill them with CJD, but because time-consuming 5)_____ cookery will come to an end. Cooking itself will become a luxury and houses will be built without kitchens, just as they are now being built without fireplaces. Already, it seems, Italian, French and German housewives (and house-husbands) are getting fed up with all the slicing, chopping and marinading involved in preparing meals for their 6)_____ families. Clearly there are going to be many and varied successors _____ to _____ TV-dinners. Whatever its form, the food of the future can only be healthier, Mr Ford believes. It is a brave 7)_____. His message appears to be that the consumer will become better educated about healthy eating. As a primer he offers lists of the ingredients necessary to stay alive and 8)_____. Are you getting enough folic acid and tocopherol in your diet? And don't forget biotin, essential for metabolism. It may be that the eating millions will one day take an informed interest in what goes into the stomach, carefully assessing the components of processed food, which 9)_____ manufacturers will list in print big enough to be read without a magnifying glass. But the auguries are not good. Most people know that salt and fats are likely to be dangerous to health if taken in large amounts. Yet in the rich world pretty nearly every packed lunch in a schoolchild's 10)_____ contains a packet of potato crisps heavily dosed with both. Well, yes, say the fond mums, we shouldn't, but the children do so love them.

Choice of words:

- 11) Counted – deemed – esteemed- viewed
- 12) Juggled- meddled- messed- tampered
- 13) Cottage- house- shack- shed
- 14) Customary- everyday- usual- workday.
- 15) Domestic- house stead- indigenous- native.
- 16) Caressed- favoured- fondled- pampered
- 17) Prediction- proverb- supposition- sunrise
- 18) Boom- fare- luxuriate- prosper
- 19) Conscientious- conscious- correct- rigourous
- 20) Baggage- case- sack- satchel

Part 2. Complete the second sentence so that it has a similar meaning to the first sentence, using the word given. (5 min)

- 4) There will be no change to our plans, despite the likelihood of rain
IS
We have decided not to change our plans even
strong possibility of rain.
- 5) Can you summarise for me what took place at the meeting?
GIVE
Can youwhat took place at the
meeting?
- 6) I was very much relieved to see my brother walking down the street towards me.
SIGHT
I felt enormous my brother walking
down the street towards me.

Part 3: reading comprehension (25 min).

Passage For Questions 1 to 9

"Most economists in the United states seem captivated by spell of the free market. Consequently, nothing seems good or normal that does not accord with the requirements of the free market. A price that is determined by the seller or for that matter, established by anyone other than the aggregate of consumers seems pernicious, Accordingly, it requires a major act of will to think of price – fixing (the determination of prices by the seller) as both “normal” and having a valuable economic function. In fact, price-fixing is normal in all industrialized societies because the industrial system itself provides, as an effortless consequence of its own development, the price-fixing that requires, Modern industrial planning requires and rewards great size. Hence a comparatively small number of large firms will be competing for the same group of consumers. That each large firm will act with consideration of its own needs and thus avoid selling its products for more than its competitors charge is commonly recognized by advocates of free-markets economic theories. But each large firms will also act with full consideration of the needs that it has in common with the other large firms competing for the same customers. Each large firm will thus avoid significant price cutting, because price

cutting would be prejudicial to the common interest in a stable demand for products. Most economists do not see price-fixing when it occurs because they expect it to be brought about by a number of explicit agreements among large firms; it is not. More over those economists who argue that allowing the free market to operate without interference is the most efficient method of establishing prices have not considered the economies of non socialist countries other than the United States. These economies employ intentional price-fixing usually in an overt fashion. Formal price fixing by cartel and informal price fixing by agreements covering the members of an industry are common place. Were there something peculiarly efficient about the free market and inefficient about price fixing, the countries that have avoided the first and used the second would have suffered drastically in their economic development. There is no indication that they have. Socialist industry also works within a frame work of controlled prices. In early 1970's, the soviet union began to give firms and industries some of the flexibility in adjusting prices that a more informal evolution has accorded the capitalist system. Economists in the United States have hailed the change as a return to the free market. But Soviet firms are no more subject to prices established by free market over which they exercise little influenced than are capitalist firms.

Question 1

The primary purpose of the passage is to

- A. refute the theory that the free market plays a useful role in the development of industrialized societies.
- B. suggest methods by which economist and members of the government of the United States can recognize and combat price-fixing by large firms.
- C. explain the various ways in which industrialized societies can fix in order to stabilized the free market
- D. argue that price-fixing, in one form or another, is an inevitable part of and benefit to the economy of any industrialized society.
- E. Analysis of free markets in different economies

Correct Answer : E

Question 2

The passage provides information that would answer which of the following questions about price-fixing?

- I. What are some of the ways in which prices can be fixed?
- II. For what products is price-fixing likely to be more profitable than the operation of the free market?
- III. Is price-fixing more common in socialist industrialized societies or in nonsocialist industrialized societies?

- A. I only
- B. III only
- C. I and II only
- D. II and III only
- E. I, II and III

Correct Answer : A

Question 3

The author's attitude toward "Most economists in the United States" can best be described as

- A. spiteful and envious
- B. scornful and denunciatory
- C. critical and condescending
- D. ambivalent but deferential
- E. uncertain but interested

Correct Answer : C

Question 4

It can be inferred from the author's argument that a price fixed by the seller "seems pernicious" because

- A. people do not have confidence in large firms
- B. people do not expect the government to regulate prices
- C. most economists believe that consumers as a group should determine prices.
- D. most economists associate fixed prices with communist and socialist economies.
- E. Most economists believe that no one group should determine prices.

Correct Answer : C

Question 5

The suggestion in the passage that price-fixing in industrialized societies is normal arises from the author's statement that price-fixing is

- A. a profitable result of economic development
- B. an inevitable result of the industrial system
- C. the result of a number of carefully organized decisions.
- D. a phenomenon common to industrialized and to industrialized societies.
- E. a phenomenon best achieved cooperatively by government and industry.

Correct Answer : B

Question 6

According to the author, priced-fixing in nonsocialist countries is often.

- A. accidental but productive
- B. illegal but useful
- C. legal and innovative
- D. traditional and rigid
- E. intentional and widespread.

Correct Answer : E

Question 7

According to the author, what is the result of the Soviet Union's change in economic policy in the 1970's?

- A. Soviet firms show greater profit
- B. Soviet firms have less control over the free market
- C. Soviet firms are able to abject to technological advances.
- D. Soviet firms have some authority to fix prices.
- E. Soviet firms are more responsive to the free market.

Correct Answer : D

Question 8

8. With which of the following statements regarding the behavior of large firms in industrialized societies would the author be most likely to agree.

- A. The directors of large firms will continue to anticipate the demand for products
- B. The directors of large firms are less interested in achieving a predictable level of profit than in achieving a large profit.
- C. The directors of large firms will strive to reduce the costs of their products.
- D. Many directors of large firms believe that the government should establish the prices that will be charged for products.
- E. Many directors of large firms believe that the price charged for products is likely to increase annually.

Correct Answer : A

Question 9

In the passage, the author is primarily concerned with

- A. predicting the consequences of a practice
- B. criticizing a point of view
- C. calling attention to recent discoveries.
- D. proposing a topic for research.
- E. summarizing conflicting opinions.

Correct Answer : B

Appendix E

The Interview

Participants' Profile

- *Gender:*
- *Mother Tongue (L1):*
- *Where do you live?*
- *Age:*

Types of texts

1. What types of texts do you read for academic purposes? Could you describe them?
2. Are there types of texts which are easier to be read? Why?
3. What are the criteria that you take into account to evaluate a text as easy or difficult to be read?

Text organization (formal schemata)

4. What do you consider before starting reading?
5. Do you take into account the moves of a text (the way it is organized) when you read?
6. While reading texts in digital and print-based environments , do you notice any difference in terms of text format? (text features)
7. What are the differences that lie between these formats? Which format is easier? Why?
8. What is the role of the title, illustrations, or specific text features in the reading process in D- and P- contexts?
9. Is there any text feature that you take into consideration to help you better understand?

Textual understanding (linguistic schemata)

10. Are there specific clues that you use to understand texts?
11. Do you focus on the meaning of single words?
12. How can linguistic features (tenses, transition words etc.) help you understand the texts?

Interpretation (content schemata)

13. What is the difference that lies between 'text' and 'discourse'?
14. How do you proceed to interpret a text?
15. How can your background knowledge help you better interpret a text?

Evaluation

16. What are the criteria that you consider in order to evaluate or criticize a text?

Culture-specific

17. Do you think that your attitudes towards a text genre, type or content are likely to influence your understanding? How?
18. Which type of text do you think is close to your culture, your language or your identity? Why?

19. Could you describe your reading process of different types of texts (how do you proceed)?
20. Considering the various elements that interplay during the reading process (language, moves and generic features, & content), which one do you think is the most difficult?

Appendix F

Formal Permission to Reproduce Copyright Material

Recherche Mail Recherche Web Kamila Profil OK Déconnexion Accueil

Boîte de réception Contacts Bloc-notes Agenda

Écrire Supprimer Répondre Répondre à tous Faire suivre Actions Appliquer Précédent Suivant

Boîte de réception (2)

Brouillons (1)

Messages envoyés

Spam [Vider]

Corbeille (9) [Vider]

Mes dossiers [Modifier]

Re: permission request Mardi 1 septembre 2015 20h27 S

De: "Barbara Calderwood" <scalderwoodbj@appstate.edu>

À: "Kamila Ammour" <ammour.kamila@yahoo.fr>

En-têtes complets Vue imprimable

Dear Ms. Ammour,

Thank you for your permission request. Your use of the Survey of Reading Strategies for educational purposes is granted with no fee.

If you reproduce a "replica" of the survey to include with your thesis but have changed the survey, you should include a note indicating the instrument was adapted with permission from the original work—cited in APA style, if you mention the original instrument, any part of that instrument, or any other information from the article in your document, the source should be cited in text and included in the reference list.

Best Regards,

Barbara Calderwood

Barbara J. Calderwood
Editor, *Journal of Developmental Education*
Assistant Director for Publications
National Center for Developmental Education
Appalachian State University
Boone, NC 28608
(V) 828-262-6101
(F) 828-262-7183

On Fri, Aug 28, 2015 at 5:19 PM, Kamila Ammour <ammour.kamila@yahoo.fr> wrote:

Ms. Kamila AMMOUR
Doctoral student in Didactics
Mouloud MAMMERI University .
Tizi-ouzou, Algeria.

Dear Ms. Calderwood,

I am a doctoral student at Mouloud MAMMERI University and I am preparing my doctoral thesis investigating Algerian university students' reading practices. Mr. Mokhtari has already granted me his permission to use the Survey Of Reading Strategies (SORS) as a research instrument and has asked me to seek permission from the copyright holder, namely the Journal of Developmental Education. So, I am writing to ask permission to use the Survey Of Reading Strategies (SORS) as a research technique in my study.

Indeed, in order to serve the purpose of the study, I need to make some changes of the original survey, most notably to add some strategies and to categorize them into cognitive and metacognitive strategies instead of global, problem solving and support strategies.

Thank you for considering my request. If you agree, please let me know if you would like me to follow any special instructions for acknowledging this material.

Sincerely,
Kamila AMMOUR

Écrire Supprimer Répondre Répondre à tous Faire suivre Actions Appliquer Précédent Suivant

- Boîte de réception
- Brouillons (1)
- Messages envoyés
- Spam [Vider]
- Corbeille (3) [Vider]
- Mes dossiers [Modifier]

Re: permission request Vendredi 28 août 2015 16h30 S

De: "Kamila Ammour" <ammour.kamila@yahoo.fr>
À: "Neil Anderson" <neil.anderson@byuh.edu>

En-têtes complets Vue imprimable

thank you so much indeed for your permission.
sincerely,
Kamila

En date de : Ven 28.8.15, Neil Anderson <neil.anderson@byuh.edu> a écrit :

Objet: Re: permission request
A: "Kamila Ammour" <ammour.kamila@yahoo.fr>

Date: Vendredi 28 août 2015, 16h29

Thank you for your request. You have permission to use the survey. Simply provide the customary citations and state that you have received permission from me to use the survey. Best wishes in your research.

Neil

> On Aug 28, 2015, at 4:43 AM, Kamila Ammour <ammour.kamila@yahoo.fr> wrote:
>
> August 28,
> 2015.
> Ms. Kamila AMMOUR
> Doctoral student in Didactics
> Mouloud MAMMERI University .
> Tizi-ouzou, Algeria
>

> Dear Mr. Anderson,
> I am a doctoral student at Mouloud MAMMERI University, and I am writing to ask permission to use your Online Survey Of Reading Strategies (OSORS) as a research technique in my study.
> Indeed, I am preparing my doctoral thesis investigating Algerian university students' reading practices.
> Thank you for considering my request. If you agree, please let me know if you would like me to follow any special instructions for acknowledging this material.
> Sincerely,
> Kamila
> AMMOUR

Boîte de réception
Brouillons (1)
Messages envoyés
Spam [Vider]
Corbeille (3) [Vider]
Mes dossiers [Modifier]

Re: permission request Vendredi 28 août 2015 1h01 S

De: "kouider@gmail.com" <kouider@gmail.com>
À: "Kamila Ammour" <ammour.kamila@yahoo.fr>

En-têtes complets Vue imprimable

Dear Camila--

Thanks for your interest un using the SORS instrument in your research. As authors, we are pleased to grant you permission so do so.

However, please note that you may need to also seek permission from the copyright holder, namely the Journal of Developmental Education, if you plan to modify the instrument in any significant way.

The following link has contact information for the journal <http://ncde.appstate.edu/publications/journal-development-education-ide>.

Regards,

Kouider

- Kouider Mokhtari, Anderson-Vukelja-Wright Endowed Chair
The University of Texas at Tyler
- Learn about our new graduate online reading program @ <http://uttyler.edu/read>
 - Check out our 2014 book "Educating English Learners: What every classroom teacher needs to know" @ <http://iepe.org/iep-homebooks/educating-english-learners>
 - Read about the 2013 AACTE Outstanding Book Award for "Preparing Every Teacher to Reach English Learners" @ <http://aacte.org/new-e-room/press-releases/aacte-selects-guide-for-preparing-all-teachers-for-2013-outstanding-book-award.html>
 - See Kouider's webpage @ www.uttyler.edu/education/faculty/mokhtari.php

On Thu, Aug 27, 2015 at 1:22 PM, Kamila Ammour <ammour.kamila@yahoo.fr> wrote:
August 27, 2015.
Ms. Kamila AMMOUR
Doctoral student in Didactics
Mouloud MAMMERI University ,
Tizi-ouzou, Algeria.

Dear Mr. MOKHTARI,
I am a doctoral student at Mouloud MAMMERI University, and I am writing to ask permission to use your Survey Of Reading Strategies (SORS) as a research technique in my study.
Indeed, I am preparing my doctoral thesis investigating Algerian university students' reading practices. In order to serve the purpose of the study, I need to make some changes of the original survey, most notably to add some strategies and to categorize them into cognitive and metacognitive strategies instead of global, problem solving and support strategies.
Thank you for considering my request. If you agree, please let me know if you would like me to follow any special instructions for acknowledging this material.
Sincerely,
Kamila AMMOUR

Résumé

Les étudiants Algériens de l'Anglais comme Langue Etrangère vivent dans un monde numérique qui ne cesse de progresser, entraînant des changements dans leurs habitudes de lecture. L'objectif de cette recherche est d'explorer les pratiques de lecture des étudiants algériens de l'ALE à l'ère du numérique. Elle compte comparer leurs pratiques de lecture dans les environnements numériques et imprimés en termes de différences entre les sexes, de localisation géographique et de langue maternelle. En conséquence, l'approche principale des problèmes soulevés est socioculturelle. Dans le cadre de cette approche la lecture est perçue comme une pratique sociale. Comprendre comment les étudiants algériens de l'ALE lisent dans des environnements numériques et ceux basés sur l'impression est susceptible d'avoir un impact significatif sur la pédagogie des langues étrangères en Algérie. La lecture est définie comme une entité triadique composée d'attitudes, de stratégies et de connaissances schématiques formelles. Ces trois éléments se rapportent aux trois variables dépendantes de l'étude. Pour atteindre cet objectif, l'étude est basée sur l'approche à méthodes mixtes. Les procédures de collecte de données qualitatives et quantitatives et d'analyse de données sont combinées pour rapporter des résultats valides et fiables. L'étude s'est déroulée dans deux universités algériennes, notamment l'Université Mouloud Mammeri de Tizi-ouzou et l'Université Ali Lounici de Blida. Partant de l'hypothèse qu'ils sont de gros lecteurs, 735 étudiants de Master sont sélectionnés comme participants aux différentes phases de l'étude empirique. Quatre outils de recherche sont utilisés pour collecter des données. Afin de se rendre compte des pratiques des participants, y compris leurs stratégies et leurs attitudes à l'égard de la lecture imprimée et numérique, un questionnaire est utilisé. Deux tests de compréhension en lecture sont utilisés pour comparer les capacités de lecture des participants sur papier et sur écran. Les deux tests de compréhension en lecture ont été sélectionnés à partir de l'ALE de Cambridge pour les apprenants avancés. Afin d'avoir une meilleure idée de l'utilisation de la stratégie de lecture des participants, une enquête de lecture a été conçue : SODPRS. L'interview est un autre outil de collecte de données utilisé pour tenter de comprendre comment les participants lisent différents types de textes. Les données collectées ont été analysées au moyen d'une analyse statistique, d'une analyse qualitative du contenu et d'une analyse critique du discours. Les résultats indiquent une divergence significative parmi les étudiants algériens de l'ALE en termes de perception, d'attitude et d'habileté dans les environnements numériques et imprimés. Cependant, en ce qui concerne les différences entre les sexes, les étudiantes surpassent leurs homologues masculins en lecture numérique, les étudiants de sexe masculin obtiennent de meilleurs résultats en lecture imprimée. Les filles s'avèrent être des lectrices holistiques alors que les garçons sont plutôt atomistes. En outre, la disparité entre les zones urbaines et rurales est superficielle dans le contexte Algérien, car les différences entre les deux groupes ne sont pas considérables. Enfin, des divergences sont observées entre les locuteurs Arabes et Berbères en termes des types de textes et des préférences pour l'environnement numérique ou d'impression. Ces résultats ont été interprétés d'après un contexte socioculturel. Les particularités des étudiants algériens de l'ALE font d'eux des apprenants singuliers qui montrent des attitudes de lecture particulières, une utilisation stratégique et des types de textes qu'ils ont tendance à lire. Les résultats ont plusieurs implications pour l'enseignement de la lecture de l'ALE dans le contexte algérien. Des orientations pour d'éventuelles futures recherches sont également suggérées.

Mots-clés

Lecture, lecture imprimée, lecture numérique, approche socioculturelle, différences entre les sexes, fossé urbain-rural, langue maternelle, ALE dans le contexte Algérien.

ملخص

يعيش الطلاب الجزائريون في عالم رقمي متطور باستمرار، مما يؤدي إلى تغييرات في عادات القراءة لديهم. الغرض من هذا البحث هو اكتشاف ممارسات القراءة للطلاب الجزائريين في الإنجليزية كلغة أجنبية في العصر الرقمي. تهدف إلى مقارنة هذه الممارسات في البيئة الرقمية والمطبوعة من ناحية الفرق بين الجنسين، الموقع الجغرافي، واللغة الأم. لذلك، فإن المنهج الرئيسي للمسائل المطروحة هو الثقافة الاجتماعية. في إطار هذا المنهج، تعتبر القراءة ممارسة اجتماعية. فهم كيفية قراءة الطلاب الجزائريين للنص الرقمي والمطبوع يحتمل أن يكون له تأثير هام في بيداغوجية اللغات. تعرف القراءة بأنها كيان ثلاثي متكون من مواقف، استراتيجيات، ومعارف تخطيطية رسمية. هذه العناصر الثلاثة مرتبطة بالتغيرات الثلاثة في هذه الدراسة. لتحقيق هذا الهدف تعتمد الدراسة على منهج الطرق المختلطة. يتم جمع البيانات النوعية والكمية وتحليل البيانات للحصول على نتائج صحيحة وموثوقة بها. أجريت الدراسة في جامعتين جزائريتين: جامعة مولود معمري بتيزي وزو وجامعة علي لونيبي بالبلدية. افتراضا أن الطلاب قراء كبار، تم اختيار 735 طالبة للمشاركة في المراحل المختلفة للدراسة. تم استخدام أربعة أدوات بحث مختلفة لجمع البيانات. من أجل معرفة ممارسات المشاركين بما في ذلك استراتيجياتهم ومواقفهم اتجاه القراءة الرقمية والمطبوعة، يتم استعمال استبيان، اختبارين لفهم القراءة لمقارنة مهارات المشاركين في قراءة النصوص المطبوعة وعلى الشاشة. تم اختيار الاختبارين من كامبريدج لتعليم اللغة الإنجليزية للمتعلمين المتقدمين من أجل الحصول على فكرة أفضل عن استخدام الطلبة لاستراتيجيات القراءة، تم تصميم استطلاع قراءة: SRPDOS. المقابلة هي أداة أخرى لجمع البيانات استخدمت لمحاولة فهم قراءة المشاركين لأنواع مختلفة من النصوص. تم تحليل المعطيات التي تم جمعها باستخدام التحليل الإحصائي، تحليل المحتوى النوعي، والتحليل النقدي للخطاب. تشير النتائج إلى اختلاف معتبر بين الطلبة الجزائريين من ناحية الإدراك، المواقف، والقدرات في البيئة الرقمية والمطبوعة. فيما يتعلق بالفرق بين الجنسين، تتفوق الطالبات على نظيرهن الذكور في القراءة الرقمية، أما الذكور لهم أداء أفضل في القراءة المطبوعة. تعتبر قراءات الأناث شاملة على العكس من قراءات الذكور التي هي دقيقة. بالإضافة إلى ذلك، التفاوت بين المناطق الحضرية والريفية سطحي في الإطار الجزائري، حيث أن الاختلافات بين المجموعتين غير معتبرة. وأخيرا يتم ملاحظة الاختلافات بين المتحدثين باللغة العربية ومستخدمي اللغة الأمازيغية (البربرية) من حيث أنواع النصوص والتفضيلات للبيئة الرقمية أو المطبوعة. تم تفسير هذه النتائج من سياق اجتماعي ثقافي. إن خصوصيات الطلاب الجزائريين في الإنجليزية تجعلهم متعلمين مميزين، يظهرون مواقف خاصة في القراءة، الاستراتيجية المستخدمة، وأنواع النصوص التي يفضلون قراءتها. النتائج لها آثار متعددة على تدريس القراءة للطلبة في الإنجليزية في السياق الجزائري. كما تقترح توجيهات للبحوث المحتملة في المستقبل.

كلمات رئيسية: القراءة، القراءة المطبوعة، القراءة الرقمية، المنهج الاجتماعي الثقافي، الفرق بين الجنسين، الفجوة بين الريف والحضري، اللغة الأم، الطلاب الجزائريون في الإنجليزية كلغة أجنبية