Cognition and Language Learning

EDITED BY **SADIA BELKHIR**

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To Zoltán Kövecses

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CHAPTER ONE

COGNITION AND LANGUAGE LEARNING: AN INTRODUCTION

SADIA BELKHIR

Abstract

The connection between cognition and language is of paramount importance to language learning and teaching. Exploring this link may lead to an understanding of the part played by cognition in the English as a foreign language classroom. This is feasible by shedding light on the way multiple cognitive devices operate in language learning activities. This introductory chapter firstly gives a succinct account for the shift from behavioural to cognitive theories of learning. Secondly, it provides a brief overview of relevant research in the area of cognition and language learning. Finally, it describes the major objectives of the present volume and introduces its nine chapters.

1. Introduction

Research into the relationship between cognition and language is useful in understanding the functioning of the cognitive mechanisms underlying any language learning activities, particularly in educational settings. In the late 1950s, there seemed to be two different views concerning this relationship (Harris 2003). The former relates to Chomsky's ideas emerging out of his mentalist theory of generative linguistics. One of the main tenets of his theory is the existence of a mental innate capacity within all children that permits them to acquire the grammar of a language. This innate capacity which he called Language Acquisition Device (LAD), or Universal Grammar (UG), is believed to be located in the brain (Chomsky 2000). The second view characterising this relationship belongs to scholars in the fields of cognitive science and cognitive linguistics who stood out from

Chomskyan language acquisition philosophy. In cognitive-linguistic areas of research which contribute to language learning and teaching, the idea of an existing LAD or UG in the human brain is refuted, and the link between language and cognition places a special emphasis on such aspects as comparison, categorisation, pattern finding, and blending that are believed to "operate across all areas of language and are the same as those involved in other areas of cognition" (Littlemore 2009: 2). The present book looks at this relationship from a purely educational perspective, and aims to explore the interplay between cognition and language learning by looking at the role that cognition has with respect to skills development, language processing, bilinguals' perception of phonemes in a second language, vocabulary memorisation, metaphor identification, vocabulary attrition, motivation, and so on.

The audience for the *Cognition and Language Learning* volume includes students, teachers, educational practitioners, and researchers interested in research into the interaction between cognition and language learning. It is also destined for anyone working in the areas of language studies, language learning and teaching, cognitive linguistics, and applied linguistics. This book is also aimed at university undergraduate students and graduate students conducting research to obtain master's and doctoral degrees in English language learning and teaching, cognitive linguistics, and applied linguistics. *Cognition and Language Learning* represents a reference book for scholars investigating this specific area of language teaching and learning and is believed to be sufficiently pertinent to meet the needs of researchers in this field of investigation. This introductory chapter begins with an account of the shift in orientation from behavioural to cognitive theory that the sphere of language learning and teaching has witnessed. It then moves on to a review of research in the area of cognition and language learning. Finally, it provides the aim of the present volume and describes its constitutive chapters.

2. From behavioural to cognitive language learning approaches

For almost two decades, the behaviourist paradigm had dominated American psychology focusing mainly on observable behaviour, rejecting the contribution of mental processes to learning. Language acquisition was uniquely based on the principle of reinforcement wherein children's correct utterances were rewarded, leading them to form habits (Skinner 1957). This had an undeniable influence on language learning/teaching approaches, such as the audio-lingual method (Richards & Rodgers 1986). Afterwards,

the cognitive revolution redirected attention to human thought processes, thinking abilities and reasoning. It has now become impossible to deny the central role of cognition in language learning.

The term "cognition" refers to "the process by which knowledge and understanding is developed in the mind".[1] It also means "the use of conscious mental processes".[2] The adjectival form "cognitive" means "connected with thinking or conscious mental processes".[3] Cognitive psychologist, Matlin (2005: 2) defined "cognition" as a mental activity with various cognitive processes. In her view, cognition concerns the acquisition, storage, transformation, and use of knowledge, and includes a wide range of mental processes, namely, perception, memory, imagery, language, problem-solving, reasoning, and decision-making. She further described the cognitive approach as a theoretical stance that focuses mostly on people's knowledge and their mental processes.

Cognitivism is a linguistic current that appeared in the late 1950s and supplanted the behaviourist approach to learning. By then, learning theory had made a shift away from the use of behavioural procedures in education to an approach that drew on cognitive science. Educational practitioners moved away from classroom practices that considered only observable learners' behaviour and espoused methods that focused primarily on mental processes including thinking, problem-solving, language, concept formation and information processing. Thus, cognitive theory has gained too much prestige among existing learning theories (Ertmer & Newby 2013).

Cognitive linguistics emerged in the late 1970s and early 1980s as a field of research mainly concerned with exploring and explaining the tight link between language and cognition (Wilson & Keil 1999: 134). As has been argued, this discipline challenged Chomskyan generative linguistics (Littlemore 2009). Prominent figures characterising the cognitive linguistic approach include George Lakoff, Ronald W. Langacker, and Len Talmy. Their major interest was to deal with language as an instrument for organising, processing, and conveying information. Linguistic structures were analysed as manifestations of "conceptual organisations, categorisation principles, processing mechanisms, and experiential and environmental influences" (Geeraerts & Cuyckens 2007: 3). In a book chapter entitled *Cognitive linguistics, language pedagogy, and the English present tense*, Langacker (2001) sketched the pedagogical implications of cognitive linguistic theory. A further outstanding figure, Kövecses (2001:

[1] See https://www.oxfordlearnersdictionaries.com/
[2] See https://dictionary.cambridge.org/
[3] See https://dictionary.cambridge.org/

87), argued that "the theory of cognitive linguistics and the many descriptions of various aspects of language that it has provided so far are potentially useful in foreign language teaching (FLT)". This is to say, cognitive linguistics has contributed significantly to language learning and teaching. Indeed, its major principles have most importantly been adopted in educational settings (Verspoor 2017; Holme 2012, 2009; Lantolf 2011; Achard & Niemeier 2004, Atkinson 2002; Pütz et al. 2001; Langacker 2001; Kövecses 2001; Herrera & White 2000; Kövecses & Szabó 1996).

3. Research directions into cognition and language learning

The connection between cognition and language learning has intrigued many scholars within the research areas of cognitive linguistics and language teaching and learning (Pütz & Sicola 2010; Segalowitz 2010; Littlemore 2009; Robinson & Ellis 2008; Langacker 2001; Kövecses 2001; Herrera & White 2000; Skehan 1998). It is an issue that is increasingly significant and popular among scholars in all spheres of education and applied linguistics.

Skehan (1998), in his publication *A Cognitive Approach to Language Learning*, demonstrated the role of task-based instruction in second language learning. He drew on psycholinguistic and cognitive features characterising the process of language learning, focusing on the mechanisms underlying language processing. Skehan particularly put stress on the significance of individuals' cognitive disparities. Herrera & White (2000) investigated the contribution of cognitive linguistics to language learning in the economics classroom. They investigated the issue of whether the conceptual metaphor was related to the process of storing and retrieving information. Langacker (2001), with respect to cognitive grammar, considered linguistic structures as conceptual instruments whose meanings depended on the cognitive process of interpreting the situations wherein they occurred. Kövecses (2001) suggested some pedagogical implications of cognitive linguistics with regard to the learning of idioms in the English as a foreign language classroom.

Robinson and Ellis (2008) edited a book entitled *Handbook of Cognitive Linguistics and Second Language Acquisition.* It is a collection of chapters concerned with second language acquisition and also with "how language draws on other, more basic cognitive systems and abilities, such as perception, attention allocation, memory and categorisation". Ellis and Robinson (2008: 8) defended the view that "systematicities of second language acquisition are all, in essence, issues of second language

cognition". Littlemore (2009), in her published book, *Applying Cognitive Linguistics to Second Language Learning and Teaching* regarded cognitive linguistics as a dominant branch within linguistics, mainly in relation to the domain of second language teaching.

Segalowitz (2010) dealt with fluency within the scope of cognitive science and debated the advantage of a cognitive science approach in exploring fluency. Segalowitz (2010: 5) made the claim that "[o]nly by taking a cognitive science approach, capitalising on the variety and richness of its many component disciplines, can one hope to capture in a coherent perspective all the relevant factors that jointly determine fluency at any given moment". Pütz & Sicola (2010) edited a volume that dealt with the connection between cognition and second language acquisition. Its objective was to shed light, through research, on the issue of learners' involvement in second language acquisition contexts.

4. This volume

The present volume grew out of the Cognition and Language Learning Symposium, held in February 2019 at Mouloud Mammeri University, in Tizi-Ouzou. It concerns the interplay between cognition and language learning, and tackles such issues as cognition and skills development, language processing, vocabulary memorisation, metaphor identification, vocabulary attrition, motivation, perception of phonemes, and so on. The contributions to this volume jointly represent current forward-looking research in the interdisciplinary field of cognitive linguistics and education. The array of topics and methodologies that it presents is promising. The volume as a whole is an original investigation into issues that concern the mechanisms of human cognition with the intention of attaining a deeper understanding of how the processes of thinking, interpreting, strategy use, anxiety, attrition, perception, memorisation, and motivation affect learning and lead to effective procedures that enhance learning in educational settings. To date, there seems to be a sharp need for innovative research that examines the interrelationship between cognition and the process of language learning. The present volume aims to respond to this need. It offers a multidisciplinary perspective that examines the interplay between cognition and language learning. It brings together researchers interested in this research area to discuss their contributions, and to open debates about the part played by cognition in language learning.

In the second chapter of the volume, Kamila Ammour sets out to investigate some EFL students' metacognitive awareness of reading strategies when reading narrative texts. She conducts her study at Mouloud

Mammeri University of Tizi-Ouzou and deals with two major issues. Firstly, how third-year students in the Department of English read narrative texts, and secondly, whether they are fully aware of their reading strategies when reading narrative texts. Relying on a quantitative research design, and using a questionnaire, she shows that word-attack strategies are the most frequently used strategies by the participants when reading narrative texts. In addition, overfocussing on bottom strategies likely prevents readers from reaching higher levels of comprehension, most notably interpretation and critical analysis. Another significant conclusion that Ammour reaches is the correlation between text genre and strategy-use. It seems that the text genre is not of paramount importance for students who do not make a distinction between literary texts and other types of texts since they keep using the same strategies for all reading texts. As for metacognitive awareness, she demonstrates that participants are not fully aware of their reading strategies when they are engaged in reading narrative texts. It seems that they believe the information presented in texts, and do no further analysis. They do not make use of metacognitive strategies in order to arrange and evaluate the success of their reading process. A final conclusion that Ammour draws is that EFL students are neither well-equipped nor well-prepared to engage in deep reading tasks that require a judicious use and selection of reading strategies as well as a high level of metacognitive awareness. Accordingly, the challenge for EFL teachers is to guide and raise their students' metacognitive awareness.

The third chapter deals with language attrition which is the decay in language skills. This phenomenon is classified into L1, L2 and Foreign Language Attrition (FLA). The latter is the language knowledge that is forgotten later in life due to certain factors. In order to save these languages from attrition, scholars started working on language retention and relearning theories. Hence, they suggested the saving paradigm as a method which assumes that once a word is learned there are residues of knowledge that can be used to reactivate it. In this chapter, Fatima Zohra Chalal discusses the issue of language attrition in relation to instructed foreign languages. She offers a case study with the intention of examining a population of adult Kabyle multilinguals having English as their L4, and who are no longer using the language. She conducts an experiment with regard to one aspect of language attrition; i.e., vocabulary attrition. Using two English word lists displayed on small cards for the participants, in order to test the relearning and the acquisition stages, Chalal shows that the participants recalled the English vocabulary already learned easier and faster than when learning and retaining new English vocabulary. She thus concludes that the saving method explains and justifies the retention of the forgotten English

vocabulary and prevents it from attrition. Chalal finally makes some practical suggestions for further research in the field.

In the fourth chapter, Sadia Belkhir aims to assess the Metaphor Identification Procedure (MIP) elaborated by a group of eminent cognitive linguists called the Pragglejaz Group (2007). She reports on some small-scale experimental studies conducted with a group of EFL students in a higher education context (the Department of English at Mouloud Mammeri University). This is in order to show the potential effect of MIP upon their cognitive ability to identify metaphors within written discourse. The participants in the experiments are requested to identify metaphors within some passages extracted from a master's dissertation. Belkhir demonstrates that MIP is a tool that partially helps the students in the process of metaphor identification. Consequently, she suggests that it be complemented with additional data about conceptual metaphor and its linguistic manifestation in academic discourse in order to increase learners' proficiency in metaphor identification within written texts. She furthermore shows that most of the subjects partially memorise information about metaphors. Therefore, she proposes some remediation through regular practice in metaphor identification in discourse. With these findings, Belkhir makes a humble contribution to the field of education by offering useful data to educational practitioners and researchers.

As there is much evidence in the literature that the perception of second language (L2) phones is affected by the learners' first language (L1) phonological system, in the fifth chapter, Georgios Georgiou purposely seeks to explain how the already formed phonetic units of the learners' L1 affect the perception of L2 vowels. A total of 15 adult native speakers of Egyptian Arabic (all females) who have lived permanently for 4-5 years in Cyprus and learn Greek as an L2, complete a Greek vowel assimilation and an AXB discrimination test in order to investigate how they assimilate L2 vowels into L1 phonological categories, and to examine their ability in discriminating challenging L2 vowel contrasts. Georgiou demonstrates that the L2 learners assimilate the Greek stressed vowels /i e/ and the unstressed /i/ to the Egyptian Arabic phonological category /i/ while the Greek stressed and unstressed vowels /o u/ are assimilated to the Egyptian Arabic category /u/. Furthermore, there is a fair discrimination of the Greek stressed /i/-/e/ and stressed-unstressed /o/-/u/ vowel contrasts while the Greek unstressed /i/-/e/ is discriminated excellently. A strong influence of the learners' L1 on the perception of L2 vowels is observed since the acoustical differences of the vowels [e]-[i] and [o]-[u] are often not phonemic in Egyptian Arabic while these neighbouring vowel categories constitute different phonological categories in Greek. In addition, stress plays a significant role in L2

perceptual studies since stressed vs. unstressed vowels are perceived differently by L2 learners.

Research in psychology and cognitive science has had significant implications for both second language acquisition and language teaching. Recently, many researchers have suggested that the cognitive approach to language learning can be useful in developing and evaluating effective computer-assisted language learning (CALL) resources and tasks that can help create successful and long-lasting learning opportunities (Chapelle 2009; Garrett 1991; Sanozi 2018). In the sixth chapter, Amel Benaissa offers a study that aims to confirm the positive role of online Quizlets and digital flashcards on EFL learners' vocabulary gains and on maximising the information-processing stages needed to acquire and retain new lexis. She conducted a quasi-experimental piece of research with first-year university students to evaluate the retention and retrieval of new words. She assessed students' improvement by means of a pre and post vocabulary test. Unlike the control group students, the experimental group participants were introduced to the computer and the mobile version of the Quizlet website. The aim behind such training is to develop three aspects of their vocabulary acquisition; i.e., their passive vocabulary, their active control vocabulary, and their active free vocabulary. Her conclusion is that the facilitative role of the Quizlets program is partly confirmed by her findings. The experimental group students outperformed their control group counterparts both in the passive and active control vocabulary results ($p < .005$) but no significant improvement was noticed in their active free vocabulary test scores ($p = .878$).

In the seventh chapter, Nora Achili explores the contribution of attribution theory to the field of learner motivation in language learning. This issue is significant, as it offers valuable insights into learners' perceptions of success and failure in past performance and how this has an effect on their future motivation and achievement. According to attribution theory, failure/success outcome is not the only reason for motivation and achievement as learners' failure and success can be determined by their thoughts and beliefs in the causes of successful and unsuccessful actions. Consequently, Achili's goal is to understand some EFL learners' attributional perceptions through Weiner's attribution theory. In order to find learners' interpretation of their success and failure in learning and achievement performance, she designs a causal attribution questionnaire and administers it to 62 English language graduate students at the University of Boumerdes. One of her key findings is that success is mostly related to internal factors such as effort, while failure is explained by both internal and external attributions. Given the noted benefit of internal factors as being the

most adaptive attributional causes in successful learning, she goes on to suggest some teaching considerations to address the external attributional reasons which impact on motivation and achievement and mostly end in failure. She thus encourages teachers to help students make more adaptive attributions by turning the external factors into internal ones through adequate training programmes and strategies.

In the eighth chapter, Katia Berbar examines the relationship between anxiety and cognitive processing in learning English as a foreign language. She sets out to achieve two main objectives. First, she attempts to ascertain the degree of anxiety during the input, processing and output stages of language learning. Second, she strives to understand the impact of anxiety on students' cognitive activities. To this end, she conducts a descriptive case study at Mouloud Mammeri University of Tizi-Ouzou, Algeria, during the academic year 2016-2017. Her study involves 65 first-year students of English. Her major findings indicate that the participants suffer from high levels of input anxiety, processing anxiety and output anxiety and that anxiety is debilitating at each language learning stage. These results underscore the need to search for solutions in order to diminish the negative influence of anxiety on cognitive processing. Finally, the conclusions she draws are significant in the sense that they help us understand the influence of anxiety on students' cognitive tasks and uncover the main factors contributing to foreign language anxiety such as difficulties in comprehending spoken and written messages in English, writing about unfamiliar topics, and the inability to find suitable words to express ideas properly.

In the ninth chapter, Hanane Ait Hamouda provides a study to show how students perceive the non- or near-exclusive use of the target language in EFL classes and to figure out whether they consider code-switching a barrier in the cognitive process of producing English. To achieve this objective, Ait Hamouda designs an online questionnaire with open and close-ended questions, and emails it to second-year master's students enrolled in the programme *Language and Communication*, in the Department of English at Mouloud Mammeri University of Tizi-Ouzou. She then collects data and employs qualitative content analysis to examine the free-text answers of the respondents. Finally, she reaches the conclusion that the EFL classes at Mouloud Mammeri University do not have a pure target language environment. In addition, the students perceive the non-pure English language environment positively. Her results also reveal that code-switching in EFL classes does not alter the students' language production process.

5. Conclusion

This introductory chapter has sought to describe the shift from behavioural to cognitive theories of learning, and to provide a short survey of research into the area of cognition and language learning. It has furthermore described the major objectives of the present volume and introduced its chapters.

It goes without saying that the chapters presented in this volume demonstrate how cognitive aspects featuring language are relevant to the field of educational linguistics. It is hoped that this book will stimulate interest in the connection between cognition and language learning and foster its exploration in many other environments. The studies in this volume show the significant potential that cognitive linguistic approaches have to shed light on the tight link between cognition, language, and education.

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CHAPTER TWO

EFL LEARNERS' METACOGNITIVE AWARENESS WHEN READING NARRATIVE TEXTS AT MOULOUD MAMMERI UNIVERSITY

KAMILA AMMOUR

Abstract

The main objective of this study is to shed light on EFL students' metacognitive awareness when reading narrative texts. More to the point, it aims to examine the participants' reading strategies usage frequency as well as to measure their awareness of strategy-use when approaching narrative texts. Metacognitive awareness refers to the learners' control of their cognitive resources to meet the aims of the learning situation. Generally acknowledged as a higher-order cognitive activity, metacognition involves learners' capacity to evaluate and regulate their learning process. As regards narrative texts, it encompasses a variety of genres including both fiction and nonfiction. Algerian EFL students are required to read narrative texts in different courses such as civilisation, literature, and writing. Accordingly, 75 third-year students enrolled in the Department of English were randomly selected to participate in the study. In order to collect and analyse data, a quantitative research design was adopted by using a questionnaire as a basic data collection instrument. The collected data were analysed by means of descriptive statistical procedures. The findings showed that the respondents make use of an array of reading strategies to interpret texts. However, their strategies are limited to word level and confined to the literal meaning of texts. Furthermore, they are not conscious enough of their process of constructing meaning from narrative texts. Their lack of metacognitive awareness and inefficient use of appropriate reading strategies are likely to hinder their achievement in critical reading comprehension. The findings of the present study alert both students and teachers to the appropriate and judicious use of reading strategies when reading narrative texts. The

conclusion to be drawn from the discussion of the empirical findings is that the role of EFL teachers is to raise their students' metacognitive awareness.

Keywords: EFL students; Metacognitive awareness; Metacognition; Narrative texts; Reading strategies

1. Introduction

In an EFL context, reading is perceived as an important gateway for gaining knowledge. It is a complex cognitive ability that involves interaction between readers' background knowledge and text information resulting in comprehension. According to Bernhardt (2000: 701), one of the major purposes of learning a foreign language is reading. EFL learners can easily handle several academic tasks if they are empowered and equipped with appropriate reading strategies. In addition, they need to be able to control and regulate their reading abilities—a process which is known in the literature as metacognitive awareness which entails "*knowledge of strategies for processing texts, the ability to monitor comprehension, and the ability to adjust strategies as needed"* (Auerbach & Paxton 1997: 240).

The purpose of this study is to investigate Algerian EFL students' metacognitive awareness of reading strategies when reading narrative texts. The choice of this topic is grounded in the fact that very few studies have focused on metacognitive awareness in the Algerian context. A group of third-year students at the University of Tizi-Ouzou participated in the study. Third-year EFL students were asked to read and make a critical analysis of several passages in different courses like literature and civilisation. Knowing that these passages are generally extracted from novels or biographies, it is important to investigate the extent to which the students are aware of the appropriate reading strategies to use when reading narrative texts. In other words, the main objective of this paper is to shed light on the way third-year students at the Department of English read narrative texts by focusing on readers' strategies usage frequency as well as metacognitive awareness. Accordingly, the following questions are asked to guide the present research:

1. How do third-year students in the Department of English read narrative texts?
2. Are the participants fully aware of their reading strategies when they are involved with the task of reading narrative texts?

The general hypothesis on which the present study is based runs as follows:

In order to make their reading more efficient, third-year students attempt to use a variety of reading strategies that they have already studied in different reading comprehension courses regardless of the text genre. In addition, their degree of metacognitive awareness is likely to shape their success or failure in reading narrative texts.

2. Review of the Literature

2.1. Reading Comprehension and Reading Strategies

Reading is a process of extracting meaning from texts for different purposes. It encompasses decoding symbols of writing systems and interpreting meaning. The latter requires the interaction of various variables, most notably the reader's purpose, the strategies used, as well as the text genre. All these factors make reading comprehension a complex cognitive activity. It is, to borrow Snow's words (2002), the process of simultaneously extracting and constructing meaning through communication and involvement with written symbols.

Reading strategies are the mental operations involved when readers approach a text effectively and make sense of what they read (Barnett 1988). When readers employ effective reading strategies, they become able to decode and interpret information presented in texts. Since one of the factors that determines efficient reading comprehension is strategy-use, the major focus of reading strategies research during the last few decades has been the identification of reading strategies used by successful or less successful readers (Hosenfeld 1977).

2.2. Strategies for Reading Narrative Texts

Narrative writing relates to texts that tell a series of events in a sequential order. It encompasses a variety of genres including both fiction such as tales, legends, drama, romance, or historical fiction, and nonfiction like biographies or essays. Both forms present events in chronological order by using specific narrative techniques. Imaginative language is a common literary technique in narrative writing. Narration can be used to accomplish several aims such as informing, educating, convincing, entertaining, pleasing or stating strong feelings and passion.

Reading strategy-use is generally claimed to be genre-sensitive. A variety of reading strategies that can be used by readers in different phases of the reading process (pre-, while, and post-reading) are reported in the literature. However, it is important to note that a good reader is one who

knows how to use reading strategies and also how to select the appropriate ones depending on their purpose. As far as reading narrative texts is concerned, here is a list of some reading strategies that are appropriate for this genre of text, as stated in the reading comprehension third-year syllabus:

- Making connections.
- Making predictions.
- Selecting important information.
- Asking questions.
- Monitoring the reading process.
- Figuring out the plot structure.
- Getting personally involved in the events.
- Synthesising information.
- Taking a cognitive step back and reading the text critically.

2.3. Metacognition and Metacognitive Awareness

First coined by the American psychologist, John H. Flavell, in the 1970s, metacognition is viewed as consisting of two dimensions: knowledge of cognition and regulation of cognition. It is the consciousness of one's own thoughts and the factors that influence one's thinking. In simple words, it refers to the control that learners have over their cognitive processes allowing them to plan, sequence, and monitor their learning. It is essential to successful learning because it enables individuals to think about how they perform any task. It is, accordingly, a way of better managing one's cognitive skills.

Metacognitive Awareness refers to learners' awareness of their learning process that can be regulated and monitored. According to Flavell (1976: 232), metacognitive awareness is *"one's knowledge concerning one's own cognitive processes and products or anything related to them*". Indeed, recent research (Mokhtari & Sheorey 2002; Alhaqbani & Riazi 2012; Pinninti 2016) indicates that metacognitively aware learners are more strategic and perform better than unaware learners.

As far as reading is concerned, it is common among researchers to relate metacognitive awareness to reading strategies. A substantial body of research on the metacognitive awareness of reading strategies has been reported in the literature over the last few decades. To be metacognitively aware of reading strategies is to know what, when, where and how to use strategies during the reading process. According to Iwai (2011: 153), metacognitive reading strategies are classified into three groups:

- Planning: pre-reading strategies.
- Monitoring: while reading strategies.
- Evaluating: post-reading strategies.

3. Methodology

3.1. Participants and the Context of the Study

The study was carried out at Mouloud Mammeri University located in Tizi-Ouzou, Algeria. The target population under investigation is Algerian EFL students preparing their bachelor's degree in English. All of them are third-year students who are supposed to be skilled readers for academic purposes since they have been taking a reading comprehension course for three years. From the whole population, 75 undergraduate students were randomly selected as participants in the study. 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*" (Dörnyei 2007: 97). It is more appropriate for quantitative research design and large samples.

3.2. Data Collection and Analysis

The study employed a quantitative research design using a questionnaire composed of sixteen (16) items adapted from the Metacognitive Awareness of Reading Strategies Inventory (MARSI) which was designed by Mokhtari & Reichard (2000). The questionnaire items are closed-ended and aim to measure the students' awareness and use of reading strategies when reading narrative texts. Several reading strategies for narrative texts are targeted. As regards data analysis, the collected data were analysed quantitatively using descriptive statistics. The frequency of each strategy was calculated.

4. Results

Descriptive statistics based on the response data obtained from the participants' questionnaire using the Statistical Package for Social Sciences (SPSS) are presented in Table 1:

Questionnaire Items	Yes (%)	No (%)
1. Do you set some goals before reading a narrative text?	63	37
2. Do you try to guess the meaning of unknown words from the context?	73.6	26.4
3. Do you slow down when you encounter important information?	72.1	27.9
4. Do you organise different pieces of information as most or least important?	15	85
5. Do you focus your attention on important information?	56.8	43.2
6. Do you use different reading strategies depending on the situation?	23	77
7. Do you ask yourself if there is an easier way to do things after you finish a task?	21.7	78.3
8. Do you periodically review what you have already read to help you understand important relationships?	17	83
9. Do you ask yourself questions about the text format before you begin reading?	64.3	35.7
10. Do you think about different ways to solve a problem and choose the best one?	29.6	70.4
11. Do you think about the use and usefulness of reading strategies when you read?	22.7	77.3
12. Are you aware of what strategies you use when you read?	21.5	78.5
13. Do you make use of your cognitive strengths to compensate for your weaknesses?	46.3	53.7
14. Do you know your strengths and weaknesses when reading narrative texts?	10.5	89.5
15. Do you use the organisational structure of the text to help you understand?	29.4	70.6
16. Do you ask yourself how well you accomplish your goals once you finish reading?	12.6	87.4

Table 2-1. Participants' Reading Strategy-Use and Metacognitive Awareness

Table 1 reveals that the participants show different degrees of awareness and use several reading strategies when reading narrative texts.

Five reading strategies are revealed to be the most frequently used ones. These strategies can be grouped into two categories. The first category includes "Setting goals for reading" (item #1) and "Skimming" (item #9) that relate to pre-reading planning strategies. The second category encompasses word-attack strategies which are "guessing the meaning of unknown words" (item #2); and "adjusting reading speed and selecting cognitive strategies accordingly" (items #3, item #5). Conversely, monitoring and evaluating strategies have been depicted as the least frequently used strategies. As a matter of fact, more than 50% of the participants reported their lack of use of "Evaluating reading materials"; "Repairing miscomprehension"; "Analysing the text and paragraph structure to clarify the author's intention"; and "Engaging in self-questioning to determine if the objectives have been reached".

In addition to the variance in terms of strategy-use, the findings show the degree of the participants' metacognitive awareness. The respondents are not conscious enough of their process of constructing meaning from narrative texts. They make use of an array of reading strategies to interpret texts. However, their strategies are limited to word level and confined to the literal meaning of texts. Their lack of metacognitive awareness and inefficient use of appropriate reading strategies are likely to hinder their achievement in critical reading comprehension. According to these empirical findings, one can safely claim that the participants' awareness and use of reading strategies depend mainly on the strategy type regardless of the text genre.

5. Discussion and Conclusions

5.1. Overfocus on "Word-attack" and "Planning Strategies"

The findings of the empirical study show that word-attack strategies are the most frequently used strategies by participants when reading narrative texts. Given the complexity of this genre and the students' level (third-year students), this category of strategies does not lead them to efficient reading comprehension. Indeed, these strategies are not meant to be exclusively used to the detriment of more cognitively complex ones. Overfocussing on bottom strategies is likely to prevent readers from reaching higher levels of comprehension, most notably interpretation and critical analysis. Reading, indeed, is a complex cognitive ability that involves interaction between the information presented in texts and the reader's background knowledge resulting in comprehension. Goodman (1970) views reading as "*a psycholinguistic guessing game*" involving interaction between thought and

language. Reading efficiency, to borrow his words, does not result from precise identification of all the elements presented in a text. It rather relates to a judicious selection of the fewest, most productive cues necessary to produce guesses which are right the first time.

Another significant result of the study is the correlation between text genre and strategy-use. It seems that the text genre is not of paramount importance for students who do not make a distinction between literary texts and other types of texts since they keep using the same strategies for all reading texts. In this vein, it has been revealed in a previous study (Ammour 2009) that EFL reading is mainly perceived as a means to an end in the Algerian education system. It is mainly used to introduce new grammatical rules or vocabulary items. The same perception of reading seems to be replicated by those university students who overfocus on reading as a decoding process rather than an interpretive one.

The present study also reveals that "planning" strategies employed in the "pre-reading" stage are among the most frequently used strategies. However, the least frequently used strategies are "monitoring" and "evaluating" that relate to the "while" and "post-reading" phases. A possible interpretation of this finding is that before engaging in a reading task, the participants employ some planning pre-reading strategies to get ready and be involved in the task. Nevertheless, the strategies used in the while-reading stage or at the end of reading seem to be more complicated for the participants who neglect their use. An implication of this finding is that more activities aimed at helping students to feel more at ease with strategy-use during and at the end of the reading process may be integrated into reading comprehension courses.

5.2. Lack of Metacognitive Awareness

Metacognitive awareness relates to the ability to consciously think over one's own cognitive processes. It has been shown in various studies (Phakiti 2003; Sheorey & Mokhtari 2001) that reading comprehension is moderately related to metacognitive awareness, as metacognition plays a powerful role in reading efficiency. It helps learners to be aware of what they have read and learned to achieve text comprehension. It has been reported in the literature that while cognitive skills are necessary to perform a task, metacognition is necessary to understand how the task is performed (Garner 1988). During the reading process, readers make use of metacognition to analyse their cognitive processes and use the appropriate strategies that help them to construct meaning from texts.

The findings of this study reveal that the participants are not fully aware of their reading strategies when they are engaged in reading narrative texts. They seem to take the information presented in texts for granted since they do not go further in their analysis of pieces of information. In addition, they do not make use of certain metacognitive strategies in order to arrange and evaluate the success of their reading process. These findings do not support the results of other empirical studies (e.g. Block 1992; Sheorey & Mokhtari 2001) indicating that EFL students, like their native counterparts, are aware of their reading process which can be regulated and monitored. Therefore, offering reading metacognitive instruction to Algerian EFL students is likely to help them become strategic and thoughtful readers.

5.3. The Challenge for EFL Teachers

In the light of the findings of the present study, we can come to the conclusion that EFL students are neither well-equipped nor well-prepared to engage in deep reading tasks that require a judicious use and selection of reading strategies as well as a high level of metacognitive awareness. Accordingly, it becomes clear that the challenge for EFL teachers is to guide and raise their students' metacognitive awareness by considering the following tips in their classes:

- Offering explicit instruction to EFL students on why and how to use reading strategies when reading narrative texts.
- Helping EFL learners focus on procedural knowledge.
- Focusing on the generic structure of texts.
- Varying the reading strategies depending on the text type and the objective of the task.

Overall, the findings of this study helped us to shed light on the way EFL students read narrative texts by focusing on their metacognitive awareness. Nevertheless, the findings should be treated with caution, as the study was limited in several aspects. It should be mentioned that it was a small-scale piece of research and exclusively quantitative in its design. In addition, since it was based on a survey, the study relied highly on the participants' perceptions. Accordingly, much research remains to be done in this area, and it is recommended that future studies include other variables and explore the issue in different sociocultural contexts by using other research tools.

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CHAPTER THREE

VOCABULARY ATTRITION AMONG KABYLE MULTILINGUAL ADULTS WITH L4 ENGLISH

FATIMA ZOHRA CHALAL

Abstract

The present paper discusses the issue of language attrition in relation to instructed foreign languages. In order to save from attrition the languages people acquire throughout their lives, scholars interested in attrition research are working on language retention and relearning theories. Hence, they suggested the savings paradigm as a method which assumes that once a word is learned, there are residues of knowledge that can be used to reactivate it. To test this hypothesis, the paper presents a case study which intends to examine a population of Kabyle multilinguals having English as their L4, and who are no longer using the language. The experiment sheds light on one aspect of language attrition which is vocabulary attrition. The findings of the test revealed that the participants recalled the English vocabulary already learned easier and faster than learning and retaining new English vocabulary. Therefore, it appears that the savings method explains and justifies the retention of forgotten English vocabulary and contributes to preventing it from attrition.

Key Words: Foreign Language Attrition, Foreign Language Teaching, Kabyle Multilinguals Savings Method, Vocabulary attrition.

1. Introduction

Research on Foreign Language Attrition (FLA) is an important issue which has been gaining considerable interest in the last few decades. As a great deal of research was conducted three decades ago, there is, however, a need for recent studies investigating the topic. The need for FLA research can be

justified by the modern language learners' profile, which is no longer the same as that of 30 years ago. As the world is becoming multilingual due to the ease of contact between people from diverse parts of the globe, learning a foreign language is considered an opportunity as well as a challenge. In other words, FL learning and mastering requires time, effort and money. Hence, shedding light on FLA studies is important in order to save languages and prevent them from loss. In light of this, the present paper deals with instructed FLA and the measures that should be taken to reduce attrition risks. Firstly, a review of language attrition in general and FLA, in particular, is carried out. In addition, the savings paradigm, as a suggested method to save foreign languages from attrition, as well as the implication of FLA research in foreign language teaching and learning are highlighted too. Secondly, a case study is also conducted in order to test a small group of multilinguals on their English vocabulary savings. This case study works according to a hypothesis which claims that the relearning process is faster and easier than the acquisition process because of memory savings or residual knowledge.

2. Background Literature

2.1. Language Attrition

The 1980s saw a number of official studies and investigations on language attrition which started attracting the attention of researchers such as Gürel (2004); Schmid (2002); Hulsen (2000); Yağmur et al. (1999); Hansen (1999); De Bot & Clyne (1994); Seliger & Vago (1991) and De Bot and Weltens (1991). Before reviewing this emergent field, it is useful to clarify and distinguish some concepts that may lead to confusion in the literature. These concepts include *language shift, language death, language loss, language regression*, *and language attrition*.

Research on *language shift* is the interest of sociolinguists; it refers to the loss of a language or a dialect over time. It takes place in language contact situations, especially in diglossia situations, migrant communities or bilingual ones where two languages or varieties co-exist side by side leading gradually to the replacement of one language by the other (mainly by the dominant one). The extreme result of *language shift* is *language death.* The latter is another sociolinguistic issue, which refers to the total disappearance of a language, meaning that it is no longer used in a community. For instance, language users may fail to pass on their language to the following generations. While language shift is used only for groups or communities of language users, *language loss* is concerned with both

group and individual levels. It stands for any type of decline in linguistic skills. As far as *language regression* is concerned, it mainly denotes any decrease in the linguistic ability of children which is often taken as a symptom associated with some medical conditions like autism or degenerative disorders of the brain. *Language attrition,* which is the focal point of the present paper, refers to the decrease of linguistic skills in healthy individuals over time. Mehotcheva (2010) further explains that language attrition is distinguished from language loss in the sense that the former rejects forgetting theories claiming that the information represented in the brain cannot be completely erased; rather, it just becomes inaccessible. That is to say that language attrition goes in line with forgetting theories claiming that a language can be retrieved and relearned. Additionally, language attrition should not be confused with aphasia. According to the Research on Language Loss, Oxford (1982), language attrition focuses on studies carried out with normal and healthy individuals, unlike aphasia which deals with language disorders or loss because of brain damage.

Within the field of language attrition, a further distinction is made between *L1 attrition* and *L2*/*FL attrition*. The former refers to the attrition of a native language; this type is mainly associated with immigrants. The latter refers to the attrition of further languages acquired later in life in formal as well as natural settings (Schmid & Mehotcheva 2012). In fact, many studies do not make any distinction between L2 and FL attrition; yet, many others distinguish between the two types of attrition. Accordingly, *L2 attrition* is defined as involving the attrition of a naturally acquired second language, whereas *FL attrition* deals with a school/university learned language. This paper considers this distinction as misleading because in many cases, an L2 can be learned at school and an FL may be acquired in a natural setting. In this respect, if there is a need to keep the two separate, this should be done on the basis of the status of the language in a given community. This means that the L2 is generally given more status than the FL and this may affect the degree of attrition of the L2 compared to the FL. According to Schmid and Mehotcheva (2012), these two types of attrition can be separated in terms of the quality and amount of input, exposure to and the use of non-native language. Therefore, this study sheds light on instructed FL attrition; that is, the decrease in the abilities and skills of the additional languages that a multilingual learns (at school and university) and adds to his/her L1 and L2. The next point in this review will elaborate on FLA.

2.2. Foreign Language Attrition (FLA)

Over the past 25 years, FLA has become a significant research topic that has attracted the attention of a number of researchers. Background research and studies on the three types of attrition differ in terms of quantity. The majority of attrition research focused mainly on L1 attrition; also, interest was given to L2 over FL attrition research.

The question for FL attrition is how much of the learned foreign language knowledge is retained in the multilingual's mind later in life. Since the body of research on FL attrition is humble, the researchers who are interested in this field often rely on the following noteworthy studies: Mehotcheva's (2010), Xu's (2010), Murtagh's (2003), Grendel's (1993), Weltens's (1988), and Bahrick's (1984).

Bahrick's (1984) work dealt with the ways adult English L1 speakers retained the Spanish language. Weltens's (1988) project concerns the retention of school-acquired French among Dutch L1 learners for a period of four years. Grendel (1993), relying on Weltens's design, explored lexical knowledge attrition of 200 Dutch high school students who had studied French from four to six years by testing them two and four years after the end of their instruction. Lelia Murtagh (2003) examined the way Irish high school leavers retained the Irish language by interviewing them twice after completing their instruction of Irish, and then 18 months later. Mehotcheva's (2010) study was on the attrition of university-acquired Spanish which is later practised in real life among Dutch and German university students. Finally, Xu's (2010) investigation was on school-learned English in Chinese and Dutch universities and the way it is attrited and retained among students. The major findings of the aforementioned studies are summarised in the following points:

- Productive skills are more at risk of attrition than receptive ones. This is relevant especially when current approaches stress the teaching of receptive skills. However, recent changes in FLT approaches (mainly the shift towards a communicative approach) have considerably transformed the linguistic profile of populations by stressing the four skills evenly. Thus, future research should focus on the attrition of receptive skills as well.
- Attrition sets in rapidly and then levels off (Bahrick 1984; and Weltens 1988). That is to say, more attrition takes place in early periods of non-use than in subsequent ones.
- Attrition is not a linear process (Mehotcheva 2010). Hence, the duration of the non-use period does not predict the amount of language lost; and the assumption that the longer a person does not

use the language, the more the language is lost is proved to be irrelevant.

- Initial proficiency (Mehotcheva 2010; Murtagh 2003; Weltens 1988), as well as course quality and quantity (Bahrick 1984), may predict language attrition and/or retention. The aforementioned studies found that advanced initial proficiency, higher course grades and a large number of courses were related to better retention of the language.
- Cognates are less exposed to attrition as compared to non-cognates, and the continuous learning of additional foreign languages may contribute to saving some parts of the language from attrition (Weltens 1988).

These are the main results of the previous studies on FLA. However, the generalisability of these findings is questionable as they dealt with some case studies in particular contexts, so further studies should be conducted to enrich the body of FLA research.

In addition to the illuminating findings of the abovementioned studies, Schmid and Mehotcheva (2012) discuss a number of extralinguistic aspects that may be relevant when investigating FLA studies. These factors can be divided into two sets: personal and external. Personal factors include age at the onset of attrition, and attained proficiency, whereas external factors include length of exposure to the language, language contact and language use. Firstly, "age at onset" should be accounted for in language attrition research as many studies have shown that children attriters lost their languages faster and sometimes more entirely than adolescent and adult attriters. Thus, it is important to distinguish and draw a line between the language attrition studies investigating the two different populations. Secondly, "attained proficiency" is another factor which is relevant to research in FL attrition. It is believed that a higher initial proficiency causes better retention of the language. That is to say, for more proficient learners, the information "is tied into an extensive and redundant structure [… that] is sharply resistant to forgetting" (Neisser 1984: 34 cited in Schmid & Mehotcheva 2012). Thirdly, "length of exposure" leads to higher retention of a language (Hansen, 1999). That is, the longer the period a person spends in the country speaking/using the language, the better she retains the language. Fourthly, "contact with the language" is a factor which assumes that the more a language is used, the better it is retained and vice versa. Hence, the recency and frequency of language use are crucial in preserving accessibility to the language. This indeed contradicts the findings of

previous researchers stating that the duration of the non-use period does not affect the amount of language lost (Mehotcheva 2010).

There are considerable theories that have tried to explain the FLA process, namely: The Dynamic Model of Multilingualism (DMM) by Herdina and Jessner (2002), The Neurolinguistic Theory of Bilingualism (NTB) and its Activation Threshold Hypothesis (ATH) by Paradis (1993, 2004, 2008), the Regression Hypothesis (RH) by Ribot (1882) and The Savings Paradigm by Nelson (1978). This paper focuses on the savings paradigm; the other models, though important, are not the interest of this study. Hence, the next section deals with the savings model and the way it supports language retention research for the sake of reducing FLA.

2.3. The Savings Paradigm

Research on language attrition often leads to research on language retention because attrition research contributes to the understanding of human memory as well as the mechanisms governing language; i.e. the way language is accessed and processed, and the way the linguistic knowledge is organised in the human mind (Schmid & Mehotcheva 2012).

In his memory studies, the German psychologist, Ebbinghaus (1885) established a "forgetting curve" for lexical knowledge through conducting his famous experiment. He memorised 169 series of 13 different syllables then tested his memory to check the retention of some of the series memorised at different intervals ranging from 21 minutes to 31 days. Following this technique, he was able to figure out the amount as well as the depth of his forgetting. This is what is known today as Ebbinghaus' forgetting curve which explains that around 60% of lexical knowledge is retained after the first 20 minutes, 55% is retained after one hour, 38% is retained after eight hours, 32% is retained after two days, and 28% is still retained after 31 days. Therefore, Ebbinghaus concluded that during the process of remembering information, there is a quantity of remaining information in the memory, or what he calls "savings" for the learned items, that is activated. In this psychological view on forgetting, Ebbinghaus (1885) assumes that in the human memory, some information becomes remote because of various factors, but this information can be recalled provided that the right cues are utilised; thus, he created the paradigm/method of relearning (as cited in MacLeod 2008).

Nelson (1978) adapted Ebbinghaus' theory of relearning to language attrition research and elaborated his method called the "Savings Paradigm". In relation to a forgotten language, the "Savings Paradigm" rests on the idea that after learning a word, there are residues of knowledge that can be

employed to reactivate it. There are different levels of activation in the remembering process: the recall level (higher), the recognition level (lower), and if the threshold falls below the recognition level, the word is said to be lost. In addition to this, Nelson (1978) assumes that this residual knowledge facilitates the relearning of words more than the acquisition of new (unknown) ones. Put differently, memory savings are seen in the relearning rather than in the original learning in terms of the number of trials that individuals make in the process of remembering a forgotten word as well as in the process of acquiring a new one (MacLeod 1988). Therefore, this relearning theory attempts to help multilinguals save their languages from attrition.

2.4. Implications for FL Education

Language attrition research is relevant to FL education as it contributes to better language planning and syllabus design and to more effective and efficient language teaching programmes that take into account factors that lessen language attrition. Preventing school/university-acquired foreign languages from attrition is the responsibility of all education stakeholders; i.e. language teachers, language learning policymakers, course designers, as well as language students (Schmid 2004).

Language teachers need to be aware of language attrition because they are responsible for providing efficient solutions or preventive measures to maintain languages. This can be achieved through facilitating language retention and studying the limitations in the retention of the FL.

Next, learning policymakers should get rid of memory-related habits such as mechanic repetition and imitation as they impede the learning process and obstruct long-term retention, because language materials, which are mechanically learned, are not based on interaction with cognitive structures. Hence, a language that is acquired in meaningful ways and through good quality learning, especially in the early phases of acquisition, is less prone to be forgotten and more likely to be retained.

As far as language curricula are concerned, course designers should modify language syllabi in such a way to include language maintenance techniques. Furthermore, since adult learners are more equipped to acquire and retain the language than children thanks to their analytical, problem-solving, as well as metacognitive skills, they should not be taught in the same way as young language learners. Put differently, curricula should best accommodate the particular target populations by facilitating their acquisition and thus preventing attrition. Additionally, the more authentic the materials are, the better FL exposure and practice the learners get and

the higher proficiency they reach. Consequently, their higher proficiency leads to longer retention of the FL knowledge (Alharthi & Al Fraidan 2016). All in all, a detailed understanding of the phenomenon of attrition may be helpful in designing better language curricula and syllabi, efficient lesson plans, and teaching methods enhancing long-standing linguistic outcomes.

3. The Case Study

3.1. The experiment

The rationale behind this experiment is to replicate some experiments reported by Kees De Bot and Vanessa Martens in (2015) in which the researchers compared acquisition success rates of newly acquired FL words with words that have already been acquired in the past through instruction. These experiments aimed to test the savings paradigm by finding out the existence and accessibility of FL students' residual lexical knowledge. The outcomes revealed that the participants; i.e. students of German in the U.S. and students of French in the Netherlands, performed better at relearning old words than at learning new words. Therefore, the present contribution attempts to add new findings in an EFL context (i.e. Algeria) that either support or refute the results that have been reached in the previous experiments. If the findings of our experiment are in line with De Bot's and Martens' (2015) results, they may contribute to encourage future research dealing with the implementation of the savings paradigm method in the foreign language education context for the sake of saving the English lexis from attrition.

3.1.1 Participants' profiles

The present study deals with a number of university students in Algeria who were tested on the lexical knowledge of English they had acquired in their middle school education. The sample taking part in the present experiment is more or less homogeneous. It includes 12 male and 08 female master's students in industrial automatics at Mouloud Mammeri University of Tizi-Ouzou, Algeria, whose ages vary between 22 and 23 years old. All the participants are multilinguals and have Kabyle as their L1, Arabic as L2, French as L3 and English as L4; and they have all studied English for 07 years (04 years at middle school and 03 years at secondary school), and have not been using the language for 04 years.

3.1.2 Materials

As far as the materials are concerned, the experiment makes use of two English word lists as shown in Table 2 (see Appendix). List "A" includes 50 high-frequency English words that are elicited from the four EFL textbooks used in middle school education relying on Grazib's (2014) study on the elicitation of the Corpora in all Algerian EFL textbooks. This experiment deals with middle school textbooks only, because from 2002 to 2016, all Algerian learners used the same four textbooks which is not the case with secondary school textbooks that are divided into different streams. Put differently, all of the 20 participants acquired the 50 high-frequency English words during their middle school education (i.e. 07 years ago).

List "B" consists of 50 low-frequency English words which are compiled from a dictionary and which are unknown to the participants. These 50 words were emailed to the 20 participants prior to the experiment in order to check whether they had already heard of them. 03 out of 50 words were known by some participants and were thus replaced by 03 new unknown words (i.e. hacker, lipstick and silver were replaced by coat, lorry and knee).

Both the high-frequency and low-frequency English word lists were translated into French (L3) because, ironically, it is the language in which all participants can find equivalents of the English words, which is not the case with their L2 (Arabic) and their L1 (Kabyle: a variety of Tamazight). This is probably due to the fact that French is the language of instruction in the Industrial Automatics Department at Mouloud Mammeri University of Tizi-Ouzou, Algeria.

3.1.3 Procedure

To test the relearning/recalling process of forgotten words and the acquisition process of unknown words by the master's students taking part in this study, the experiment includes two stages. In the first stage, the 50 high-frequency words of list "A" are written on small note cards. The front of each card contains the English word and the back contains the French translation of the word. Each participant is shown a word and is asked to provide its French translation. This procedure is followed until all 50 words are presented. The words that each student succeeded in recalling were removed from the test (i.e. from the box of cards) and were thus crossed off the list that is kept with the researcher, whereas the items which the students did not succeed in recalling were grouped into a new list. These new lists of forgotten items were different for each student depending on their

performances in the first step (see Table 1). The next step of the experiment makes use of these lists of forgotten words. Each participant is shown the French translation of the items from his/her own list of forgotten words for 06 seconds per item in order to remember the words. After this, the students are shown a number of words, which are randomly taken from the 50 items of list "B" (new list) alongside their French translation for 06 seconds per item, similar to the numbers of their forgotten words (old list). These are shown for the sake of acquiring new unknown words. It is worth stating that the items (cards) of both lists (the old and the new) are mixed in one box. To illustrate, participant 01 was shown the translation of the 12 words she forgot and the translation of 12 new unknown words item by item.

In the second stage, after about an hour and a half during which time the participants had their lunch break, they came back to the experiment room and were asked to find the French translation of all the words shown to them. Whenever a participant succeeds in translating the word presented, the latter is removed from the list (and from the box of cards). This process is followed until all the items of the two mixed lists have been presented. The researcher wrote the number of attempts each participant made to recall or acquire every single word, as this will serve as a comparison later (see Table 1).

3.2. Results

The results demonstrate that the students performed better in the recall process than in the acquisition process. The time spent recalling items from list "A" was shorter than the time spent acquiring list "B" items due to the number of attempts at each single item from the two lists, as shown in Table 1 below. That is, the rate of recall attempts for the forgotten words from list "A" is 01.77% whereas the rate of acquisition attempts for the unknown words from list "B" is 04.30%. Moreover, 100% of the forgotten words (old words) were recognised correctly after only a few attempts, which is not the case with the new unknown words, as 87% of them were learned/memorised after several trials and 13% could not be memorised because the participants became bored and gave up the acquisition process. Accordingly, a savings effect is found because part of the students' lexical knowledge that was forgotten is still accessible and could be activated during the relearning phase. The results of the experiment are displayed in Table 1. These findings will be discussed in the next section.

Table 3-1: Results

	Number of forgotten words from list "A"	Rate of recall attempts of the forgotten words from list "A"	Rate of acquisition attempts of the unknown words from list "B"
Participant 01	12	01.92%	03.75
Participant 02	17	02.41%	04.11%
Participant 03	08	01.62%	03.50%
Participant 04	10	02%	04.30%
Participant 05	12	01.75%	04.12%
Participant 06	07	01.28%	03.62%
Participant 07	09	01.78%	04.05%
Participant 08	05	01.33%	03.43%
Participant 09	08	01.62%	04.12%
Participant 10	07	01.57%	04.15%
Participant 11	06	01.67%	04.62%
Participant 12	10	01.60%	04.75%
Participant 13	10	01.70%	04.65%
Participant 14	12	02.17%	04.83%
Participant 15	15	02.33%	05.03%
Participant 16	21	02.40%	05.15%
Participant 17	08	01.53%	04.36%
Participant 18	07	1.42%	04.24%
Participant 19	11	01.68%	04.56%
Participant 20	09	01.65%	04.62%
Average	-	**01.77%**	**04.30%**

3.3. Discussion

From the 20 tests reported in this paper, it appears that the majority of the findings are more or less in line with the previous body of research reviewed in the literature. For the sake of comparison, the discussion of the results is divided into two sections: the relearning part and the acquisition part.

For the relearning part, the results show that the participants remembered the majority (i.e. 74%) of list "A" words that they had already acquired in middle school education, whereas only 26% of the words were forgotten. This may be explained by the length of exposure (Hansen 1999) to the English language; that is, 07 years and the short duration of non-use

of the language (i.e. 04 years) that the students had. It was noticed that in their relearning/recalling of the 26% of the forgotten items, the participants spent a short period of time with a rate of 01.77% of trials and succeeded in recalling 100% of the forgotten words.

However, some individual differences must be acknowledged. Participants 08, 10, 11 and 18 forgot fewer words (05, 06 and 07 words only) compared to participants 02, 15 and 16 who forgot 17, 15 and 21 words respectively. This questions Bahrick's (1984) assumption that course quality and quantity predict language attrition, because the 20 participants had the same quality and amount of English lexical input. However, this intriguing finding may support Mehotcheva's (2010) claim that attrition is not a linear process in the sense that the duration of the non-use period does not predict the amount of language lost because all 20 participants ceased using English for 04 years. Since it is not a matter of input quantity, length of exposure and non-use period, it may be due to the participants' initial proficiency level (Weltens 1988). That is, the participants who outperformed others may be more proficient in the English language.

Moreover, it is worth mentioning that some participants associated the forgotten words with a hint in order to help them better remember the words. For instance, when participants 05, 09, 12 and 17 were shown the translation of the word "fast" they associated it with "fast-food"; so, after one attempt only, they succeeded in remembering the word. The same occurred with participants 03, 07, 09 and 13, 15, and 19 who succeeded in retaining the word "foot" after only one or two attempts as they associated it with "football". Thus, the assumption arguing for the use of cues/hints to facilitate the recall of specific information seems relevant (MacLeod 2008). However, this technique helps to retain the word in the short-term memory which may not be the case in the long-term one. To word it differently, if the same people are asked to find the meaning of the words "fast" and "food" sometime after the test, they may not succeed in the task as they may forget the association they made that day in that particular and immediate context.

Additionally, it is noticed that the savings observed for some forgotten items correspond with the cross-language results for English-French contact. To illustrate, after being shown the translation of some words, the participants realised that they sounded like French words and this helped them better memorise the words. For example, "unit" with "unité", "ball" with "ballon", "forest" with "forêt", "hostel" with "hôtel", "city" with "cité", etc. and this justifies Weltens's (1988) assumption that cognates are less exposed to attrition as compared to non-cognates.

As for the acquisition part, all participants took a longer time to acquire the low-frequency words from list "B", regardless of all the variables/factors (amount of input, length of exposure, linguistic profile, etc.) discussed with the relearning of the forgotten high-frequency items from list "A". This is indexed by the rate of the acquisition attempts for the unknown words from list "B" which is 04.33%. Furthermore, 100% of the unknown words were not acquired as some participants failed to acquire certain items even after 06 to 07 attempts. It was observed that the reason behind their acquisition failure is the long period of time spent in the many attempts they made. This lessened the participants' motivation and they, therefore, decided to give up the test.

Therefore, it can be concluded that the 20 multilingual participants relearned the English vocabulary they had once acquired in middle school faster and with less effort compared to their acquisition of new English words. This can be explained according to the "Savings Paradigm" by the residual knowledge of English words that all participants maintain in their memories and which they activate once faced with the words again. Accordingly, this insight may be useful for foreign language instruction, mainly in vocabulary learning in EFL classes, to reduce the decay of lexical knowledge through developing efficient teaching techniques from the savings method which would maximise the memorisation and retaining of the English lexis in the students' long-term memory.

3.4. Suggestions for Further Research

Although the experiment revealed some interesting findings that support the previous body of research on FLA, it is not without limitations. The experiment was centred on one particular aspect which is vocabulary; however, language is more than vocabulary. Hence, to test someone's proficiency in a language for attrition research purposes, other language aspects (grammar, phonology…etc.) and skills (listening, speaking, reading and writing) must be taken into account in further studies in the field. Another suggestion is to make post-tests some months or years after the experiment in order to measure the amount of residual knowledge left in the participants' minds. It is also worth investigating whether the typological proximity between the languages that a multilingual possesses has an impact on the attrition of these languages or not.

4. Conclusion

This paper aimed to examine the extent to which the savings hypothesis is relevant to instructed FL attrition. It discussed the applicability of the savings paradigm for studies on FLA and relearning, to figure out the impact of the residual lexical knowledge that remains in EFL students' minds on the recall of forgotten words. Indeed, the small number of participants involved may mean that it is premature to generalise the results obtained in this investigation. Yet, it is still possible to say that the results reached may open up new and fascinating venues for foreign language instruction and deepen future researchers' insights into ways of remembering and retrieving linguistic knowledge in the foreign language education context.

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Appendix

Table 3-2: Materials

List A: High-frequency English words			List B: Low-frequency English words		
	English	**French**		**English**	**French**
01	White	Blanc	**01**	Goose	Oie
02	Unit	Unité	**02**	Hammer	Marteau
03	Book	Livre	**03**	Handkerchief	Mouchoir
04	Man	Homme	**04**	Coat	Veston
05	Britain	Bretagne	**05**	Clove	Clou de girofle
06	Work	Travail	**06**	Slipper	Chausson
07	Ball	Ballon	**07**	Spoon	Cuillère
08	End	Fin	**08**	Curtain	Rideau
09	Food	Nourriture	**09**	Lens	Lentille
10	Name	Nom	**10**	Cinnamon	Cannelle
11	Pen	Stylo	**11**	Diary	Agenda
12	A Ride	Promenade	**12**	Liver	Foie
13	A Stay	Séjour	**13**	Raven	Corbeau
14	Girl	Fille	**14**	Glass	Verre
15	Wonder	émerveillement	**15**	Kidney	Rein
16	Act	Fait; Acte	**16**	Lorry	Camion
17	Some	Certains	**17**	Necktie	Cravate
18	Cook	Cuisinier	**18**	Belt	Ceinture
19	Dog	Chien	**19**	Deaf	Sourd
20	Eat	Manger	**20**	Wood	Bois
21	Drive	Conduire	**21**	Eyebrow	Sourcil
22	Day	Jour	**22**	Knee	Genou
23	Fast	Rapide	**23**	Rope	Corde
24	Five	Cinq	**24**	Pillow	Oreiller
25	Foot	Pied	**25**	Scarf	Foulard
26	Forest	Forêt	**26**	Ink	Encre
27	Friend	Ami	**27**	Feather	Plume
28	Clock	Horloge	**28**	Armpit	Aisselle
29	Advice	Conseils	**29**	Carpet	Tapis
30	College	Université	**30**	Shelf	Étagère
31	Concert	Concert	**31**	Bucket	Seau
32	Snow	Neige	**32**	Elevator	Ascenseur

33	Exercise	Exercice	**33**	Twin	Jumeau
34	Robot	Robot	**34**	Jaw	Mâchoire
35	Fruit	Fruit	**35**	Spark	Étincelle
36	Health	Santé	**36**	Slate	Ardoise
37	Job	Emploi	**37**	Mushroom	Champignon
38	Hostel	Hôtel	**38**	Clay	Argile
39	School	École	**39**	Fingernail	Ongle
40	House	Maison	**40**	Oven	Four
41	People	Gens	**41**	Snail	Escargot
42	City	Cité	**42**	Curse	Malédiction
43	Country	Pays	**43**	Diet	Régime
44	King	Roi	**44**	Shark	Requin
45	States	États	**45**	Heir	Héritier
46	Tour	Tournée	**46**	Hyphen	Trait d'union
47	Capital	Capitale	**47**	Nap	Sieste
48	Guard	Guardien	**48**	Wool	Laine
49	Beauty	Beauté	**49**	Dough	Pâte
50	Building	Construction	**50**	Flight	Vol

CHAPTER FOUR

DOES MIP PROMOTE EFL LEARNERS' COGNITIVE ABILITY TO IDENTIFY METAPHORS IN WRITTEN DISCOURSE?

SADIA BELKHIR

Abstract

In cognitive linguistics, metaphors are primarily conceptual, not linguistic. They are tools that facilitate communication through the understanding of abstract concepts in terms of concrete ones (Lakoff & Johnson 1980). Academic discourse has been claimed to feature the highest amount of metaphorically used words (Steen et al. 2010a). This is mainly instantiated in language through a type of metaphor referred to as *personification* wherein abstract concepts are ascribed human attributes (Lakoff & Johnson 1980). Metaphor Identification Procedure (MIP) is a method that is intended to facilitate the identification of metaphorically used words in discourse. Metaphor identification is not a trouble-free task because of inconsistency in researchers' intuitions associated with a lack of accuracy in determining what counts as a metaphoric expression (Pragglejaz Group 2007). The present paper offers a modest report of experimental studies conducted with two master's graduates, two doctoral students, and five master's students. Its main objective is to investigate the potential effect of MIP upon their cognitive ability to identify metaphors within written text. Some text passages are extracted from a master's dissertation. The subjects are requested to identify metaphors within the passages. This yields data about the degrees of their cognitive aptitude to identify metaphors before and after they are introduced to MIP and their ability to memorise them. This small-scale investigation is conducted in a higher education context (the Department of English at Mouloud Mammeri University). The results of the study indicate that MIP is a tool that partially helps the subjects in the process of metaphor identification. It is, therefore, suggested that it be

complemented with additional data about conceptual metaphor and its linguistic manifestation in academic discourse in order to increase learners' proficiency in metaphor identification within written discourse. The results also show that most of the subjects partially memorise information about metaphors. This can be remedied through regular practice in metaphor identification in discourse. These findings can make a humble contribution to the field of education, as they might offer useful data to educational practitioners and researchers.

Keywords: Cognition, metaphor, MIP, academic discourse, EFL learners

1. Introduction

In cognitive linguistics, metaphor is defined as reasoning and talking about one conceptual domain in terms of the structure of another conceptual domain (Lakoff & Johnson 1980). It has been argued that speakers of English draw on concrete domains in order to comprehend abstract concepts because thinking about difficult abstract concepts is facilitated by concrete physical concepts (Kövecses 2002). There seems to be an accepted reason that leads people to commonly build source-target conceptual mappings in order to attain an understanding of abstract concepts. This reason rests upon the connection between people's frequent physical experiences and the metaphorical correspondences they make to structure the abstract concepts they try to understand (Gibbs 1996). Metaphorical thought has been described as normal and ubiquitous, leading to a spontaneous and unconscious act of metaphor use in ordinary everyday language (Lakoff & Johnson 1980).

Metaphor is pervasive in both educational and academic discourse. It is a phenomenon that has attracted the attention of applied linguists because of its contribution to the understanding of human thought processes and communication (Cameron 2003; Cameron & Low 1999). Metaphor in EFL learners' writing needs to be researched, as Eubanks (2011: 13) argued, "If we want to think more carefully about who writers are, what writing is, and how writing affects our lives, we should pay attention to our figurative language and thought". In higher education settings, such as Mouloud Mammeri University of Tizi-Ouzou, EFL learners are, most of the time, involved in a spontaneous and unconscious process of metaphor use in academic written productions. This unconscious act constitutes an outstanding reason that stimulates thinking about their expected weak ability to identify metaphors in text. To date, there seems to be no study that has explored the potential contribution of MIP in promoting EFL learners'

ability to identify metaphors in written discourse. An attempt to conduct such an investigation can be of interest to educators and researchers, as it may enlighten their understanding of EFL learners' awareness and their identification of metaphorically used expressions in texts.

The main point behind the present research is to answer the question of whether or not MIP can increase learners' expertise in metaphor identification. I suggest that MIP partially develops learners' ability to identify metaphors in written discourse. The objective of this paper is four-fold. First, it tries to test some students' ability to identify metaphorical linguistic expressions in a text before they are introduced to MIP. Second, it aims to assess the potential contribution of MIP in promoting their ability to identify metaphors. Third, it attempts to check the potential contribution of a suggested implement to increase their expertise in metaphor identification. Finally, it sets up the evaluation of their ability to recall stored knowledge about metaphor identification.

This paper begins with a review of some pertinent literature about metaphor in educational and academic discourse. It then provides some background information about Conceptual Metaphor Theory (CMT) and MIP. Next, it introduces the methodology. Finally, the article analyses and discusses the results of the experiments and draws some conclusions.

2. Literature review

From a cognitive linguistic perspective, metaphors are primarily conceptual, not linguistic. They are viewed as tools that facilitate communication through the understanding of abstract concepts in terms of concrete ones (Lakoff & Johnson 1980: 34). The relationship between the two types of concepts is guaranteed by *conceptual mappings*, i.e., correspondences between a source and a target domain, as shown in Figure 1 below.

Fig. 4-1: Source-target domain mapping

Studies into discourse have demonstrated the important part played by metaphor in structuring thought and language (Littlemore et al., 2014; Musolff & Zinken 2009; Cameron, 1999; Gibbs, 1999; Steen, 1999). The ubiquitous nature of metaphors in spoken and written educational and academic discourse is an observed fact that has been vastly researched

(Semino 2008; Cameron 2003; Cameron & Low 1999), as this issue has gained significant importance in the field of education. Textbooks, for instance, are filled with countless metaphorical expressions, so often unnoticed by students (Goatly 2007: 1). In this paper, academic discourse is understood as being the spoken or written form of language produced in accordance with standards set within academic frameworks including higher education contexts. Low (1999: 231) calls these standards, "norms of the academic community". Understood in such terms, academic writing can be said to be represented by such instances of language production as advanced EFL learners' written master's dissertations. It is worth noting in passing that academic discourse has been found to be characterised by the highest amount of metaphorically used words (Steen et al. 2010a: 781). The most-used metaphor in academic discourse is *personification*.

In Conceptual Metaphor Theory, *personification* is described as a process that "allows us to comprehend a wide variety of experiences with nonhuman entities in terms of human motivations, characteristics, and activities" (Lakoff & Johnson 1980: 33). It is a type of conceptual metaphor that "involves understanding nonhuman entities, or things, in terms of human beings. It thus imputes human characteristics to things" (Kövecses 2002: 251). In other words, "this type [of metaphor] occurs when a nonhuman entity (referring to some discourse entity, such as a text) is the subject with a verb that requires a human agent" (Steen et al. 2010a: 108). This is illustrated in example (1) below.

(1) This chapter *discusses* the main results...

The word *discusses* is used metaphorically in example (1) above. It co-occurs with the inanimate noun *chapter*, while it is a verb that requires an animate subject. This example is illustrative of what Low (1999: 231) calls the ESSAY IS A PERSON metaphor that exemplifies personification.[1] The metaphorical word *discusses* in example (1) has been identified by means of MIP. A comparison of the contextual meaning of *discusses* and its basic meaning reveals that it is used metaphorically in example (1). An account of MIP is provided in the forthcoming theoretical background section.

[1] Following conventions in Conceptual Metaphor Theory, conceptual metaphors are transcribed in small capitals (see Lakoff 1993).

3. Theoretical background

This investigation has its roots in CMT and cognitive-linguistic related work. CMT treats linguistic manifestations of metaphors in written discourse from a cognitive linguistic stance. That is, metaphors are first conceptual constructs existing in language users' thoughts which are then given a more concrete form, as for example, metaphoric written words. Interest in the study of metaphor has emerged out of the necessity to apprehend its use and interpretation in order to contribute to an understanding of communication. The ability to interpret metaphors in written discourse requires first the capacity to identify them with consistency and accuracy. The act of identifying metaphors in written discourse means that metaphorically used expressions are searched for in usage. The term "usage" refers both to text and talk, and is opposed to that of "grammar" (Steen 2007).

It has been argued that metaphor identification is not a trouble-free task because of inconsistency in researchers' intuitions associated with a lack of accuracy in determining what counts as a metaphoric expression (Pragglejaz Group 2007). As a result, a group of ten cognitive linguists specialising in conceptual metaphor research, and who called themselves the *Pragglejaz Group*, elaborated a method to facilitate the identification of metaphorically used words in natural discourse. They called this method MIP. Steen et al. (2010b: 768) described this method as an inductive tool that requires "moving from the available linguistic structures towards a set of reconstructed conceptual structures that constitute cross-domain mappings…". This method is implemented in four steps. In the first step, the analyst ensures that the overall meaning of the discourse is understood. In the second step, he/she identifies the lexical units that he/she assumes to be metaphorical in the text in question. In the third step, he/she sets up their meaning in context; then, he/she searches for other basic concrete/bodily meanings in other contexts and decides whether the meaning in the text can be understood in terms of or in comparison with a more basic meaning. If this is found to be right, the researcher marks the identified lexical units as being used metaphorically, in the fourth step. Later, a more elaborated form of MIP, referred to as the MIPVU, was introduced to deal with metaphors in news text and conversation as well as simile in academic discourse (Steen et al. 2010a). In the present paper, only the first version of MIP (2007) is applied.

4. Methodology

In this section, I first introduce the place of investigation where the research was conducted along with a description of the subjects who took part in the experiment. Then, I present the details of the pilot study. Next, I describe the discourse sampling; i.e., extracts of written discourse drawn from a student's master's dissertation. Finally, I report on the method adopted in the elaboration of the questionnaires and experiments, and the analysis of the findings.

4.1. Place of investigation and participants

The research was conducted at the Department of English of Mouloud Mammeri University in Tizi-Ouzou. It began on October 9th, 2018 and ended on January 11th, 2019. A total of nine participants kindly agreed to take part in the experiments. The participants included two master's graduates labelled A and B, two doctoral students labelled C and G, and five master's students labelled D, E, F, H, and I.

The participants were selected on the basis of their proficiency and achievement. Participants A and B obtained a master's degree in English, in the field of *Language and Communication*, in September 2018. They had an average level of proficiency. Participants A and B gained some expertise in metaphor identification in texts, because they conducted a corpus-based study on metaphor production in some EFL master's dissertations with the aim of unveiling the frequency of metaphor use by linguistics and literature students. In their research, they relied on MIP in the collection of metaphors produced by students.

Participant C obtained a master's degree in English in the field of *Didactics of Foreign Languages*, in June 2018. He had an excellent level of proficiency, and is now registered for doctoral studies at a British university. He wrote a master's dissertation entitled, *Enhancing Students' Development of the* [sic] *Oral Communicative Competence through YouTube's EFL Teaching Videos: A case study* (Boudiaf 2018). Participant C had no expertise in metaphor identification when he underwent the first step of the experiment.

Participants D and E are students with a good level of proficiency confirmed by the results they obtained throughout their university courses. They are engaged in academic research to obtain a master's degree in English in the field of *Language and Communication*. D and E began researching metaphor use in higher education in October 2018. In addition, they were given a copy of A's and B's master's dissertation entitled

Metaphor Production in EFL Master's Dissertations at Mouloud Mammeri University: A Corpus-based Study (Rafai & Rabhi 2018). This allowed them to gain some knowledge about metaphor identification. Participant F is an average student enrolled in a master's programme similar to that of D and F. She started an investigation into metaphor use by first-year students in the medical science classroom. However, she does not have competence in metaphor identification. Participant G obtained a master's degree in English, in the field of *Language and Communication*, in June 2018. She had an excellent level of proficiency and is now registered for doctoral studies in the UK. She wrote a master's dissertation entitled *The Implementation of Creative Teaching Methodology in EFL Education: Case Study of the Reading and Writing Modules at the Department of English of UMMTO* (Bensaid 2018). Similar to participant C, G had no expertise in metaphor identification when she underwent the first step of the experiment. Participant H is an excellent master's student enrolled in the master's programme *Didactics of Foreign Languages*. She has been offered a scholarship to pursue doctoral studies in the UK. Participant H has never identified metaphors in text before. Participant I is a master's student enrolled in the same programme as participant H. She is a good student but has no knowledge of metaphor identification. She is now conducting research on the role of gestures in the EFL classroom. All the participants have been my students for three to four years; they have been judged suitable to participate in the experiment.

4.2. Discourse sampling

For the purpose of constructing the experiments, four passages have been extracted from participant C's master's dissertation. Extract 1 was the abstract of the dissertation. Extract 2 was taken from the general introduction, Extract 3 was the introduction of a chapter, and Extract 4 was drawn from the discussion chapter. My choice has been prompted by the high number of metaphor occurrences in these text passages. This confirms Low's (1999: 231) claim that "[p]ersonification of the text can occur at any point in an essay or paper, but two locations stand out: the Introduction and the Conclusion".

The four sample extracts constitute naturally occurring discourse since they have not been obtained through elicitation from participants (Deignan 2005: 123). In the present study, naturally occurring data is judged adequate compared to elicited data. The total number of words in the four extracts equals 695. The total number of metaphorical linguistic expressions that I identified by means of MIP equals 127. The number of metaphors in extracts

1 2, 3, and 4 equals 64, 13, 23, and 27 respectively. MIP was the method used in the identification of these metaphors. To compare the contextual meaning of the lexical units with their basic meaning, I referred to the Cambridge Online Dictionary.[2] In the identification process, a variety of metaphorical linguistic forms were collected. Verbs, nouns, adverbs, adjectives, phrases, and so on were identified, each of which was counted as one occurrence of a metaphor.

4.3. Experiments

Two experiments were elaborated in the form of questionnaires that were sent via email to the participants. The first experiment was administered to participants A and B who were asked to identify metaphors in the four passages altogether.[3] The second experiment was conducted with participants C, D, E, F, G, H and I. This is a three-step experiment. The seven subjects were asked to identify metaphors in each step.

In the first step, the participants were asked to identify metaphors in Extract 1 including 299 words and 64 metaphorical linguistic expressions. In the second step, they were given the article *MIP: A method for identifying metaphorically used words in discourse* (Pragglejaz Group 2007), and were instructed to read it carefully, and then, to identify metaphors in Extract 1 again. In the third step, the participants were given a lesson on metaphor in cognitive linguistics and its linguistic manifestation in discourse,[4] and were asked to identify metaphors in the four extracts including 695 words and 127 metaphorical expressions. They were also instructed to ignore the answers they provided in the first and second steps of experiment 2.

In experiment 2, the participants were asked some preliminary questions at the beginning of each step. The questions they were asked at the beginning of the first step aimed at getting information about their age, their annual grades, whether they know what a metaphorical linguistic expression is, their ability to provide an example, whether they have already been taught about metaphors, and if yes, in which subject. At the end of the first step, they were asked to justify their identification of metaphors in Extract 1.

At the beginning of the second step, the participants were asked other preparatory questions. This was mainly to inquire about whether they read

[2] The Cambridge Online Dictionary is available at: https://dictionary.cambridge.org/.
[3] The four extracts are supplied in Appendix 1.
[4] The lesson is provided in Appendix 2.

the article on MIP, whether they understood the procedure of metaphor identification, and then, whether they were able to identify metaphorical linguistic expressions in the passage.

At the beginning of the third step, the participants were first asked whether they understood the lesson on metaphor in cognitive linguistics. Then, they were requested to provide one example of each of the following: a conceptual metaphor, a conceptual mapping, and a metaphorical linguistic expression. This was in order to assess their understanding of the lesson. Finally, once the third step was completed, the participants were asked to describe their impression of the effect of the three steps they went through on their ability to identify metaphorical expressions in the written productions.

4.4. Quantitative analysis

The results of the experiments were quantified in numbers and percentages and were displayed in the form of tables. The percentages were calculated by means of the percentage formula $z\%=x*100/y$. The symbol x represents the number of metaphors identified by a participant, and y stands for the total number of metaphors. The metaphors identified by each participant were calculated regardless of their types. That is, ontological metaphors based on personification were not isolated from other types like journey, money, or spatial metaphors.

5. Results

This section of the paper provides the participants' answers to the preliminary questions along with the results of experiments 1 and 2. As was previously noted, the former was conducted with participants A and B, and the latter with C, D, E, F, G, H, and I.

The participants' answers to the preliminary questions in the first step of experiment 2 reveal that they know what a metaphor is. They learned about it in the literature subject. This implies that they were not familiar with how metaphor is viewed in cognitive linguistics. In the second step, they asserted that they read the article on MIP and understood it. They all said they were able to identify metaphorical expressions. It is worth mentioning that none of them used a dictionary during the process of metaphor identification. In the third step, all the subjects declared that they understood the lesson on metaphor in cognitive linguistics and were able to provide examples of metaphorical linguistic expressions, conceptual metaphors and mappings, except participant G who could not provide an

example of a conceptual mapping. The results of metaphor identification in Extract 1 in both experiments are displayed in Table 1 below.

Table 4-1: Numbers and percentages of identified metaphors in Extract 1

Participants	
A	**28 (43.75 %)**
B	**21 (32.81 %)**

Participants	**Experiment 2 Step 1**	**Experiment 2 Step 2**	**Experiment 2 Step 3**
C	**6 (9.37 %)**	**26 (40.62 %)**	**24 (37.5 %)**
D	**15 (23.43%)**	**9 (14.06%)**	**23 (35.93%)**
E	**13 (20.31%)**	**24 (37.5%)**	**22 (34.37%)**
F	**6 (9.37 %)**	**6 (4.72 %)**	**18 (28.12%)**
G	**5 (7.81%)**	**8 (12.5%)**	**21 (32.81%)**
H	**8 (12.5%)**	**17 (26.56%)**	**19 (29.68%)**
I	**3 (4.68%)**	**8 (12.5%)**	**22 (34.37%)**

In order to put into relief the differences in the degrees of metaphor identification between the participants, the results of Experiment 1 conducted with A and B are separated from the results of the three-step Experiment 2 administered to the remaining participants. The latter are arranged in a way to show the changes occurring in their answers throughout the three steps. It is worth reminding that in the first step of Experiment 2, participants C, F, G, H and I were not acquainted with any method to adopt in metaphor identification, whereas participants D and E have acquired some knowledge about the matter through their readings.

In the second step of Experiment 2, the participants were asked whether they read and understood the content of the article on MIP. All of them answered they did. Similarly, in the third step of Experiment 2, the participants were asked whether they understood the lesson on metaphor in cognitive linguistics. All of them gave an affirmative answer. The results of metaphor identification within the four extracts are given in Table 2 below.

Table 4-2: Numbers and percentages of identified metaphors in Extracts 1, 2, 3, and 4

Participants	
A	**42 (33.07 %)**
B	**46 (36.22 %)**

Participants	Experiment 2 Step 3
C	**45 (35.43 %)**
D	**46 (36.22%)**
E	**52 (40.94%)**
F	**25 (19.68%)**
G	**40 (31.49%)**
H	**47 (37.00%)**
I	**44 (34.64%)**

Table 2 above shows the results of Experiments 1 and 2 with regard to the identification of metaphors in the four extracts altogether. Similar to Table 1, the results are arranged in such a way to show the contrasts in metaphor identification by participants A and B on the one hand and participants C, D, E, F, G, H, and I, on the other hand. It is worth pointing out that the highest degree of metaphor identification was achieved by participant E (52 identified metaphors = 40.94%), whereas the lowest degree was reached by participant F (25 identified metaphors = 19.68%). These findings are analysed and discussed in the forthcoming section.

6. Discussion of the findings

The results in Table 1 reveal that in the first step of Experiment 2, participant C could identify only 6 out of 64 metaphors; that is, 9.37% of all the metaphors in Abstract 1. It should be noted that he was asked to identify metaphors that he used in his own text. This shows that participant C produced metaphors unconsciously in his own discourse. This finding supports Lakoff's and Johnson's claim that metaphor is an unconscious mechanism (Lakoff & Johnson 1980). In the second step of Experiment two, participant C became aware of his own use of metaphor because of the influence of the knowledge he gained from the article on MIP. This made the number of metaphors he identified rise and reach 26 out of 64; that is 40.62% of all the metaphors in Extract 1. Consequently, MIP can be described as a method that raises this EFL learner's awareness of the process of metaphor use he was involved in when he wrote his dissertation.

The results in Table 1 also indicate that before being instructed to carefully read the article *MIP: A method for identifying metaphorically used words in discourse* (Pragglejaz Group 2007), all the participants in the first step of Experiment 2 had a degree of cognitive ability in metaphor identification lower than that of participants A and B in Experiment 1. This result is in some way predictable because the latter are master's graduates who did research on metaphor in academic discourse and thus had some expertise in metaphor identification. The other participants, on the contrary, had less competence in metaphor identification.

In addition, the results show that in contrast with participants A, B, D, and E, participants C, F, G, H, and I showed a very low degree of cognitive ability to identify metaphorically used words in the first step of Experiment 2. They identified few metaphors in Extract 1 because they had not yet been introduced to MIP and had never been subjected to the process of metaphor identification in discourse before. They furthermore had no knowledge about metaphor in cognitive linguistics. In fact, they declared that they were taught about metaphor in the literature subject where it was regarded as an ornamental device used for aesthetics.

The results also reveal that the subjects' ability to identify metaphors increased after they had read the article on MIP. The number of metaphors identified by participant C shifted from 6 (= 9.37%) in the first step to 26 (= 40.62 %) in the second. The same goes for participant E whose identified metaphors totalled 13 (= 20.31%) in the first step and reached 24 (= 37.5%) in the second step. However, participant D identified 15 (= 23.43%) metaphors in the first step but only 9 out of 64 metaphors in the second step which corresponds to 14.06%; this indicates a decrease in her ability to identify metaphors. A brief talk with this participant clarified this low result caused by a state of sickness and fatigue that she felt during the second step of Experiment 2. The number of metaphors identified by participants E, G, H, and I also rose as indicated by the figures in Table 1, while that of participant F remained static. This demonstrates the fostering effect of MIP on the learners' ability to identify metaphors in a text.

The results obtained in the third step of Experiment 2 revealed that all the participants, except C and E, showed an improvement in their ability to identify metaphors in Extract 1. In fact, their ability grew even further after they had a lesson on metaphor in cognitive linguistics. For participant D, the number of identified metaphors shifted from 9 (= 14.06%) to 23 (= 35.93%). A similar improvement is noticed with the remaining participants. It is likely that the knowledge they gained after reading the article on MIP combined with the lesson they received have had some positive effects upon

their cognitive performance in metaphor identification leading to its progress.

Furthermore, the results in Table 2 showed that the ability to identify metaphors in the four extracts reached a high degree for participants D, E, and H and went beyond that of participants A and B. In fact, D, E, and H achieved 36.22%, 40.94%, and 37.00% of metaphor identification respectively, in the four passages whereas A and B reached only 33.07 % and 36.22 % respectively. This means that participants D, E, and H have developed their expertise in metaphor identification. They probably are able to refine it in a more satisfactory way if they get more assistance and guidance. In a broader sense, this suggests that EFL learners' cognitive competence in identifying metaphorically used words in written discourse can be fostered. This cognitive ability can thus be conceived of as a dynamic rather than static process.

At the end of step 3 of Experiment 2, participants C, D, E, F, G, and I were asked to succinctly describe their impression about the experiment they went through and its effect upon their ability to recognise metaphors in discourse. Their answers, on the whole, acknowledged their view of metaphor as a linguistic ornament confined to literature before they were involved in the experiment, a view which has shifted under the influence of MIP and the implemented lesson on metaphor in cognitive linguistics, leading the scope of their understanding of metaphor to widen and enclose its cognitive dimension. The participants seemed content to have acquired knowledge about metaphor in cognitive linguistics and the procedure allowing its identification in discourse.

Nonetheless, the results in Tables 1 and 2 showed that none of the participants in Experiments 1 and 2 could achieve a degree of metaphor identification that equals 50%, be it in Extract 1 only or in the four extracts on the whole. This means that both MIP and the lesson did not allow the participants to attain a satisfactory cognitive performance in metaphor identification. Furthermore, the participants did not use a dictionary to compare the contextual and basic meanings of the expressions they identified. This might be one of the reasons that hindered them from identifying a larger amount of metaphors. A possible remedial work that can be suggested is to design a series of drills for regular practice in metaphor identification under the guidance of a specialist who would monitor the process.

As for the participants' ability to recall stored information about metaphor identification in discourse, the results in Table 1 indicated that in the third step of Experiment 2, participants C and E identified fewer metaphors than in the second step of Experiment 2, that is, after they were

introduced to MIP. The number of metaphors identified by participant C decreased from 26 (= 40.62 %) to 24 (= 37.5 %). An examination of the metaphors he identified in steps 2 and 3 showed that he dismissed some metaphors in the latter step while he did not in the second. As for example, he did not identify "developing", "potential", "materials", and "components" which he identified in the second step. Similarly, the number of metaphors identified by E decreased from 24 (= 37.5%) to 22 (34.37%), as she did not identify "potential" and "experimentation" in the third step whereas she did in the second step. This might be caused by memory limitation.

7. Conclusion

The main issue raised in this research was whether MIP could promote learners' cognitive ability to identify metaphors in a text. The findings revealed that this method has to some extent refined their ability in metaphor identification. However, a significant number of metaphors were still not identified. The results have also shown that relevant information about metaphor in cognitive linguistics, implemented in the form of a lesson, constituted an aid in developing learners' aptitude in metaphor identification.

The study has moreover shown that some influential variables interfered in the process of metaphor identification and thus deserve to be considered. Memory limits might constrain linguistic processing leading to poor ability in metaphor identification. The effect of distraction on memory should not be neglected as it might influence aspects of cognitive performance, such as recall of data relevant to metaphor identification resulting in mistakes or lapses in the identified metaphorical expressions. The impact of mental fatigue upon memory might also result in weak cognitive performance in metaphor identification.

These conclusive statements, it must be pointed out, are confined to the present research and thus are not generalisable. In addition, the number of participants involved in the experiments is very limited. A greater number of participants would have brought far-reaching data that would have been fruitfully exploited. Nonetheless, it can be hoped that this modest research has contributed further information on metaphor identification in discourse to the field of metaphor in cognitive linguistics that will be of interest to researchers and educational practitioners.

Acknowledgement

I warmly thank my students for their voluntary participation in the experiment.

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Appendices

Appendix 1

This appendix includes the four extracts used in Experiments 1 and 2. The metaphorically used words appear in bold typeface. It is worth noting in passing that the extracts are provided here in their original format, including errors.

Extract 1

The **present** study **investigates** the educational **potential** of the **YouTube**'s EFL teaching videos on **developing** the communicative competence EFL learners. This research is **centred around** three objectives. First, it **studies** whether **using YouTube** as a language learning **tool** can **lead freshman** students of the Department of English at the University of Mouloud Mammeri of Tizi-Ouzou to **develop** their communication skills. Second, it **strives to discover** the **extent** to which **YouTube** can **develop** the learners' autonomy in **acquiring** such competence. Third, this project **seeks to explore** the **perceptions** of the participants **towards** the **use** of **YouTube** videos as language teaching and learning **materials**. To **reach** these aims, a quasy-**experimental** research **design** has been **adopted**. It **involves** a **comparison** of oral **productions** of a **control** group (CTR) and an **experimental** group (EXP) resulted from a pre-test and a post-test analysed **in the light** of the theoretical **model** of communicative competence proposed by Canale and Swain (1980) and Canale (1983). A Likert **scale**-type questionnaire has been **used** as an additional data **collection tool** to **check** the attitudes and **perceptions** of the participants **towards** the **use** of **YouTube** videos to learn English in general and to **develop** the oral communication skills in particular. The **obtained** results after the **experimentation** have **shown slight** differences between the **experimental** group and the **control** group. The former **made** a significant **progress** concerning the different **components** of the communicative competence; namely the grammatical competence, the sociolinguistic competence, the discourse competence and the strategic competence; however, the latter did not **demonstrate** such improvement in all aspects. Therefore, the findings **confirmed** the **potential** of **YouTube** in **developing** EFL students' communicative competence. In addition, the results of the questionnaire **have revealed** that the participants of this study **hold** positive attitudes **towards** the **use** of **YouTube's** EFL videos for language learning purposes (Boudiaf 2018: III).

Extract 2
Videos **communicate** meaning better than any other media according to Tomalin (1992), because videos **make** the meaning **clearer** by **illustrating** everything in a **way** that is not possible with words. For instance, abstract notions like freedom and democracy are better understood when **shown** in videos than **described using** words **alone**. In addition, unlike traditional **ways** of learning, today's generation of learners **absorb** information quickly with images and videos (Duffy, 2008) for the reason that videos **make** learning fun and enjoyable and **make** memorisation easier (Boudiaf 2018: 1).

Extract 3
This chapter **discusses** the main results **obtained** from this study. It is **divided** into two main **parts**. The first **part provides** a critical discussion of the results of the **experiment**. It **evaluates** the communicative competence of the participants as defined by Canale and Swain (1980) and Canale (1983) and Celce-Murcia et al (1995) and Celce-Murcia (2007). This **part interprets** the results in terms of four sub-categories of the communicative competence, namely Grammatical, Sociolinguistic, Discourse and Strategic competence. The results of the pre-test are **compared** to those of the post-test in order to **reveal** the effect of **using YouTube** on the **experimental** group participants' learning process of English language. The second **part** of this chapter **discusses** the main findings of the questionnaire submitted **at the end** of the **experimentation** to the participants involved in this study concerning their **perceptions** about the **use** of **YouTube** as a learning **tool** (Boudiaf 2018: 48).

Extract 4
In the post-test, as shown in diagram 6 in Chapter Three, 57% of the **CTR** group participants' answers were **cohesive**. They seemed to be more aware of the **cohesive devices** after **gaining** knowledge about them **through** time **spent** studying with their teacher. The **EXP** group has **made higher** improvement than the other group. This is certainly due to the **YouTube**'s EFL videos watched during the **experiment**. In fact, the participants have **spent** three weeks watching videos **made** by native speakers who **use cohesion devices** naturally. Indeed, being native English language speakers, the teachers of the videos unconsciously **use cohesion ties** that **allow** them to be fluent and easily understood. However, it is still likely that errors of **cohesion** were still **made** in the post-test, but not as frequently as in the pre-test. The most common errors here were same than those before the **experiment**. While some students **misused** personal referents, others forgot

to **use** them and others **used** neither grammatical **cohesion** nor lexical one (Boudiaf 2018: 57).

Appendix 2

This appendix provides the lesson on metaphor in cognitive linguistics that was implemented during Experiment 2.

Metaphor

In cognitive linguistics, metaphor means "understanding one conceptual domain in terms of another conceptual domain" (Lakoff & Johnson 1980).

Metaphor involves a conceptual mapping. This is the systematic correspondences between elements of the conceptual source and target domains of understanding.

Metaphorical linguistic expressions are linguistic manifestations of conceptual metaphors. In other words, conceptual metaphors exist in people's thoughts and underlie their observable metaphorical expressions.

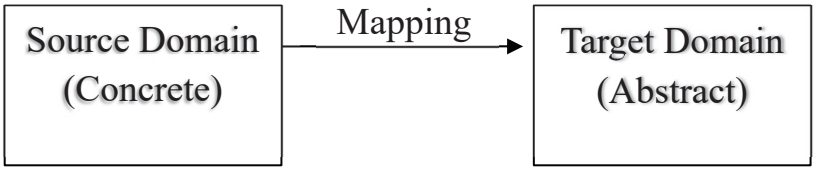

Fig. 4-2 Conceptual domain mapping

The conceptual source domain is concrete and easy to understand.
The conceptual target domain is abstract and difficult to understand.
We try to understand the abstract domain in terms of the concrete domain.

Example 1: TIME IS MONEY conceptual metaphor

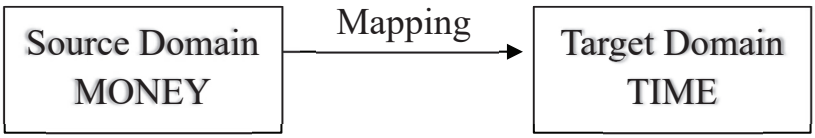

Fig. 4-3 TIME IS MONEY conceptual mapping

The concrete domain of MONEY is used to understand the abstract domain of TIME.
Examples of metaphorical expressions: “spend time”, “waste time”, “save time”, etc.

Example 2: IDEAS ARE PEOPLE conceptual metaphor

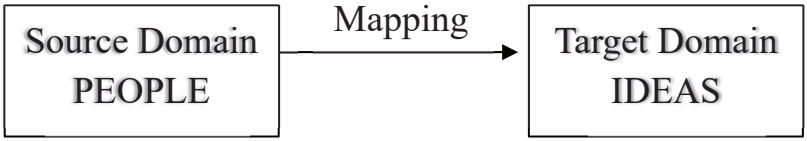

Fig. 4-4 IDEAS ARE PEOPLE conceptual mapping

This type of metaphor is called “personification”. The concrete domain of PEOPLE is used to refer to and understand the abstract domain of IDEAS (Lakoff & Johnson 1980). Personification is frequently used in academic discourse.
Examples of metaphorical expressions: “The theory explains…”, “The idea gave birth to…”, the “chapter discusses the results…”, etc.

Example 3: IDEAS ARE OBJECTS conceptual metaphor

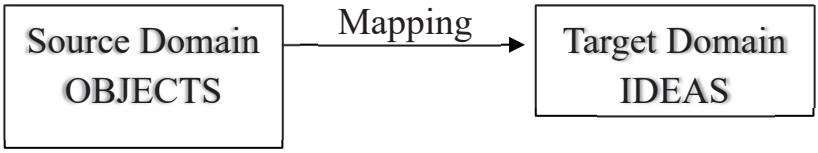

Fig. 4-5 IDEAS ARE OBJECTS conceptual mapping

The concrete domain of OBJECTS is used to understand the abstract domain of IDEAS.

Examples of metaphorical expressions: “He couldn’t grasp the idea”, “They obtained the results”, etc.

CHAPTER FIVE

PERCEPTION OF GREEK VOWELS BY ARABIC-GREEK BILINGUALS: AN EXPERIMENTAL STUDY

GEORGIOS P. GEORGIOU

Abstract

The present study aims to uncover the perceptual patterns of Arabic adult speakers with regard to the vowels of their second language (Greek). For the purpose of the study, 15 native speakers of Egyptian Arabic who permanently live in Cyprus and have adequate knowledge of Greek as a second language passed through vowel assimilation and vowel contrast discrimination tests (AXB) in their second language. The discrimination test was also completed by a control group consisting of Cypriot Greek speakers. The results indicated that second language listeners assimilated pairs of Cypriot Greek vowels in a single phonological category of their native language resulting in a "Category Goodness difference" assimilation type for the Cypriot Greek stressed /i/-/e/ and the Cypriot Greek stressed-unstressed /o/-/u/ vowel contrasts. On the contrary, the members of the Cypriot Greek unstressed /i/-/e/ vowel contrast were assimilated to two different categories resulting in a "Two Category" assimilation type. Furthermore, they could discriminate the Cypriot Greek stressed /i/-/e/ and the Cypriot Greek stressed-unstressed /o/-/u/ contrasts only to a moderate degree, differing significantly from the discrimination scores of the Cypriot Greek speakers, while the Cypriot Greek unstressed /i/-/e/ contrast could be discriminated to an excellent degree. Two main implications emerge from the results. First, there is a strong influence of the listeners' native language on the perception of the second language vowels. Second, the role of stress is significant for second language perception since stressed vs. unstressed vowel contrasts were perceived in a different manner by the learners.
Keywords: vowel perception, bilinguals, Greek, Arabic

1. Introduction

Contrary to infants, adults are often not able to accurately discriminate sound contrasts in non-native languages (Georgiou 2019a, 2019b; Georgiou 2018a; Best et al. 1988; Best 1994). This ability is impeded by the speakers' first language (L1) experience since all non-native sounds pass through the L1 before being categorised in the phonological system. For example, Spanish speakers often struggle to perceive the acoustical differences between the French vowels /ɛ/ and /e/ because both vowels are perceived as being similar to the Spanish /e/ (Kartushina & Frauenfelder 2013).

The Perceptual Assimilation Model (PAM) constitutes one of the most cited models that predict the perception of non-native sounds by inexperienced learners of a language (Best 1995; Best & Tyler 2007). With respect to the perceptual patterns of learners, it proposes six assimilation types that reflect the assimilation of non-native sounds to the listeners' L1 phonological inventory. *Single Category* (SC) assimilation: two sounds are assimilated to the same L1 phonological category as equal exemplars of that category (it predicts a poor discrimination of non-native sound contrasts); *Category Goodness* (CG) difference: two sounds are assimilated to the same L1 phonological category with one sound to constitute a good exemplar of that category while the other constitutes a bad one (moderate to good discrimination); *Two Category* (TC) (excellent discrimination): two sounds are assimilated to two different L1 phonological categories; *Uncategorised-Categorised* (UC): the one sound is assimilated to an L1 category while the other does not (very good discrimination); *Uncategorised-Uncategorised* (UU): neither of the sounds are assimilated to any L1 phonological category (poor to very good discrimination); and *Non-Assimilation* (NA): the sounds are not perceived as speech sounds (good to very good discrimination) (Best & Tyler 2007).

This study aims to investigate the perception of Greek vowels by Egyptian Arabic speakers who live permanently in Cyprus (where Cypriot Greek is the dominant variety) and learn Greek as an L2. Still, there is no study that investigates the perception of Greek vowels by Arabic speakers and, thus, the present study will contribute to the enrichment of the literature with phonological cross-linguistic research in new languages. The study employs the theoretical framework of the PAM in order to examine the attunement of learners to the acoustical properties of L2 Cypriot Greek vowels, as well to test if the PAM's hypotheses are also applicable in experienced L2 learners.

2. Literature Review

The perception of non-native sounds by Arabic speakers has been investigated in several studies. For example, Almbark (2012) studied the perception (and production) of British English vowels by Syrian Arabic learners of English as a foreign language. The results showed that the "trap-bath" and the "lot-strut" contrasts which signalled TC assimilation had an excellent identification and discrimination, and that the "face-square" contrast that signalled an SC assimilation could also be identified and discriminated excellently. However, the "kit-dress", the "goat-through" (CG assimilation), and the "fleet-near" (UC assimilation) contrasts could be identified and discriminated only to a moderate degree. Nikolova (2010) investigated the perception of American English vowels by Saudi Arabic learners of English as a foreign language. According to the findings, participants noted difficulties in perceiving the American English vowels that were not present in the Arabic vowel inventory; the American English vowels /ɑ/ and /ɛ/ were the most difficult. Evans and Alshangiti (2018) studied the perception and production of British English vowels and consonants by Arabic learners of English. The participants were Saudi Arabic speakers who were learning English in Saudi Arabia and had different proficiency levels in the foreign language. The findings showed that low and high proficiency learners identified the British English /ɪ/ (hid) as /e/ (head), 72% and 44% respectively, while learners did not have any problem with the identification of "head". Also, they had difficulties in discriminating the British English vowel contrast /uː/ -/ʊ/ since the Arabic vowels /uː ʊ/ differ in terms of quality and quantity from the British English back vowels. Furthermore, the results indicated that the British English central vowels /ɜː/ (heard) and /eə/ (haired) were also difficult for the participants. Specifically, low proficiency learners identified "heard" as "haired" and high proficiency learners were confusing "haired" with "heard" and "head". Additionally, the authors found that learners were confusing the British English vowels /ɒ/, /ʌ/ and/əʊ/.

3. Cypriot Greek and Egyptian Arabic vowel systems

In Cyprus, there is a bidialectal linguistic environment. Standard Modern Greek constitutes an "official" variety that is used in learning environments, in the Medias, etc., while Cypriot Greek constitutes an "unofficial variety" that is mostly used in oral conversations between speakers. So, learners of Greek as an L2 have to learn the standard variety of the language that is Standard Modern Greek, while they receive speech stimuli in Cypriot

Greek, which is widely used in everyday life. The Cypriot Greek vowel system consists of five vowel qualities /i e a o u/ while Egyptian Arabic consists of three short /i a u/ and five long vowels /iː eː aː uː oː/. However, Egyptian Arabic vowels are subject to allophonic variation that may change vowel quality, e.g. the pronunciation of /i/ varies from [e]~[ɪ] or even [i] at the end of the word, and the pronunciation of /u/ varies from [o]~[ʊ], or [u] at the end of the word. So, in Egyptian Arabic, the contrasts [i]-[e] and [o]-[u] cannot form minimal pairs, while in Cypriot Greek /i/-/e/ and /o/-/u/ constitute different phonemes (Georgiou, 2018b).

4. Methodology

4.1. Participants

The participants of the experimental group were 15 female native speakers of Egyptian Arabic who have been living permanently in Cyprus for 4-5 years and have been learning Standard Modern Greek as an L2 through their participation in crash courses for the learning of Greek as an L2; these courses were held in Cypriot public schools. Their ages varied from 18 to 24 years and all of them were using both their L1 and L2 equally in their daily life. All of the learners originated from moderate-income families. According to their own reports through questionnaires, their speaking in Greek was poor while they rated their understanding skill as moderate. The control group of the study consisted of 15 female native speakers of Cypriot Greek with an 18-26 years age range, all university students. The latter group of participants took part only in the discrimination test in order to compare their performance with the performance of Egyptian Arabic speakers with respect to the discrimination of Cypriot Greek vowel contrasts.

4.2. Stimuli

The Cypriot Greek stimuli of the assimilation test consisted of nonsense words in the form of ′sVsa, sV′sa and ′Vsa, V′sa, and distractors in the form of ′pVsa and pV′sa (following Themistocleous, 2017). Each participant had to assimilate a total of 96 items (24 items × 4 repetitions). Furthermore, the Egyptian Arabic stimuli consisted of eight simple monosyllabic /CVːC/ real words for long vowels and /CVCC/ real words for short vowels. The stimuli of the discrimination test consisted of the Cypriot Greek /i/ - /e/ and /o/ - /u/ vowel contrasts in both stressed and unstressed positions in four possible types of trials for each contrast pair: AAB, ABB, BBA, BAA; the structure of the words was the same as in the assimilation test. One female native

speaker of Cypriot Greek recorded the stimuli of the assimilation and discrimination test and her recordings were transferred to the PC.

4.3. Procedure

In the assimilation test, learners were listening to the Cypriot Greek words that contained the target vowels from the PC loudspeakers and they had to assimilate these vowels (by clicking on them) to the appropriate Egyptian Arabic vowel that was displayed in a PRAAT script. Then, they had to rate it depending on how good an exemplar the Cypriot Greek vowel was to the already chosen Egyptian Arabic vowel. The inter-trial interval was set at 1 second and participants had to assign and rate the vowel within 5 seconds. The test was accomplished in a sound attenuated room at the University of Cyprus. After the assimilation test, listeners completed a discrimination AXB test (Best et al. 2001); the PRAAT script was used again for this test. The Egyptian Arabic speakers (experimental group) were listening to triads of words that contained the Cypriot Greek vowels and were instructed to choose (by clicking on the script) whether the middle vowel was the same as the first or the third vowel. There was a total number of 36 triads (32 triads + 4 distractors) in three repetitions (total 108 triads). After the 36th and the 72nd triad, learners could have a 5-minute break before proceeding with the test. The inter-stimulus interval was 1 second and the inter-trial interval was 5 seconds. The Cypriot Greek speakers (control group) also completed the same discrimination test as the Egyptian Arabic speakers for the direct comparison of their performance in this test.

5. Results

The results showed that some pairs of Cypriot Greek vowels fell into the same Egyptian Arabic phonological category. Specifically, the stressed /i/-/e/ and /o/-/u/ and the unstressed /o/-/u/ were assimilated to a single phonological category of the learners' L1. In the case of the unstressed /i/-/e/ contrast, a TC assimilation type occurred since both members of the contrasts were assimilated to two different phonological categories of the learners' L1. Paired sample *t-tests* would decide the assimilation type of the members that were assimilated to a single Egyptian Arabic phonological category (it could be either SC or CG assimilation type). The *t-test* analysis showed that there were significant differences between the goodness of fit ratings of the two members of the stressed /i/-/e/ contrast; $t(14)=2.56$, $p=0.001$; this resulted in a CG assimilation type. Also, the analysis revealed significant differences for the goodness of fit ratings of the two members of

the stressed /o/-/u/ vowel contrast; $t(14) = 8.77$, p=0001. Therefore, it was concluded that CG assimilation occurred. With respect to the unstressed /o/-/u/ contrast, the *t-test* revealed that there were significant differences between the goodness of fit ratings of the two vowel contrast members; $t(14) = 5.69$, p=0001; this signalled again a CG assimilation.

Table 5-1: Assimilation of the stressed and unstressed Cypriot Greek vowels to the Egyptian Arabic phonological categories. GFR indicates the goodness of fit rating.

Stressed Greek → Arabic	GFR	Unstressed Greek → Arabic	GFR
/i e/ → /i/	4.4, 1.4	/i/ → /i/	3.8
/a/ → /a/	2.1	/e/ → /e:/	3.1
/o u/ → /u/	4.6, 2.1	/a/ → /a/	3.5
		/o u/ → /u/	3.5, 1.5

In the discrimination test, as expected, Cypriot Greek speakers noted very accurate discrimination scores. By contrast, the discrimination of most Cypriot Greek contrasts by Egyptian Arabic speakers was only moderate (<70%); only one contrast could be discriminated excellently (>90%) as seen in Table 2. In order to understand the effect of vowel contrast and language group and their in-between interaction, a two-way mixed 4 × 2 ANOVA was performed with *Vowel contrast* (4 levels: stressed /i/-/e/, unstressed /i/-/e/, stressed /o/-/u/, unstressed /o/-/u/) as the within-subjects factor and *Language Group* (2 levels: native speakers of Cypriot Greek, L2 learners) as the between-subjects factor. The results showed that there was no significant effect of *Vowel Contrast* [$F(3, 39) = 25.42$, p = 0.09], while there was a significant effect of *Language Group* [$F(1, 13) = 45.43$, p = 0.01]. The interaction of *Vowel Contrast* × *Language Group* was also significant [($F(3, 39) = 7.74$, p = 0.02]. For the examination of the language group effect on each vowel contrast, a separate one-way ANOVA was run for each of the 4 L2 contrasts with *Language Group* (Cypriot Greek native speakers and L2 learners) as the factor. There was a significant effect of *Language Group* for the stressed /i/-/e/ [$F(1, 13) = 36.78$, p = 0.01], the stressed /o/-/u/ [$F(1, 13) = 19.98$, p = 0.01], and the unstressed /o/-/u/ [$F(1, 13) = 71.34$, p = 0.001]; Egyptian Arabic speakers discriminated these contrasts less accurately than the Cypriot Greek speakers. Table 2 presents the percentages of correct responses for the discrimination of Cypriot Greek vowel contrasts by both Cypriot Greek and Egyptian Arabic speakers.

Table 5-2: Percentages of correct responses with regard to the discrimination of Cypriot Greek vowel contrasts by both Egyptian Arabic and Cypriot Greek speakers.

Vowel contrast	Arabic Correct	Greek Correct
Stressed /i/ - /e/	66	100
Stressed /i/ - /e/	61	100
Unstressed /o/ - /u/	98	99
Unstressed /o/ - /u/	55	100

6. Discussion

The results show that several Cypriot Greek vowels were assimilated to the same Egyptian Arabic phonological category. For example, the Cypriot Greek stressed /i e/ and the stressed-unstressed /o u/ were assimilated to the Egyptian Arabic phonological categories /i/ and /u/ respectively. In contrast, the Cypriot Greek unstressed vowel /e/ was assimilated to a different L1 phonological category (the Egyptian Arabic /e:/) while the Cypriot Greek /i/ was assimilated to the Egyptian Arabic /i/. Also, as is evident, stress affected differently the identification of front versus back vowels. Specifically, the stressed Cypriot Greek /i/ and /e/ were perceived as instances of the Egyptian Arabic /i/ but this was not the case for the unstressed /i/ and /e/ which were perceived as instances of two different phonological categories of the learners' L1. Similar findings are mentioned in Cao (2014) who found that the Spanish vowel /e/, as produced by Spanish speakers, was affected most by stress compared to the other Spanish vowels. So, stress can be considered as an important parameter that is able to modify speech perception.

The discrimination predictions of the PAM were confirmed by the present study. The CG assimilation types (both members were categorised to the same L1 phonological category; the one as a good exemplar and the other as a deviant one) resulted in a moderate discrimination of the contrast members (Egyptian Arabic learners' discrimination scores differed significantly from the scores of Cypriot Greek speakers), coinciding with the hypothesis of PAM. On the other hand, the one TC assimilation (two contrasting members were assimilated to two different L1 phonological categories) resulted in an excellent discrimination of the contrast,

confirming PAM's hypothesis. It is suggested that PAM is a functional model not only for listeners with no experience in a non-native language but also for L2 learners since its discrimination predictions were confirmed by the results of the present study.

Most of the L2 contrasts were discriminated only to a moderate degree due to the effect of the learners' L1. In other words, they transferred phonological forms from their L1 in order to perceive the non-native vowels. The Cypriot Greek vowels were perceived exemplars mostly of the short Egyptian Arabic vowels since the latter vowels are closer in the vowel space with most Cypriot Greek vowels compared to the long Egyptian Arabic vowels. Also, we have to consider that the acoustical differences for [e]-[i] and [o]-[u] in Egyptian Arabic are not phonemic and that allophony can make these two contrast members collapse; by contrast the differences between [e]-[i] and [o]-[u] in Greek are phonemic. This would explain the assimilation of Cypriot Greek contrasts that consisted of contiguous vowel categories to the same Egyptian Arabic phonological category. These findings seem to be consistent with other studies that show the difficulty of speakers with an Arabic L1 background in perceiving and producing contrasts similar to Greek /i/-/e/ and /o/-/u/ in foreign languages (mainly English). For instance, Almbark (2012) found that the British English "kit - dress" contrast (/ɪ/-/e/) was the second least-identified and its discrimination was moderate. Alshangiti (2015), after analysing the perception and production of Arab (Saudis) adult learners of British English, indicated that the low proficiency group confused the contrasts /ɪ/ (hid) and /ɛ/ (head). The vowels /ɒ/ (hod) and /ʌ/ (hud) were also highly confusable. Similarly, Evans and Alshangiti (2018) argued that the British English /ɪ/-/e/ contrast was highly confusable by Arabic speakers.

7. Conclusions

Generally, the results of the assimilation and discrimination test showed an interference of the learners' L1 (Egyptian Arabic) in the L2 (Cypriot Greek) due to phonological and phonetic differences between the vowel inventories of the two languages. The findings were interpreted through the theoretical background of PAM which managed to correctly predict the learners' discrimination accuracy over L2 vowel contrasts. The study completes gaps in knowledge in terms of speech perception of Greek as an L2 since there are not a lot of studies which deal with speech perception of Greek by L2 learners. Future studies can investigate to a greater extent the perceptual patterns of Arabic learners of Greek considering the effect of other factors as well such as age, L2 proficiency level, gender, etc.

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CHAPTER SIX

THE USE OF ONLINE QUIZLETS AND DIGITAL FLASHCARDS TO ENHANCE STUDENTS' COGNITIVE SKILLS OF RETENTION AND MEMORISATION OF VOCABULARY

AMEL BENAISSA

Abstract

Research in psychology, and more precisely in cognitive science, has had significant implications for both second language acquisition and language teaching. Recently, many researchers have suggested that the cognitive approach to language learning can be useful in developing and evaluating effective computer-assisted language learning (CALL) resources and tasks that can help create successful and long-lasting learning opportunities (Chapelle 2009; Garrett 1991; Sanozi 2018). The present work aims to check the positive role that online Quizlets and digital flashcards can have on EFL learners' vocabulary gains and on maximising the information-processing stages needed to acquire and retain new lexis. Particular emphasis is put on first-year university students' effective retention and retrieval of new words. To these ends, quasi-experimental research was conducted and students' improvement was evaluated by means of a pre and post vocabulary test. Unlike the control group students, the experimental group participants were introduced to the computer and the mobile version of the Quizlet website. The aim behind such training was to develop three aspects of their vocabulary acquisition, namely their passive vocabulary, their active control vocabulary, and their active free vocabulary. The results partly confirm the facilitative role of the Quizlets program. The experimental group students outperformed their control group counterparts both in the passive and active control vocabulary results ($p < .005$) but no

significant improvement was noticed in their active free vocabulary test scores (p = .878).

Keywords: Information Processing, Quizlet, Vocabulary storage and retrieval, Computer-assisted language learning

1. Introduction

The rapid development in the field of information communication technology (ICT) has brought considerable opportunities for teachers and learners to use computers and smartphones inside and outside the classroom. Added to that, the internet has so far provided inexhaustible language resources which can greatly facilitate the acquisition of L2 vocabulary. Many researchers have shown that various websites and applications can promote language learning positively if they are used appropriately (Allen et al. 2014; Kim & Kim 2010; Young & Wang 2014). More to the point, many online games can help facilitate the storage and retrieval of new vocabulary and, as such, support foreign language acquisition. Digital games can allow learners to interact with new material and give them valuable language feedback.

Although the cognitive approach was not initially developed to account for the use of CALL (Computer-Assisted Language Learning) and MALL (Mobile-Assisted Language Learning) materials, its principles can be used to justify the use of various online games. As Garrett confirms, the aim is not "to select a theory but to argue that theoretical perspectives were needed to help make sense of the intensively interactive and linguistically rich environments afforded by technology" (1991 as cited in Chapelle 2009: 741). Some of the advantages of online Quizlets and digital flashcards include the ability to foster learners' interaction, memorisation and retrieval of new vocabulary by using a variety of study and game modes (Garrett 1991).

Much of the recent empirical data on the effect of digital flashcards and online Quizlets has been centred on identifying their impact on EFL learners' passive and controlled active vocabulary. The first one refers to the ability to understand a word without using it. The second one entails the ability to produce a word only when prompted by a task. To cite an example, both Barr (2016) and Sanozi (2018) investigated the impact of digital flashcards and online Quizlets on first-year university students' vocabulary acquisition. Barr (2016) selected 32 low-level Japanese learners of English as a foreign language (15 male and 17 female participants). The instructional program included ten units each comprising ten new words

with their definitions. The program also included sets of flashcards that learners could review multiple times. At the end of the training, both the users and the non-users of the Quizlet website (https://quizlet.com/) were assessed by means of a vocabulary test. Each test included 20 gap-filling and 20 multiple-choice questions. The results showed considerable improvement in favour of the treatment group.

Sanozi (2018), for his part, conducted an experiment with 42 low-level EFL students from Saudi Arabia. Both the control and the experimental group comprised 21 participants each. After using the mobile version of the Quizlet application' to follow 'post-test', consider breaking into two sentences as shown below. Should read: "The two groups underwent both a pre-test and post-test after using the mobile version of the Quizlet application. The tests consisted of three types of questions: multiple-choice, gap-filling, and matching exercises. The results showed considerable gains in vocabulary acquisition for the treatment group participants. In the same vein, Dizon (2016) examined the effectiveness of Quizlets in increasing the vocabulary range of nine university students. The post-test results revealed that the participants made a statistically significant improvement. Two other studies, which were conducted by Lander (2016) and Köse et al. (2016), investigated learners' perceptions and opinions of the Quizlet application. Both revealed that the students had a positive view of the platform. However, while the findings of these studies have been encouraging and promising, no previous research has tested the implication of such technological tools on learners' free active vocabulary (productive knowledge); in other words, their ability to use the acquired words at one's free will, without any particular prompts for specific words.

On the basis of these considerations, the aim of the present experimental research is to test the efficacy of digital flashcards and online Quizlets on students' acquisition of the three aspects of vocabulary, namely passive vocabulary (receptive knowledge), control active vocabulary and free active vocabulary (productive knowledge). To these ends, we have formulated the following research questions to guide the present study:

RQ1: Do digital flashcards and online Quizlets help foster EFL university students' passive vocabulary?
RQ2: Do digital flashcards and online Quizlets help foster EFL university students' control active vocabulary?
RQ3: Do digital flashcards and online Quizlets help foster EFL university students' free active vocabulary?

2. Literature review

The first part of the literature review highlights some of the most important insights from the vocabulary acquisition field of research.

2.1. Second language vocabulary acquisition and cognitivism

Learning new words in a foreign language can be a challenging task for many students. This has prompted many researchers to find the most effective and efficient approach to teach vocabulary in the EFL context. So far, two approaches have attempted to provide a valid explanation as to the way vocabulary can be acquired: incidental and deliberate learning. While the former refers to the subconscious and implicit learning of information, the latter means deliberately focusing attention on a particular aspect of the language being learned (Schmitt 2000). As argued by Schmitt, for incidental learning to be effective, "one may have to read a great deal of text or converse for quite some time to come across any particular word, especially if it is relatively infrequent" (2000: 120).

Since the context for FL learners differs markedly from children learning their first language, the process of learning a foreign language incidentally can be slow and time-consuming. Additionally, the lack of second language (L2) input can limit exposure to a wide range of vocabulary. Because most words are learned through classroom instruction, it is up to the teacher to create ample opportunities for learners to increase their vocabulary repertoire.

Advocates for explicit learning focus mainly on maximising the cognitive processes that can lead to the effective storage and retrieval of vocabulary. The field of cognitivism has provided very important concepts for foreign language learning and processing that can help explain explicit aspects of language learning processes. In fact, two types of memories have been identified as being responsible for the effective acquisition of vocabulary: the short-term memory (also called the working-memory) and the long-term memory (Skehan 1998). Whereas the short-term memory has a small storage capacity and is the first to interact with the new input, the long-term memory has unlimited storage capacity and is permanent (Schmitt 2000). For an effective transfer of the target vocabulary from the short-term memory to the long-term memory, certain cognitive processes such as attention, rehearsal, and retrieval of information need to be triggered and enhanced (Nation 2000). The next section explains how Quizlets (an online learning application) can help maximise these cognitive processes and facilitate the learning of new lexis.

2.2. ICTs and the use of Quizlets for vocabulary learning

This section looks at cognitive theory, as it links to CALL, and then discusses how Quizlets can be used to support second language vocabulary acquisition.

Language learning theories have long supported the use of information communication technology and have helped make decisions on the appropriate selection of technological tools and materials since the 1950s (Chapelle 2009; Garrett 1991). During the 90s and earlier, Krashen's input processing theory influenced the way language was presented via computers. As stated by Chapelle, the aim behind using computers was "to provide comprehensible input to learners rather than what most instructional designers would consider instruction" (2009: 741). However, the principle that students should only be exposed to natural and authentic language without further instruction was later questioned (Garrett 1991).

With today's CALL, teachers are offered a wide range of platforms, materials, and approaches to choose from depending on the language objective being targeted. They can either opt for a purpose-made program or an application or website that can assist their learners in the acquisition of various language skills. According to some researchers, the use of the Quizlet application (https://quizlet.com/) can help optimise vocabulary acquisition and can be introduced to EFL learners as an additional tool to complement existing classroom instruction (Ashcroft & Imrie 2014). This program can be used both as a free mobile application and as PC software. It offers a variety of options and activities to study vocabulary. More to the point, such activities can help foster cognitive processes such as attention, rehearsal, and retrieval of information.

Table 1 attempts to make the link between the different Quizlet functions and the main principles of cognitive language learning. The last two columns of the table show which activities are available in the computer version and in the mobile version of the application.

Table 6-1: The role of *Quizlets* in developing vocabulary acquisition

Types of activities	Role of each activity in developing vocabulary acquisition	The computer version	The mobile version
Word lists	The word listing technique can help draw attention to the words that the teacher wants the students to memorise and use. Each word is accompanied by a simple definition that students can refer to any time during their revision process.	available	available
Flashcards	Digital flashcards can be used at any time during the learning process. Their accessibility allows for rehearsal and spaced repetition to occur.	available	available
Write	With this activity, students are given words and are asked to give their definitions. It allows them to check their understanding of the words that they have previously learned. After completing the exercise, they are given feedback which can help improve their understanding and are encouraged to modify their output when it is incorrect.	available	available
Spell	Students can listen to the pronunciation of a word and are asked to write it. They can check their spelling. The feedback option can allow them to correct their answers and improve their spelling. Besides, repeated exposure to a word's pronunciation can facilitate its retention.	available	not available

Match	Students are asked to match each word with its correct definition. This can allow the students to be exposed to the words that they have learned in the previous activities but in a different way.	available	available
Test	The test can help students consolidate their vocabulary knowledge. It includes a variety of questions such as fill in the gaps, multiple-choice questions and matching exercises. This allows for the recall of the words on subsequent trials.	available	available
Gravity	In this game activity, the words appear in the form of asteroids. The learners are asked to write the correct definition of each word before it hits the ground. This type of activity not only allows for repetitive exposure of the words to occur, but it also tests students understanding of each term.	available	not available

Overall, the aforementioned activities encourage attention and observation of vocabulary. By creating theme-based word lists and digital flashcards, the teacher can highlight and group the particular words that he/she wants the students to learn. Spaced repetition and rehearsal are also encouraged in a way that is not necessarily linear and sequential. Spaced repetition requires reviewing vocabulary at increasingly larger intervals, which can result in remembering new words for a long period of time (Nation 2000). Since these activities can be used in and outside the classroom, the students can overcome the constraints of limited classroom time. Moreover, Baddeley (1990) suggests that it is not simply repetition which is central for effective memorisation but the repeated opportunity to retrieve and use the item which is to be learned. When learners are asked to perform different activities, they are prompted to use the new words that they are learning in different ways. Activities such as "spell", "match" and "test" allow learners to retrieve information rather than passively see the items again. This goes

in line with Landauer and Bjork's claim that "retrieval may be more effective than simultaneously seeing the word and its meaning because retrieval involves greater effort or because retrieval is more similar to the performance required during normal use" (1978 as cited in Nation 2000:118). In other words, the retrieval of words recently learned strengthens memory retention.

So far, we have looked at the cognitive processes that can be fostered by the Quizlets program and that can, in turn, enhance vocabulary acquisition. The next section presents the methodology and research design of the study.

3. Research methodology

A quasi-experimental study design was used to examine the effect of the Quizlets program on students' vocabulary acquisition. Experimental research usually aims to investigate the "cause-and-effect relationship between two different phenomena. The aim is to examine whether a specific set of actions or conditions (the independent variable) causes changes in some outcome (the dependent variable)" (Johnson 1993, as cited in Griffee 2012: 13). In the case of the present research, the independent variable is the Quizlets program and the dependent variable is students' vocabulary gains after the training. The latter was assessed by means of vocabulary pre-tests and post-tests.

3.1. Participants

A total of 30 EFL students took part in the experiment. Both the control and the treatment group included 15 participants each, with a population consisting of first-year university students preparing for their bachelor's degree in English language at Mouloud Mammeri University of Tizi-Ouzou, Algeria. The participants in both groups have studied English for a period ranging between six and seven years. Moreover, both groups have the same teacher and follow the same programme.

3.2. Target vocabulary

The target vocabulary was selected from the textbook, *English Vocabulary in Use: Advanced* (McCarthy & O'Dell 2017). The aim behind selecting this material was to make it sufficiently challenging for the students to learn the new lexis. The words were grouped into four categories each corresponding to four distinct themes, namely technology, education, health

and medicine, and work and employment. The number of words for each group ranges between seven and eight words related to the four aforementioned themes.

3.3. Procedure

The experiment was divided into three phases. The initial step of the study consisted of testing students' knowledge of a list of words. The pre-test comprised two types of questions. In the first part of the test, the students were asked to provide the definitions of 15 words related to the two themes of technology and education. In the second part of the test, they were given 15 definitions and were asked to find the corresponding words for each one (see Appendix A). The second step of the research was the training itself. When the control group participants were given vocabulary activities such as fill in the blanks and multiple-choice questions to perform in the classroom, the treatment group students were introduced to the online Quizlets program and the different activities that it offers (see Table 1). The teacher explained how each online activity could be used and invited the students to have access to the program every day for a two-week period outside the classroom. A personal account was created for each student. By clicking on the name of the members, the website also allowed the teacher to see how frequently the students used the website and performed the activities. As such, the teacher could track their progress. The last phase of the experiment consisted of testing students' vocabulary gains. In addition to the first post-test, which was similar to the pre-test, the researcher included a delayed post-test that aimed to assess students' free active vocabulary in writing a paragraph. To this end, students were asked to write a small composition about the advantages and disadvantages of technology and were encouraged to use the newly acquired words when necessary (see Appendix B).

3.4. Data analysis

The t-test, an inferential statistical procedure, was used to determine whether the difference in the means in the data of the two groups (experimental and control) and within the same group (pre- and post-test) was significant. On the one hand, a paired sample t-test (also called repeated-measures t-test) allowed us to see whether the two mean scores from the same group of participants differed significantly (pre-test/post-test comparison). It was used to compare the data of the pre-test, which was conducted prior to the intervention, with the data of the post-test, which

were collected immediately after the treatment was completed. On the other hand, the independent- sample t-test helped us to see whether the mean scores between the two groups of participants (experimental and control group comparison) were significantly different before and after the treatment.

4. Results

This section presents the results of the quasi-experimental research. Quantitative data were collected by means of a vocabulary test before and after the treatment. Subsequently, the results of the two groups were analysed and compared using the SPSS software. The means and p values are presented in the tables below.

Table 6-2: The independent-samples t-test for each vocabulary (The pre-test)

Groups	**Passive Vocabulary**		**Active Control Vocabulary**		**Number of Students**
	Mean	Sig.(2-tailed)	Mean	Sig.(2-tailed)	
Control	2.2	.523	1.6	.010	15
Experimental	1.6		.7		15

Note. Average score = 7.5. p significant at 0.005 (p < .005)

Table 2 indicates that students' scores in the pre-test are below average. The mean scores for their passive vocabulary knowledge are 2.2 out of 15 for the control group and 1.6 out of 15 for the treatment group. Their active control vocabulary results are also inferior to the average score (7.5). Moreover, the p values for the two vocabulary types are superior to .005, confirming that the difference between the two groups is not significant before the treatment.

Table 6-3: The independent-samples t-test for each vocabulary (The post-test)

Groups	Passive Vocabulary		Active Control Vocabulary		Number of Students
	Mean	Sig.(2-tailed)	Mean	Sig.(2-tailed)	
Control	3.8	.002	2.5	.197	15
Experimental	9		5		15

Note. Average score = 7.5. p significant at 0.005 (p < .005)

Data in Table 3 reveal the difference between the two groups in terms of students' vocabulary gains after the intervention. The means of the post-test are considerably higher compared to the pre-test ones, and the participants from both groups seem to have improved their scores. However, when looking at the p values for passive vocabulary, it can be noticed that the experimental group students' improvement was more significant (p= .002). The difference between the two groups in terms of their active control vocabulary gains remains insignificant.

Table 6-4: The independent-samples t-test for the active free vocabulary (The post-test)

Groups	Active Free Vocabulary		Number of Students
	Mean	Sig. (2-tailed)	
Control	1.7	.878	15
Experimental	1.6		15

Note. Average score = 7.5. p significant at 0.005 (p < .005)

The independent-samples t-test in Table 4 reveals that the difference between the two groups in their active use of the new vocabulary is not remarkable (p= .878).

Table 6-5: Paired-samples t-test for each vocabulary aspect (The control group)

Groups		Passive Vocabulary		Active Control Vocabulary	
		Mean	Sig.(2-tailed)	Mean	Sig.(2-tailed)
Control	**Pre-test**	2.2	.129	1.6	.196
	Post-test	3.8		2.9	

Note. Average score = 7.5. p significant at 0.005 (p < .005)

The results of the paired-samples t-test indicate that though the mean scores of the control group students have increased in the post-test, their vocabulary improvement remains partial (p= .129 for passive vocabulary and p= .196 for active control vocabulary).

Table 6-6: Paired-samples t-test for each vocabulary aspect (The experimental group)

Groups		Passive Vocabulary		Active Control Vocabulary	
		Mean	Sig.(2-tailed)	Mean	Sig.(2-tailed)
Experimental	**Pre-test**	1.6	.000	.7	.005
	Post-test	9		5	

Note. Average score = 7.5. p significant at 0.005 (p < .005)

As regards the experimental group participants' improvement after the training, the results indicate that their vocabulary gains were significant. The p-value is .000 for their passive vocabulary knowledge and .005 for their active control vocabulary knowledge (p < .005).

5. Discussion

As hypothesised in the introductory part of the paper, the experimental group students significantly outperformed their control group counterparts both in their passive vocabulary and active control vocabulary gains (p = .000 and p = .005 respectively). With the two groups of participants being homogeneous in terms of their gender and number of years studying English, and the test administered to the two groups being the same, such factors minimise the influence of other variables in students' progress and

confirm the supportive role of Quizlets in FL vocabulary enhancement. The findings of the present research corroborate previous studies on the facilitative role of Quizlets in helping learners acquire new vocabulary (Barr 2016; Dizon 2016; Sanozi 2018).

It can also be assumed that both the attractive interface and the visually stimulating nature of the online activities have motivated students to learn new vocabulary. Besides, with the Quizlets website, the students were offered an additional option which permitted them to hear and write new content, which is not possible with lists of words on paper.

That said, when looking at the delayed post-test that aimed at testing students' active free vocabulary knowledge, the gains of both users and non-users of the website remained insignificant ($p = .878$), with both groups achieving very low scores ($m= 1.7$ for the control groups and 1.6 for the treatment group). Accordingly, such results failed to confirm the positive role of Quizlets in developing students' active free vocabulary. The reason behind such outcomes may be due to the lack of activities that encourage students to negotiate the meaning of words and the deliberate generation and use of vocabulary in different contexts. As explained by Nation, "Generative processing occurs when previously met words are subsequently met or used in ways that differ from the previous meeting with the word" (Nation 2000: 105). In fact, most of the activities on the website, though both visually and acoustically stimulating, are guided and decontextualised, which may have led to limitations in students' personal use of the new lexis.

6. Conclusion

The results of the present study support the notion that Quizlets can be useful in developing students' vocabulary knowledge. These findings reinforce previous studies and encourage the integration of online vocabulary games in the language curriculum. Moreover, teachers should be encouraged and be made aware of the benefits of using technology in and out of the classroom. However, when it comes to students' active use of vocabulary in their composition, the results remain unsatisfactory. It is clear from the findings that more online tasks that can encourage learners to actively and deliberately generate newly acquired words are needed on the Quizlets platform.

Despite the insightful results, the present research is not free from limitations. First, the sample size cannot allow for broader generalisations to be made. Further experiments, with participants of different levels and different sociocultural backgrounds, need to be conducted to further confirm the positive role of online vocabulary games. Moreover, such studies can be

carried out to test other language skills and language outcomes, such as learners' use of online vocabulary games to enhance their speaking performances and their listening comprehension skills. Last but not least, it is important to note that the function of adding pictures and illustrations, though present on the website, was not used in the present research. In fact, pictures can be used to support text explanation and "can lead to a form of mental elaboration that deepens and enriches the level of processing of words" (Baddeley 1990: 160-177). Thus, their use in future experimental research on vocabulary acquisition is encouraged.

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Appendix 1: Vocabulary test

I. Define the following terms

1. Part One: Technology

Wireless:

Spam:

Censorship:

Cutting-edge:

URL:

Browser:

Viral:

2. Part Two: Education

Literacy:

Bachelor's Degree (BA, BS):

Postgraduate:

Portfolio:

Plagiarism:

Scholarship:

Syllabus:

Numeracy:

II. Find the right word for each definition

1. Part One: Health and Medicines

1. Injure without breaking the skin.....
2. A medicine used to relieve the skin.....
3. A piece of paper written by a doctor that lets you get medicine at the pharmacy .....
4. To hurt.....
5. A physical examination by the doctor.....
6. Having the feeling of spinning and about to fall .....
7. To shake because of cold or fear .....

2. Part Two: Work and Employment

1. A period when people work during the night in a workplace .....
2. A person who travels regularly.....
3. A person who works within a profession but with no fixed long-term responsibility to any other company .....
4. A form used when applying for a job that includes personal information.....
5. Boring, repetitive.....
6. A date or time by which you have to do or complete something .....
7. A trainee .....
8. The notice period.....

Appendix B: Delayed post-test

Full Name: **Group:**

1. **Write a paragraph in which you explain the advantages and disadvantages of the internet. Make use of the words that you have learned in the previous vocabulary test when necessary.**

CHAPTER SEVEN

UNDERSTANDING EFL LEARNERS' PERCEPTIONS OF SUCCESS AND FAILURE THROUGH ATTRIBUTION THEORY

NORA ACHILI

Abstract

The concept of causal attributions was introduced in the ELT field to explain the substantial impact of learners' past experiences of success and failure in learning on their future language learning and performances. Most studies carried out in this field have striven to understand the specific reasons underlying both success and failure, with the ultimate goal of changing the cognitive processes involved in failure more specifically. To investigate the attributions of Algerian EFL learners, a causal attribution questionnaire including 28 items was administered to 62 advanced students of English. The results indicate that while most participants partially attribute their success to external reasons such as supportive family and friends, they tend to focus even more on internal factors such as motivation and personal effort. In parallel, students attribute their failure to internal and external attributions quite similarly by referring to task difficulty and poor teachers as external factors and lack of effort and poor learning strategies as internal reasons. In the light of the present study findings, language teaching and learning in an academic context is considered and implications are drawn correspondingly.

Keywords: Causal attributions, Attribution theory, Language learning success, Language learning failure, EFL University context, Adult learners

1. Introduction

Understanding human behaviour has long been one of the central issues in psychological research worldwide. One of the most extensively shared concerns in both educational and social psychology consists of understanding individuals' perceptions of the causes underpinning their positive and negative behaviour and experiences. These causes can be crucial as they potentially affect current and future thoughts and, hence, successful and unsuccessful behaviours. This predictive power given to the attributed causes of events is one of the backbones of the causal attributions psychological paradigm represented mainly by attribution theory.

Attribution theory is fundamentally a motivation theory which glosses the intrinsic and extrinsic reasons learners attribute to their success or failure and make them succeed or fail in their learning and examinations. Initiated by Heider (1958) more than 50 years ago, and extended afterwards by numerous scholars (Rotter1966; Weiner 1985, 1986, 2006; Williams & Burden 1997), attribution theory is proposed as a broad area that can be explored to reach a better understanding of individuals' interpretation of events and their surrounding world. With this in hand, the ultimate goal of the theory is to provide possible alternative explanations to change and improve individuals' future behaviours by putting particular emphasis on negative or unsuccessful events.

In an academic context, causal perceptions are revealed as crucial given their noted effect on motivation and academic achievement alike. Obviously, the more we know about learners' beliefs and perceptions of success and failure, the closer we step to maximising their success and avoiding failure replication. Ultimately, causal attribution research can significantly improve academic performance by providing documented knowledge about learners' motivational drives. Indeed, collected data and research conclusions can appreciably contribute to directing both teachers' and learners' performances in class. This is rendered possible through appropriate teaching strategies and programmes, based on learners' causal attributions (Dörnyei 2001).

Accordingly, building on the noted significance of perceived causal attributions in language learning, the purpose of the present study is twofold: first, to generate additional empirical evidence on the issue to build firm grounds for the importance of perceptions of language learning and achievement; second, to account for causal attributions in Algerian university language classes, as very few studies have addressed this subject in an African context, so far. To fill this double gap in the literature, the study intends to answer two main research questions:

Q1. What causes do Algerian EFL students attribute to their success in exams and learning of English as a foreign language?
Q2: What causes do Algerian EFL students attribute to their failure in exams and learning of English as a foreign language?

2. Theoretical Background

2.1. Defining Concepts

Attribution theory is an umbrella term coined to cover the first attribution theory initiated by Heider (1958) and all the subsequent causal attributional theories developed by scholars such as Rotter (1966), Weiner (1979, 1985, 1986, 1992, 2000, 2006), Williams & Burden (1997), Jones & Davies (1965) and Kelley (1967). One common thread concerning the different versions of causal attribution theory concerns scholars' consistent endeavours to reach a clear understanding of individuals' behaviours in an attempt to correct future ones.

As previously stated, Fritz Heider (1958) was the first to lay the groundwork for what is acknowledged to be the most influential framework in today's social psychology. His theory of attribution produced significant arguments concerning the importance given by people to their perception of events, more than the events themselves. Heider puts particular emphasis on identifying the causal locus of actions by arguing that people generally refer to both external (situation, environment) and internal factors (dispositional, intrinsic reasons) to interpret the causes of events occurring in their lives (Heider 1958).

Heider's attribution theory has attracted a lot of psychologists' and researchers' attention in a wide range of psychological disciplines, namely social, educational, clinical and organisational psychology (Försterling 2001). Yet, it was only in the 1980s that it gained its outstanding status in research on learners' motivation with the works of Weiner. Building on Heider's theory framework, Weiner (1979, 1985, 1986, 1992, 2000, 2006) expanded the theory into the field of educational psychology to explain academic achievement by supporting the view that the reasons to which learners subjectively attribute their past successes and failures considerably shape their motivational disposition which underlies future actions.

In Weiner's contentions, learners commonly use four kinds of attributions to explain success or failure: effort and ability, considered to be internal attributes, as well as luck and task difficulty, considered to be external affecting factors (Weiner 1992: 1). Three main causal properties are added, namely, locus (external vs. internal), stability (stable vs.

unstable) and controllability (controllable vs. uncontrollable). By locus, Weiner refers to the location of a cause, which is either within or outside the actor. For example, ability and effort can be considered internal causes of success, whereas the ease of the task or help from others are considered external causes. In this context, causal stability refers to the duration of a cause. Some causes, such as language aptitude, are perceived as constant, whereas others, such as chance, are considered unstable or temporary (Weiner 1992: 4).

Within this scope, two related attribution theories of motivation have been formulated in the light of the proposed model. The first, the intrapersonal theory, includes self-directed thoughts (particularly expectancy of success) and self-directed emotions (pride, guilt, and shame). The second is the interpersonal theory and includes beliefs about the responsibility of others and other-directed effects of anger and sympathy, essentially as viewed by the peers, teachers or parents who are referred to as the social context (Weiner 2000: 7).

The explanations put forward are undoubtedly crucial as they shed light on the social nature of classes and have a great impact on both learners and the learning process. In fact, the reactions of both the "actors" (the learners themselves) and "the observers" (peers, teachers and parents) prove to be central to the evaluation of the actors' failure or success. Obviously, learners feel happy when they succeed and unhappy when they fail in achieving their goals. And in unexpected failure answers, learners will have recourse to many sources of evidence, including peers, teachers and parents, and the relation between causes and hedonic biasing (Weiner 1992: 4).

But what does all this practically tell about learners' motivation and learning processes in the light of attribution theory? To Weiner, if a cause is stable, then the same outcome will be anticipated again following success or failure. In other words, if failure is perceived as being due to an unfair teacher, taking another exam under this same teacher will be anticipated to result in another failure. On the contrary, failure due to unstable factors, such as bad luck or lack of preparation because of the flu, is not an indicator of future failure. Consequently, locus influences feelings of pride and self-esteem in success contexts and guilt and shame in failure contexts. However, pride and self-esteem require internal causality for success. To be contented and satisfied with high grades in an exam does not systematically mean being proud if it is believed that the teacher only gives high grades (Weiner 1992: 6).

In conjunction with locus, controllability can be used to explain guilt or shame arousal when experiencing non-attainment of a goal. Indeed, attribution of failure to insufficient effort, which is internal and controllable,

often elicits guilt. In contrast, an ascription to lack of aptitude, which is internal and uncontrollable, often evokes feelings of shame and humiliation. Finally, the expectancy of success, along with emotions such as pride, guilt and shame, together determine subsequent behaviour as this latter depends on both thoughts and feelings (Weiner 2000: 5).

However, more importantly, classroom contexts do not include learners only but all the surrounding people concerned with and affected by learners' performance: peers, teachers and parents who, given the performance of the learner, can express anger or sympathy and consequently, reward, punish or neglect this latter. This social environment aspect is viewed as the major tenet of interpersonal theory and also includes beliefs about the responsibility of others when considering failure in particular.

In this ultimate vein, if failure is attributed to lack of effort, which is considered internal and controllable, then the learner is perceived as responsible for the outcome. Consequently, the others (teachers, parents and peers) may react negatively and display anger and neglect, and withhold help, all of which are respectively accompanied by punishment in most cases. Conversely, failure attributed to uncontrollable factors such as lack of ability elicits sympathy from others and consequently promotes offers of help and empathy.

Clearly, Weiner's attribution theory has contributed to efforts to understand the real underlying reasons for academic achievement by providing a detailed and insightful theoretical framework. With this framework in hand, realistic explanations of learners' events can be possible (Weiner 1992). Here again, insight concerning learners' own perceptions of success and failure can be very constructive in modifying, developing and motivating learners.

2.2. Literature Review

Attribution theory constructs and frameworks have fuelled a number of studies aimed at identifying the impact of learners' causal attributions on both their performances and learning processes. Broadly, most studies seem to agree on similar conclusions that uphold learners' most frequent tendencies to attribute success to internal factors, such as effort and ability, and to attribute failure to external factors, such as task difficulty, luck or bad teachers (O' Sullivan & Howe 1996; Moore & Chan 1995; Saticilar 2006; Semiz 2011; Hsieh 2004).

In this line, Semiz's (2011) comparison between successful and unsuccessful learners' attributions showed successful learners' higher inclination to refer to internal causes such as ability and effort. The same

results are shown in Saticilar's study (2006), which showed that effort as an internal factor is the most important reason behind EFL students' success. On the other hand, failure is more likely to be attributed to external factors such as task difficulty and luck. Similar results have been reported in previous studies such as the ones conducted by Demir (2017) and Hsieh (2004), among others.

The correlation between causal attributions and learners' proficiency level has also been studied. By investigating EFL Iranian students' attributions in relation to their performance on placement tests, Hashemi & Zabihi's (2011) study showed a significant correlation between English language proficiency and internal attributions. Notably, the results showed that the higher the level of students, the higher their reference to internal attributions, such as effort. In contrast, failure is attributed to external factors such as task difficulty as correlation was made between lower proficiency scores and failure attributions.

Different findings have been provided by Williams & Burden (1999), who investigated English young learners' perceptions of success and failure in learning French as a second language. The results showed a combination of both internal and external factors, such as effort, others' support, and improvement in language proficiency to explain their success. Failure, on the other hand, was attributed to external factors such as task difficulty and poor teaching. Interestingly enough, the results showed significant disparities in the reasons provided depending on the learners' age.

Other aspects have been explored in connection with causal attributions, namely gender. In their study, Yavuz & Höl (2017) investigated Turkish EFL learners' attributions in connection with level of proficiency and gender. In regard to previous studies on attributions and level of proficiency, Yavus & Hol brought additional support to the previously mentioned studies by showing a strong correlation between level of proficiency and attributions. The study revealed that the higher the level, the more internal attributions are referred to for success among students with different levels. Besides, gender differences were also spotted by displaying females' higher tendency to attribute success to internal attributions.

In addition to gender differences, cultural disparities have been pointed out. Williams et al. (2001) investigated Bahraini students and teachers' perceptions of success and failure. Differences were noted among participants with rare reference to luck and ability when dealing with success. More external reasons for failure were provided—namely, classroom environment, circumstances, exposure to the language, interest, strategy use, and support from others. In a subsequent study, Gray (2005) examined Japanese and Chinese learners' attributions and revealed differences in the perceived

reasons for success and failure. In fact, the Japanese tended to focus more on the effort to explain success, whereas their Chinese peers attributed the latter to ability.

Likewise, Brown et al. (2005) looked into causal attributions by taking students from different countries, namely Turkey, Japan and China. The results showed that both success and failure are justified by internal factors but in a very discriminating way. In fact, the study displayed Japanese learners' inclination to strongly attribute both success and failure to internal factors, while Turkish and Chinese students attribute more internal factors to success than to failure.

On the same line, Mori et al. (2010) conducted a study to look for causes given by Thai and Japanese EFL university students and to account for cultural differences. The results displayed exceptionally few differences based on culture. Broadly, both groups focused equally on external and internal factors, such as teachers and classroom atmosphere as external reasons, and lack of ability and effort as internal reasons.

Attitude, as one significant aspect, has also been studied in relation to causal attributions and motivation. In his study, Graham (2004) examined the attitudes of English students aged 16 to 19 years old towards learning French and the reasons felt to be underlying their level of achievement. Specifically, students who attributed success to their effort, high motivation, ability and effective learning strategies had higher levels of achievement. On the other hand, low ability and task difficulty were the main reasons cited for lack of achievement. Graham concluded that learners' self-concept and motivation can possibly be enhanced through approaches that encourage learners to explore the causal links between the strategies they employ and their academic performance. Ultimately, this can be achieved by changing the attributions learners make to interpret their success or failure.

Guided by these currently known consequences of ability versus effort attributions, a number of attribution retraining studies have attempted to change the failing students' attribution for failure from low ability to lack of effort. The first attribution retraining study was conducted by Dweck (1975) who selected elementary school students labelled as helpless on the basis of ratings provided by their failure to display sufficient effort in their studies. The retrained subjects were then compared to non-trained students with similar characteristics and revealed to be more persistent in the face of failure with a better performance than their counterparts who received success-only feedback.

Some retraining studies have directly manipulated the stability dimension rather than specific causes. In one of the first achievement

retraining studies with adults, Wilson and Linville (1982) manipulated the stability dimension by telling a group of college freshman that their grades would improve from the first to the second year; that is, that the reasons for poor performance in the freshman year were unstable. Compared to a control group who received no attribution information, the retrained students had greater expectations for success in their sophomore year, achieved higher grade point averages, and were less likely to drop out of college at the end of the first year (Wilson & Linville 1982).

In sum, research on causal attributions has significantly helped to highlight two major aspects of motivation in classrooms: the first deals with the importance given to the learners' perceptions, attitude, age, and cultural background differences; the second concerns the possibility to manipulate and change negative causes to positive ones by using appropriate strategies. Indeed, these two standpoints, if implemented, will considerably change teaching practices and also teachers' behaviours towards failure and success. By focusing on how learners perceive their positive and negative achievement and learning, we may, in part, reach a clear understanding of how this complex process occurs and how to protect and increase learners' motivation in language classes.

3. Methodology

A quantitative methodology is adopted in an attempt to provide statistically grounded and empirical data on the learners' causal attributions in their language learning and past exam performances. Descriptive statistics were used accordingly to measure attributions' significance in relation to success and failure. Locus and controllability were also measured to cover the major constituents of Weiner's model and have a more accurate account of the raised issue. The study was conducted at the Department of Foreign Languages of the University of Boumerdes, Algeria. The students belong to the researcher's master's degree class, selected purposefully for their long educational experience and background.

3.1. Participants

In an attempt to provide a representative sample of a master's degree class, 62 master's students were selected. The selected number conforms to the norms of representativeness as the total population of 73 requires a sample size of 62 participants to attain the 95% confidence level and 5% margin of error standards. The underlying evidence of the students' selection was based on the subjects' agreement to take part in the study, by assuring both

ethical principles of voluntary participation and confidentiality. The participants ranged in age from 20 to 27 years old (Mean= 22, SD = 1.30); hence, the results of this study cannot be generalised to the students above or below the reported mean score.

The participants are graduate students pursuing their studies in language sciences. The mentioned specialty covers two years of master's graduation studies. In this particular case, the participants belong to the first-year master's graduation group, with an English language proficiency presumably approximating the C1 level on the Common European Framework of Reference for Languages (CEFR) scale, given their degree and long English educational background.

3.2. Instrument

A causal attribution questionnaire based on the four properties of Weiner's model was elaborated. Weiner's model is acknowledged for being more complete than other attributional frameworks (Graham 1991) and has accordingly been used by many researchers as a frame of reference (Yavuz & Höl 2017; Mekonnen & Roba 2017; Hashemi & Zabihi 2011; Lei 2009; Ong 2006; Allwright 2006; Bempechat et al. 1996).

The questionnaire encompasses 28 items scored on a 5-point Likert scale, each ranging from strongly agree to strongly disagree. The questionnaire is designed on the basis of Weiner's model and the reviewed literature that helps to identify the causal attributions of the EFL learners on success and failure. All the items are tailored to suit the purpose of the current study by designing clear and precise questions to answer.

The questionnaire contains three parts. The first encompasses 12 items dealing with success causes; and among the 12 items, 6 are internal, and the remaining 6 ones are external factors. This is purposefully done to account for the attributions' locus previously mentioned in the model. The second part, likewise, includes 12 items and deals with learners' perceived failure attributions from internal and external perspectives.

Lastly, the third part comprises 4 items which are intended to account for the degree of controllability of learners' causal attributions, mainly when dealing with ability, task difficulty, effort and luck. By examining and considering success and failure attributions along with locus and controllability, we aim to apply Weiner's model by including all the properties of the model to account for learners' attributions in a very comprehensive and detailed way to gain maximum knowledge about the topic under scrutiny. Overall, the questionnaire, in total, encompasses 28

items in addition to the *age* item designed to account for the sample age ranging that is considered important for statistical inference.

3.3. Procedures

Quantitative data analyses were carried out in a stepwise way by utilising Excel Stats, which is widely utilised in descriptive/quantitative studies in social sciences. Providing statistical values and numerals, an empirical study can be carried out in an attempt to apply a robust approach to the inquiry that will, in turn, hold higher statistically inferential implications.

As stated previously, the designed questionnaire was completed by a representative sample of 62 EFL learners. To gain further reliability, an additional step consisted of calculating the Cronbach Alpha coefficient to ensure reliable measures of the attributional causes in terms of the questionnaire items and scale consistency. Cronbach Alpha is considered to be a measure of scale internal consistency which displays how closely related a set of items are as a group. The reliability statistics for the questionnaire regarding internal consistency are presented in Table 1 below:

Table 7-1: Cronbach's Alpha Coefficient of the Causal Attribution Scale

	Cronbach Alpha	No of Items
Total	0,584	28
Success	0,553	12
Failure	0,620	12
Controllability	0,602	4

From the table above, the questionnaire reliability in terms of the scale and internal consistency of items is 0.58. Commonly, the acceptable values which are statistically acknowledged are from 0.70 to 0.95. At this point, the noted relatively low reliability of the scale can be considered acceptable in regard to the small number of questions for each attribution, and for each perception (success, 6 items; failure, 6 items; and controllability 4 items). Undoubtedly, longer questionnaires including more items would yield more concise results in this case.

The last step consisted of calculating via descriptive statistics the mean and standard deviation of each item to provide empirical evidence that will ground the data analysis and discussion. The examination of the data and values differences are set to be significant if $p = 0.05$.

4. Results

The results for Q1, *What causes do Algerian EFL students attribute to their success in exams and learning of English as a foreign language?* were obtained by calculating the mean score of each item and by classifying the items according to the participants' ratings. This classification from the highest to the lowest rating scale is intended to provide a more accurate reading of the importance given to each attribution and to identify the most significantly rated attributions by the learners.

Notably, the results presented in Table 2 below show that both internal and external attributions are highlighted with very approximating values. In spite of that, the highest means of all are "motivation" and "interest" which students have towards their language learning (4.51) and their dedication to the learning process through regular attendance in classes (4.19), hard work (3.95) and constant revision and preparation (3.95). Interestingly enough, ability (3.59) is revealed as the last suggested reason to explain success. In this particular case, more important than ability are factors such as supportive family and friends (3.69), and good past teaching programmes (3.66).

Other significant values are the ones attributed to good teachers (3.17) and an encouraging study environment (3.16). Less frequent reasons for success are the ones which are statistically represented under 3 which concern the attributions that are related to task easiness (2.61) and luck as the last and least significant attribution (2.50). Notably, ability and luck are considered the least important reasons for success, whereas motivation, preparation, effort and supportive family, more specifically, are rated as the main reasons for success among the participants.

A subsequent step in the analysis of these results is the classification of the attributions in terms of internal and external locus. As previously mentioned in the literature review, most of the causal studies mentioned supported the view of internal factors being the most significant reasons for success. By examining Algerian learners' attributions, the study aims to shed additional light on the issue by providing empirical data to support or reject the previous arguments presented in earlier studies.

Table 7-2: Descriptive Statistics of the Participants Regarding Success

	Causal attributions	Mean	SD
Success	Interest in learning the language	4.516	0.864
	Regular attendance in classes	4.194	1.157
	Hard work	3.968	1.071
	Constant revision of lessons/exams	3.952	1.031
	Supportive family and friends	3.694	1.386
	Good learning strategies/tricks	3.677	1.004
	Good past instructional programmes	3.661	1.007
	Ability to learn languages	3.597	1.078
	Good teachers	3.177	1.033
	Encouraging study environment	3.161	1.369
	Exams/tasks were easy	2.613	0.797
	Good luck	2.500	1.036

Therefore, the examination of the locus of attributions is made by ranking the items again from the highest to the lowest ratings as shown in Table 3. When considering the participants' mean scores in regard to locus, a careful examination of the findings revealed that the four most significantly rated attributions are internal. In this particular case, learners endorsed more strongly internal attributions (interest, regular attendance, effort and constant revision and preparation). Hence, external attributions are subordinated to the mentioned internal attributions. Nonetheless, external attributions are reported with significantly lower scores. The external factors are namely a supportive family, good past teaching programmes, good teachers and an encouraging instructional environment.

Table 7-3: Descriptive Statistics of the Participants Regarding Success according to Locus

		Causal attributions	Mean	SD
Success	Internal	Interest in learning the language	4.516	0.864
		Regular attendance in classes	4.194	1.157
		Hard work	3.968	1.071
		Constant revision of lessons/exams	3.952	1.031
		Good learning of strategies/tricks	3.677	1.004
		Ability to learn languages	3.597	1.078
	External	Supportive family and friends	3.694	1.386
		Good past instructional programmes	3.661	1.007
		Good teachers you had	3.177	1.033
		Encouraging study environment	3.161	1.369
		Exams/tasks were easy	2,613	0.797
		Good luck	2.500	1.036

At this particular point, a need for comparison between the proportions of the internal and external mean scores was considered to account for possible differences between the two aspects. To support the reported findings with more finely grained and detailed statistics, a paired sample t-test was adopted to find out statistically meaningful differences.

Table 7-4: Internal vs. External t-test Scores regarding Success

Success	Mean	SD	SEM
Internal attributions	3.984	1.076	0.137
External attributions	3.134	1.208	0.153

As seen in the table, the internal attributions mean score (3.98) is higher than the external attributions mean (3.13). This suggests that learners attribute their success more significantly to internal causes rather than to external ones. Regarding both attributions tendencies by calculating the mean difference between the internal and external factors, the p value reported was < 0.0001, which is significantly inferior to the alpha 0.05. Hence, the alternative hypothesis in favour of a statistical difference between internal and external causal attributions is confirmed.

Table 7-5: Descriptive Statistics of the Participants Regarding Failure

	Causal attributions	Mean	SD
Failure	Learning/exams were too difficult	3.452	0.862
	Did not study hard enough	3.210	1.088
	Teachers were not good	3.097	1.097
	Poor learning strategies/tricks	2.968	1.187
	Lack of preparation/revision	2.919	1.205
	Discouraging study environment	2.855	1.513
	Bad luck	2.806	1.435
	Absent from classes	2.645	1.356
	Poor past instructional programmes	2.661	1.159
	Not really interested	2.403	1.361
	Poor ability in learning languages	2.258	1.130
	Unsupportive family and friends	2.081	1.258

Regarding Q2, *What causes do Algerian EFL students attribute to their failure in exams and learning of English as a foreign language?*, the results presented in Table 5 above show learners attributing their failure in English learning and exams to three major reasons, namely to task difficulty (3.452), lack of effort (3.210) and poor teachers (3.097). Besides, learners attribute their failure to poor learning strategies (2.96), lack of revision and preparation (2.91), discouraging instructional environment (2.85), with lower rates among other attributions mentioned in the table below. Interestingly enough, poor ability (2.25) and unsupportive family and friends (2.08) are rated as the two least effective factors in failure.

Besides, the locus of attributions was also considered. As can be observed in Table 6, most attributions hold very approximate mean scores both when dealing with internal and external factors for failure. Substantially, the most significant rates deal with task difficulty (3.45, external), lack of effort (3.21, internal) and bad teachers (3.09, external). These are respectively followed by poor learning strategies (2.96, internal), lack of preparation and revision (2.91, internal), discouraging study environment (2.85, external), and unsupportive family and friends (2.08, external), as the least important rated reason for failure.

With all the means of the items considered, it is clear that internal and external factors are similarly put forward to explain learners' failure in learning English. Both internal and external reasons are considered to have a significant impact on failure. Interestingly, ability and luck are revealed to have a very limited impact on both students' success and failure. In short,

more significant factors accounting for failure are thought to be task difficulty, lack of effort and incompetent teachers.

Table 7-6: Descriptive Statistics of the Participants Regarding Failure according to the Locus

		Causal attributions	Mean	SD
Failure	Internal	Didn't study hard enough	3.210	1.088
		Poor learning strategies	2.968	1.187
		Didn't prepare/revise enough	2.919	1.205
		Absent from classes	2.645	1.356
		Not really interested	2.403	1.361
		Poor ability in learning languages	2.258	1.130
	External	Exams/learning were too difficult		
		Teachers were not good	3.452	0.862
		Discouraging study environment	3.097	1.097
		Bad luck	2.855	1.513
		Poor past instructional	2.806	1.435
		programmes	2.661	1.159
		Unsupportive family and friends	2.081	1.258

Notably, students believe that the main reasons for failure stem from their incapability in dealing with difficult tasks, which are not at all connected to their ability, and their tendency to work less than is expected of them. Teachers seem to have an important place in students' learning and achievement as well. Indeed, teachers' competency, personality, teaching and assessment techniques have proved to be of paramount importance in this particular case.

To examine possible mean score differences and account for the most dominating factors in terms of the locus of failure, the same t-test previously used to measure success was used. The results are presented as follows:

Table 7-7: Internal vs. External t-test Scores Regarding Failure

Failure	Mean	SD	SEM
Internal attributions	2.734	1 .262	0.160
External attributions	2.825	1.301	0.165

As can be observed in Table 7, the mean of the internal attributions is 2.73, while the external attributions mean is 2.82. Notably, internal and external mean scores are very close, which suggests that learners' failure is attributed almost equally to internal and external factors. Seeking statistical significance, the paired sample t-test, commonly used to account for existing difference (Hypothesis 1) and absence of difference (Hypothesis 0 or Null hypothesis) in scores comparison, found that the mean difference between internal and external factors represented by the p value 0.33 was higher than the alpha = 0.05. Therefore, the null hypothesis stipulating 0 difference is confirmed, as no meaningful statistical difference was found. In sum, the statistical treatment of the locus of attributions showed that most learners attribute their success to internal more than external factors; meanwhile, failure is believed by the participants to be the result of both internal and external reasons.

Subsequent to failure and success causalities, controllability was investigated from the learners' perspective this time. In a challenging endeavour to explore learners' easiness/difficulty in controlling the four pre-established properties of ability, effort, luck and task difficulty, the participants were asked to say what is generally easy for them to control. Students' answers are classified from easy to difficult according to the decreasing means as presented in Table 8.

Table 7-8: Descriptive Statistics of the Participants Regarding Controllability

	Causal attributions	Mean	SD
Controllability	The difficulty of the task	3.710	0.832
	Your capacity to work hard	3.661	1.134
	Your ability	3.629	1.101
	Luck in succeeding or failing	3.355	1.092

As can be observed, task difficulty, which is characterised by Weiner (2006) as uncontrollable, is reported here as the easiest property to control when learning a language or performing in exams. This can possibly be explained by the maturity gained by students through university studies—a maturity which helps them resolve easy and difficult tasks alike on the one side, and their advanced academic level, on the other side. In addition to task difficulty, ability (uncontrollable) and effort (controllable) have proved to be easy to control and handle. On the other hand, learners regard luck (uncontrollable) as the most difficult feature to control among all.

Although task difficulty, ability and luck are given in the model as uncontrollable, and effort is characterised as controllable, students' perceptions

revealed interesting insights concerning their inner capacities to control (or not) some aspects of their learning. Ultimately, perceptions should not be limited to four definite properties. Learners' personality, educational levels, learning age and culture can be determinant factors in shaping and reshaping their perceptions of success and failure in the light of their general capacities to control their learning and performance behaviours.

5. Discussion

In this particular study, Algerian participants exhibited significantly different causal attributions for their success and failure in learning English and their past examinations. Such a step is crucial as it brings a new dimension to learners' perceptions and future expectancy of successful or unsuccessful performances. Consistent with some reviewed studies (Stevenson & Lee 1990; O'Sullivan & Howe 1996; Williams & Burden 1999; Satıcılar 2006), participants in this study associated success more strongly with internal causes, namely motivation, effort and high commitment in their learning through constant preparation and class attendance.

This is, in a way, quite interesting as the majority of studies have highlighted the importance of internal reasons in making up success, and more importantly, predicting future success. Nonetheless, external reasons such as supportive family and friends, along with good past instructional programmes, were provided as well, but with lower mean scores. In parallel, failure was explained by reference to both internal and external factors almost equally. For students, their failure was due to external reasons such as task difficulty and poor teachers, and internal reasons, such as lack of effort and poor learning strategies.

In most cases where learners believe that their success is due to their own effort, they will expect to achieve the same outcomes the next time they approach the same or similar tasks. Conversely, if learners ascribe their failure to lack of ability, they may probably avoid approaching those tasks in order to avoid failing again. Yet, in this particular study, ability is not seen by learners as an influential factor for success; they seem to perceive motivation (internal, unstable and uncontrollable) along with effort (internal, unstable and controllable) as the most decisive factors in their success.

Clearly, the fact that motivation and effort are characterised as internal attributions is informative regarding learners' implication and dedication in the learning process, which is in part favourably welcomed by researchers on the ground that success should be ultimately based on internal and personal reasons. However, both motivation and effort are unstable. By

unstable, we mean that both can be subject to fluctuations, with an increase and decrease in the degree of motivation and effort. Given the psychological nature of motivation and effort perceptions, learners who were at first very motivated and dedicated in their learning process and performance can easily become unmotivated and lazy for some internal and external reasons during their university studies.

With this said, there is no doubt that internal factors such as motivation and effort, among others, should be maintained and protected by teachers and educators, as causality leading to success is based on stability more strongly than instability. In this vein, when learners attribute their success or failure to stable causes, such as ability and task difficulty, for instance, similar success or failure is expected from them in the future. On the other hand, when success or failure is grounded on unstable causal attributions such as effort or motivation, in this particular case, this may lead to contrasting and different performances in the future (Woolfolk 1998; Yavuz & Höl 2017; Williams & Burden 1999).

As for controllability, the findings exhibited contrasting perceptions concerning what is considered as easy or difficult to control at the participants' personal level. Interestingly, the noted mismatch between what Weiner labelled controllable and learners' own perceptions of easiness and difficulty brought challenging insights concerning the definition of attribution controllability from the participants' perspective. In our belief, this issue may be of great importance in explaining causal attributions from participants' standpoints, to find out how learners differ in their control capacities and what the significantly impacting factors on these attributions may be. Some reasons are provided in this discussion, namely students' English level, age and experience. Many other factors might be spotted through a careful scholarly reconsideration of the issue in future studies.

6. Implications and Recommendations

As was pointed out above, new avenues for research can be envisaged for teachers, educators, researchers and institutions to handle failure, principally with documented and informed educational decisions, teaching strategies and programmes. This evidently starts by bridging the gap between teachers, educators and institutions' perceptions on success and failure and learners' own perceptions. In a more learner-centred approach, understanding learners' causal attributions will certainly help to act on the external reasons they attribute to success and failure and turn them into internal assets to promote successful performances and attenuate unsuccessful learning behaviours.

Attribution theory, as stated previously, is a motivation theory. The investigation of the psychological dynamics inherent to causal attributions is only one part of the intricate and problematical issues of motivational research methodology. For many years now, attribution theory has been acknowledged for yielding explanations on how learners perceive themselves as language learners, and how they interpret their success and failure as well (Hashemi & Zabihi 2011; Dörnyei 2001; Williams & Burden 1997). Undoubtedly, by understanding the reasons why learners behave the way they do, teachers are empowered to help them successfully process their learning outcomes.

A number of scholars believe that it is possible to change individuals' perceptions about performance outcomes (Hsieh 2004; Williams & Burden 1997; Perry et al. 1993). This is rendered possible by changing the explanations they make about their failures and successes through the creation of new attributions concerning achievement. Consequently, teachers are given an appreciation of the multiplicity of factors affecting students' motivation and learning and offer a range of strategies that may be used to increase motivation.

Hence, increasing and directing learners' motivation has been revealed to be significantly important for language learning and achievement. For Harmer (1984), this is one of the teacher's responsibilities; accordingly, many things can be done by ESL/EFL teachers to help improve their low-level students' attributional styles and turn failure into success. A few general techniques are provided to use or experiment with in classrooms in order to gauge the learners' perception of second language learning outcomes, but this essentially goes first with a preliminary approach to get an idea of the general attributional profile of the students.

One good starting point then is to design a questionnaire, built on Weiner's attribution properties, to identify their learners' reasons for success and failure, and therefore determine if they are effort, ability, luck or task difficulty oriented and whether they are considered stable, unstable or controllable. With this information in hand, appropriate activities and feedback can then be designed. For Gray (2005: 4), "If the questionnaire reveals that the classes' general attributional style stresses ability, tasks and techniques which build up a sense of mastery and agency in students should be employed. The teachers need to establish clear, natural and firm connections between effort and results and show that failure is both controllable and unstable".

As for the most adequate response for achievement, Gray (2005: 4) adds: "Research has revealed that rewards, marks based on merits, and even simple praise, can motivate problematic learners. If the general attributional

style emphasises effort, immediate rewards for good efforts should be instituted. Excellent efforts should be praised and displayed".

In addition, educational psychologists frequently recommend several strategies that teachers can use to change their students' negative attributions. In fact, Brophy (1998) believes that a planned set of modelling practice might be fairly useful. Teachers need to design tasks in which students can focus without the fear of failure, with activities for which students are not graded but only monitored and which are specific to the level of the learners, so that they feel that they have control over the language learning process.

Moreover, successful learning should be emphasised by referring to models of successful individuals who laboured and made some mistakes before they succeeded. By using these types of models, students can learn how to cope with difficulties and mistakes and learn how to persevere. In addition, learning failures need to be attributed to the students as a result of a lack of effort and not of a lack of ability in order to turn internal reasons to external ones to maximise controllability over learning.

In conjunction with Brophy, Dörnyei (2005) argues that promoting effort attribution is safer for learners because referring to ability too much is a dangerous practice and can have a negative effect on some learners in the classroom. Highlighting the role of effort, therefore, can facilitate future achievement and offer an equal chance to everybody, by making them believe that higher levels of effort, in general, offer a possibility for success. Learners, therefore, persist in spite of the failures that accompany learning. Furthermore, he suggests that effort attributions can successfully be implemented via the presentation of effort feedback that focuses on low effort as being a strong reason for underachievement because this communicates to students that they can do better in the future.

Similarly, teachers should refuse to accept ability attributions by offering the alternative explanation that the student has failed because he/she has used ineffective strategies and because he/she has not persisted long enough. By so doing, teachers will promote effort and perseverance as classroom norms in which mistakes are allowed and where effort is praised (Dörnyei 2005).

Additionally, increasing learners' satisfaction is an important aspect of attributional motivation in the sense that learners' satisfaction partly, if not mostly, helps self-esteem settlement and pride as well. Teachers in many circumstances tend to ignore success and this can lead to students having "a distorted picture where difficulties are overemphasised" (Dörnyei 2005: 45), which can hinder their building of a positive self-image and thus of self-esteem and pride. This can be sorted out by celebrating achievement

and making success memorable by monitoring and recognising the learners' accomplishments via written papers, applause or standing ovations if necessary.

Offering rewards and grades in a motivating manner is an interesting route for teachers to investigate. Though they are old and well-known practices, motivational psychologists, in general, remain sceptical and do not like rewards. For Dörnyei (2001, 2005), more specifically, rewards do not increase the inherent value of the task or the task outcome; they only serve as a carrot or stick to the task and, therefore, divert the students' attention away from the real task and the real point of learning.

Regarding the reward controversy as one major issue of classroom motivation, Dörnyei (2001) states that rewards can constitute powerful motivational tools as well as potentially dangerous practice within classrooms. In the same line, Brophy (1998) points out that when people start concentrating on the reward rather than on the task, they often overlook the actual values associated with the task and attempt to maximise rewards with a minimum of effort. As a consequence, teachers are exhorted not to overuse rewards and to offer them in a motivational manner by giving them only for participating in complex activities which require prolonged engagement and creativity on the students' part.

One additional challenge for teachers in other circumstances will be to deal with failure as part of their motivational enterprise. In fact, a student who has a history of failure and does not expect this to change will attribute failure to ability—an internal and stable factor. This pattern is characteristic of students classified as having learned helplessness. The concept of helplessness was proposed by Seligman & Maier (1967), as cited in Alderman (2004), and has since been associated in the field of educational psychology with the attributions students make for failure which are interpreted by their unwillingness to try again and their tendency to give up. Alderman (2004: 48) argues that "it is important for teachers to be aware of the characteristics of helplessness because learned helplessness may explain students' apparent lack of motivation".

Subsequently, the next important question is how can a teacher identify a helpless pattern and what can he/she do to lessen the likelihood of helplessness among students? To answer this question, Alderman suggests that assisting helpless students can be achieved through the use of some specific strategies that first consist of observing students' reactions to failure in order to identify helpless patterns. Clues can be inferred via students' reactions and explanations for failure and their ease or difficulty in giving up or trying new approaches. Secondly, teachers will need to look more

carefully at the students' attributions for failure to better understand the nature of the attributions in terms of stability and controllability.

Looking into the learner's past history may provide valuable clues to define the students' inclinations to helpless patterns (Alderman 2004). Bearing this in mind, teachers can anticipate learning difficulties by helping students establish an attribution which considers all students' capabilities to learn difficult subjects and solve difficult tasks as well. By attributing learning to effort and ability, on the one hand, and teaching the students adequate learning strategies, on the other hand, this may offer additional chances to learners with observed patterns of failure. In fact, demonstrating partially or totally small successes can possibly "help gradually lift up their self-esteem and confidence" (Alderman 2004: 49).

Lastly, teachers' attitudes towards failing and successful learners should be seriously revised. Teachers' reacting to failure by displaying anger and resorting to punishment should be corrected as well as the overuse of rewards and grades towards success. Motivating techniques and strategies, therefore, become valuable and powerful tools used wisely to deal with learners as human beings with feelings and identities that teachers need to maintain and preserve.

Evidently, there are no magic wands in teaching or motivating. It is clear that it will take teachers a great deal of effort and patience to initiate, sustain and protect learners' motivation by maximising learning opportunities. Yet, in the end, it is up to the learners; teachers cannot be responsible for all students' motivation (Allwright 1977). This latter would probably fit in the scattergun or broadcasting technique in teaching whereby learning opportunities are maximised to ensure extra chances for motivation and thus learning. In Allwright's (2006: 14) contention, " this would be to contrast the individual planting of seeds in specially dug holes to the traditional technique of sowing seeds by broadcasting, throwing them all around you, in the expectation that some will fall on 'stony ground' but that at least some others will fall on fertile ground, by chance alone".

Henceforth, understanding learners' causal attributions for success and failure is certainly a valuable step towards implementing suitable pedagogical strategies and policy. In this ultimate scope, more research is needed to ensure the reliability and validity of the conclusions regarding the possible relation between causal attributions and learners' achievement. In this regard, more longitudinal studies should be envisaged by considering additional determinant variables such as age, gender, culture and personality traits among others. It is only by doing so that research can gradually contribute to unravelling more of the intricate but crucial issue of motivation, which is clearly a vital opening key to both successful learning and exam performance.

7. Conclusions

The current study has revealed that learners taking part in this investigation attribute their success more significantly to high motivation and personal effort. On the other hand, failure is linked to task difficulty, lack of effort and teachers. By taking Weiner's (1979, 1999, 1985, 1986, 1994, 2000, 2006) model into account, these reasons are determinant as they show the internal and external dimensions along with the stable/unstable and controllable/uncontrollable nature of the causal attributions for both success and failure. With regard to the causal dimension, motivation and personal effort are both internal, but both of them are unstable. This is quite critical as tendencies to decreased motivation and effort can happen at any time during the learning process.

Additionally, the uncontrollable dimension of motivation and the unstable nature of effort can represent a real threat to learners' consistent successful performance. Indeed, one major factor of failure cited by the participants is poor teaching standards. This again presents evidence that teachers should strive for learners' motivation and effort through maintenance and protection. The uncontrollable dimension is also found in task difficulty. This latter is posited as the first reason for learners' unsuccessful academic performance.

This stable and uncontrollable factor is viewed by Weiner (1992) as a negative attribution due to its connection to learners' low perceptions of responsibility that lead to feelings of guilt and shame. The detrimental effect of these feelings on motivation will, in turn, negatively impact on academic performance and lead to failure. In Hashemi & Zabihi's (2011: 959) words, "as long as EFL learners look for more internal causes to which they can ascribe their success or failure, instead of perceiving themselves and their performance as determined by some external, uncontrollable, and unstable factors, they will have greater chances of enhancing their English proficiency".

Consequently, there is no doubt that attribution training is needed to reshape learners' perceptions on the most required reasons for success, namely internal, stable and controllable attributions. Uncontrollable and unstable internal reasons should be preserved and enhanced, while external, unstable and uncontrollable reasons should be attenuated through adequate teaching strategies and programmes to maximise chances of success and reduce failure in language classes.

Overall, attribution theory is proposed here as a window for understanding learners' academic achievement. For decades, motivation has been viewed as a static mental or emotional state. With attribution theory conceptual frameworks, motivation is considered as a dynamic and

constructive process which relates the structure of thinking to the dynamics of feeling and action. Clearly, how individuals make sense and interpret their successful and failing language learning experiences depends mostly on their causal attributions that play the predominant part in both present and future learning actions.

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Appendix A

Table 7-9: Causal Attributions (Based on Weiner 1985)

Causal attributions	Locus	Stability	Control
Ability	Internal	Stable	Uncontrollable
Effort	Internal	Unstable	Controllable
Task difficulty	External	Stable	Uncontrollable
Luck	External	Unstable	Uncontrollable

Appendix B

Causal Attribution Questionnaire

I. Identification questions

Age: ……..

II. Success Causal Attributions

When you are successful at learning English, it is because of: (tick one answer)

1. ***Your talent for learning languages***
   □ Strongly agree □ Agree □ Neutral □ Disagree □ Strongly disagree
2. ***Your good English background from past middle and high school education***
   □ Strongly agree □ Agree □ Neutral □ Disagree □ Strongly disagree
3. ***Your hard work***
   □ Strongly agree □ Agree □ Neutral □ Disagree □ Strongly disagree
4. ***Your good luck***
   □ Strongly agree □ Agree □ Neutral □ Disagree □ Strongly disagree
5. ***The exams were easy***
   □ Strongly agree □ Agree □ Neutral □ Disagree □ Strongly disagree

6. ***The good teachers you had***
   □ Strongly agree □ Agree □ Neutral □ Disagree □ Strongly disagree
7. ***Your good learning strategies/tricks***
   □ Strongly agree □ Agree □ Neutral □ Disagree □ Strongly disagree
8. ***Your supportive family and friends***
   □ Strongly agree □ Agree □ Neutral □ Disagree □ Strongly disagree
9. ***Your encouraging study environment***
   □ Strongly agree □ Agree □ Neutral □ Disagree □ Strongly disagree
10. ***Your interest in learning the language***
    □ Strongly agree □ Agree □ Neutral □ Disagree □ Strongly disagree
11. ***Your constant preparation/revision of the content of your lessons/exams***
    □ Strongly agree □ Agree □ Neutral □ Disagree □ Strongly disagree
12. ***Your regular attendance in classes***
    □ Strongly agree □ Agree □ Neutral □ Disagree □ Strongly disagree

III. Failure Causal Attributions

When you are not successful at learning English, it is because: (tick one answer)

1. ***You are not good at learning languages***
   □ Strongly agree □ Agree □ Neutral □ Disagree □ Strongly disagree
2. ***You did not study hard enough***
   □ Strongly agree □ Agree □ Neutral □ Disagree □ Strongly disagree
3. ***You were not lucky***
   □ Strongly agree □ Agree □ Neutral □ Disagree □ Strongly disagree
4. ***The exams were too difficult***
   □ Strongly agree □ Agree □ Neutral □ Disagree □ Strongly disagree

5. ***Your teachers were not good***
   □ Strongly agree □ Agree □ Neutral □ Disagree □ Strongly disagree
6. ***Your poor English background from past middle and high school education***
   □ Strongly agree □ Agree □ Neutral □ Disagree □ Strongly disagree
   You were not really interested
   □ Strongly agree □ Agree □ Neutral □ Disagree □ Strongly disagree
7. ***You didn't have enough support from family and friends***
   □ Strongly agree □ Agree □ Neutral □ Disagree □ Strongly disagree
8. ***You didn't have a good and encouraging study environment***
   □ Strongly agree □ Agree □ Neutral □ Disagree □ Strongly disagree
9. ***You were absent from classes***
   □ Strongly agree □ Agree □ Neutral □ Disagree □ Strongly disagree
10. ***You didn't prepare/revise enough***
    □ Strongly agree □ Agree □ Neutral □ Disagree □ Strongly disagree
12. ***You didn't have good learning strategies/tricks***
    □ Strongly agree □ Agree □ Neutral □ Disagree □ Strongly disagree

IV. Causal Attribution Controllability

Which of the following things are easy for you to control when you try to learn English? (tick one answer)

1. ***The difficulty of the task***
   □ Strongly agree □ Agree □ Neutral □ Disagree □ Strongly disagree
2. ***Your ability***
   □ Strongly agree □ Agree □ Neutral □ Disagree □ Strongly disagree
3. ***Your capacity to work hard***
   □ Strongly agree □ Agree □ Neutral □ Disagree □ Strongly disagree

4. ***Your chances to succeed or fail in learning and exams***
□ Strongly agree □ Agree □ Neutral □ Disagree □ Strongly disagree

CHAPTER EIGHT

ANXIETY AND COGNITIVE PROCESSING IN LEARNING ENGLISH AS A FOREIGN LANGUAGE: THE CASE OF FIRST-YEAR STUDENTS AT THE UNIVERSITY OF TIZI-OUZOU

KATIA BERBAR

Abstract

Learning a foreign language can be a demanding task for many students, owing to the variety of cognitive and affective factors that adversely affect language learning performance and achievement. Among the psychological variables, anxiety is the most influential inhibitor of students' performance in English (Liu & Huang 2011). Anxiety arousal can cause several difficulties for language students and can interfere with ongoing cognitive activity. The cognitive effects of anxiety can be observed in the three phases of language learning: input, processing, and output. Thus, the present study is an attempt to determine the degree of anxiety at each stage and elicit a clearer understanding of its impact on cognitive processes. To this end, a five-point Likert questionnaire was developed and administered to 65 first-year students of English enrolled at the University of Tizi-Ouzou during the academic year 2016-2017. The Statistical Package for Social Sciences version 24.0 was used to compute the gathered data. Descriptive analysis was used to calculate the percentages and the mean for each item. The results reveal that the participants experienced high levels of input anxiety, processing anxiety, and output anxiety. Anxiety arousal at the input stage prevented learners from understanding vocabulary items in the target language. At the processing stage, anxiety impaired students' cognitive ability. Anxiety at the output stage obstructed the retrieval of the previously studied material and precluded learners from communicating in English.

The study conclusions indicate that anxiety was a hindrance since it negatively affected learners' ability to process information at each stage.

Keywords: cognitive processing, learning English as a foreign language, input anxiety, processing anxiety, output anxiety

1. Introduction

Learners differ in how successful they are in learning a second/foreign language. Some learners progress quite easily and succeed in learning the target language while others fail. Various cognitive and affective factors contribute to these individual differences in language learning. Early second language acquisition research has concentrated mainly on studying cognitive variables such as intelligence, language aptitude, and learning strategies. In recent years, however, the role of affective or emotional variables in language learning has received a substantial amount of attention. Second language acquisition researchers have acknowledged the importance of affective variables in the language learning process. Emotional factors include attitude, anxiety, motivation, self-confidence, and self-esteem. Among these emotional states, anxiety is of noteworthy importance because it has the potential to impede language learning performance, thus lowering the proficiency and the general achievement level.

According to Horwitz et al. (1986), the anxiety experienced in foreign language learning contexts is completely different from other types of anxiety. In foreign language classrooms, students may experience self-doubt and frustration, and may have difficulties expressing themselves. Frequently they also worry about the opinion of other classmates. All these factors can lead to "to reticence, self-consciousness, fear, or even panic" (Horwitz et al. 1986: 128) and make the cognitive performance less efficient.

2. Literature Review

2.1. The Nature of Anxiety

In general, anxiety is viewed as a psychological construct characterised by negative emotional sensations like vague fear and unease that is not related to a specific situation or context (Alrabai 2014: 82). Specialists in psychology classify anxiety into three perspectives, depending on when the individual is anxious. They make a distinction between state anxiety, trait anxiety, and situation-specific anxiety. State anxiety is a short-term reaction

to a threatening event (Shahnaz & Bhatti 2014: 176). Trait anxiety is an enduring personality facet (Shahnaz & Bhatti 2014: 176). To be more specific, trait anxious individuals have the tendency to become apprehensive in any situation. Situation-specific anxiety arises in a specific situation or event (Saha 2014: 189).

Anxiety is said to interfere with many types of learning and when it is associated with second/foreign language learning contexts, it is known as second/foreign language anxiety (Horwitz et al. 1986: 125). Horwitz et al. (1986: 128) conceive language anxiety as a unique construct specifically associated with foreign language learning settings. In a similar vein, MacIntyre and Gardner (1994a: 284) consider language anxiety as a unique emotional reaction aroused when speaking, listening to, and learning a second language.

Foreign language anxiety is classified into three varieties: communication apprehension, test anxiety, and fear of negative evaluation. The construct of communication apprehension denotes a type of shyness that appears when communicating with others (Saha 2014: 189). Communicatively apprehensive individuals tend to avoid conversations and interactions with others. Test anxiety is a conscious or unconscious fear of failure in test situations (Saha 2014: 189). It is a type of nervousness regarding academic evaluation. As its name suggests, fear of negative evaluation is the apprehension of others' judgement. This factor stems from a person's fear of making an improper social impression and being negatively evaluated, which may lead him/her to avoid performance and evaluative situations (Saha 2014: 189).

Regarding the role of anxiety in the foreign language learning process, language specialists differentiated between facilitating and debilitating anxiety. The former motivates the learner "to act in response rapidly and efficiently" (Saha 2014: 190). This facet of anxiety acts as an incentive for better performance. The latter harms students' learning performance and outcomes. Students who suffer from debilitating anxiety may experience self-doubt and display avoidance behaviour (Saha 2014: 190).

2.2. Anxiety and Cognitive Processing

In his Affective Filter Hypothesis, Krashen asserted that some emotional variables prevent learners from obtaining comprehensible input. In other words, affective factors such as anxiety, motivation, and self-confidence act like a filter or a mental barrier that precludes the input from reaching the Language Acquisition Device (Krashen 1985: 3). According to Krashen, anxiety affects the acquisition of a second/foreign language at the input

stage. Other researchers, on the other hand, postulated that anxiety influences cognitive processes at different levels of language learning. In this perspective, Tobias (1986) developed a three-part model about the impact of anxiety on cognitive processing. According to this model, anxiety affects not only the input stage but also the processing and output stages of language learning. Similarly, MacIntyre (1995: 96) stated that "Language learning is a cognitive activity that relies on encoding, storage, and retrieval processes, and anxiety can interfere with each of these by creating a divided attention scenario for anxious students". That is to say, anxiety interference occurs at the three stages of language learning: input, processing, and output. Anxiety at the input stage notes the apprehension students experience when presented with new material in the target language, and when exposed to auditory and visual clues (Rajanthran et al. 2013: 2041-2042). Input anxiety may cause attention deficit and poor initial coding of language input (Song 2018: 87). Anxiety at the processing stage, called processing anxiety, refers to the nervousness students experience when learning and thinking in the second/foreign language (Idri 2014: 56). Processing anxiety impairs students' cognitive activity and their ability to accomplish the task. Since anxiety interferes with students' cognitive performance, the time needed to process information increases (Song 2018: 87). Anxiety at the output stage, referred to as output anxiety, is the trepidation students experience when asked to produce spoken and written messages in the target language (Idri 2014: 56). Output anxiety acts as a disruption to the retrieval of the previously learned material (Song 2018: 87). This influences the quality of speaking and writing in the target language. In line with MacIntyre and Gardner (1994a: 288), anxiety inducement at the output stage may be triggered by problems faced during the input or processing stages.

In an attempt to examine the impact of anxiety on cognitive processing, MacIntyre and Gardner (1994a) developed new instruments to measure anxiety at the input, processing, and output stages of language learning. To assess the validity of the new scales, other anxiety measures were administered to 97 first-year students studying French as a second language at a Canadian university. The results showed that anxiety is negatively correlated with students' performance at each level of cognition. MacIntyre and Gardner (1994a: 301) reasoned that the impacts of anxiety on cognitive processing "appear pervasive and may be quite subtle".

In another study, MacIntyre and Gardner (1994b) investigated the effect of anxiety on vocabulary learning by introducing a video camera at the three learning phases. Seventy-two first-year university students learning French were randomly divided into three experimental groups and one control

group. The experimental groups were exposed to the camera at different stages of the task completion: the first group was filmed at the input stage; the second group was subjected to the camera at the processing stage; and the third group was videotaped at the output stage. The control group, on the other hand, was not videoed at any stage. The results of the experiment revealed that anxiety in the experimental groups increased significantly when the camera was introduced and "deficits in vocabulary acquisition were observed" (MacIntyre & Gardner 1994b: 1).

Williams and Andrade (2008) tried to identify the classroom situations that provoked anxiety among 243 Japanese students in 31 conversational English classes. The results of the open-ended question indicated that the most anxiety-inducing classroom situations were associated with the processing and output stages. At the processing stage, the respondents reported being anxious when they did not know how to say something in English and when they did not know how to answer the teacher's question. In addition, the students were concerned about the possibility of making grammatical mistakes. As for the output stage, anxiety aroused when the students were asked to speak English. The students suffered from anxiety when asked to speak in front of the entire class, were worried about incorrect pronunciation, and felt embarrassed to use simple or broken English (Williams & Andrade 2008: 185). Similarly, Awan, Azher, Anwar and Naz's (2010: 37) study about foreign language anxiety and students' achievement revealed that the high-ranking items were associated with the processing and output stages whereas the low-ranking statements were related to the input stage.

In 2010, Khan and Zafar replicated MacIntyre and Gardner's (1994b) experimental study with one hundred students from first-year university English language courses at an Indian University. The authors observed a significant increase in the students' levels of anxiety when the camera was introduced. The arousal of anxiety created cognitive deficits and decreased students' cognitive processing ability (Khan & Zafar 2010).

All the aforementioned studies demonstrate the detrimental impact of anxiety on the cognitive process of second/foreign language learning. In the Algerian context, little if no research has investigated the issue. Therefore, this study examines the correlation between foreign language anxiety and cognitive processing among Algerian EFL university students.

3. Research Problem

The present research is a descriptive case study that aims at measuring the levels of anxiety during the different stages of the foreign language learning

process. To be more specific, the study seeks to determine the degree of anxiety during the input, processing, and output stages of English learning. In addition, the study attempts to investigate the cognitive effects of foreign language anxiety. It tries to examine the way anxiety influences the cognitive activities that trigger language learning. More specifically, the study intends to address the following research questions:

1. To what extent do first-year students of English experience anxiety during the language learning stages?
2. How does foreign language anxiety affect students' cognitive processes?

Aligning with the study questions, the following research hypotheses are stated:

1. First-year students of English will experience anxiety in the three phases of English learning.
2. The influence of anxiety on cognitive processes will be debilitating.

4. Methodology

4.1. Setting and Participants

The study sample comprised 65 first-year students learning EFL at the University of Tizi-Ouzou, Algeria during the academic year 2016-2017. Fifty-six students (86.2%) were female and nine students (13.8%) were male. In terms of age, the participants were aged between 18 and 22, with an average age of 19.58 years. The reason behind choosing beginner EFL university students as our research participants was that they are more likely to experience anxiety compared to students in other study levels. According to Idri (2014: 214), moving from secondary school to the university environment is more likely to induce anxiety in many students.

4.2. Research Instrument and Data Analysis Procedure

The research instrument for the study consisted of a Likert questionnaire designed to measure the levels of anxiety during the different stages of the foreign language learning process, namely input, processing, and output. The questionnaire comprised 18 items: six items for each of the three language learning stages along with two background questions about the participants' age and gender. Some of the scale items were extracted from

anxiety measures used in previous studies (Cheng 2004; Horwitz et al. 1986; Kim 2002) while others were developed by the researcher. All the items were positively worded and responses were positioned on a five-point scale ranging from 1 "strongly disagree", 2 "disagree", 3 "neither agree nor disagree", 4 "agree", to 5 "strongly agree". High scores signal high anxiety and vice versa. The scale items were subjected to a reliability assessment. Cronbach Alpha was calculated using the SPSS 24.0. The reliability coefficient of the whole scale is .74, which shows that the internal consistency of the items is satisfactory.

The questionnaire was administered in three classes of first-year students of English at the end of class time. The students were informed about the purpose of the study and were asked to be honest while answering the questionnaire. Since the obtained data were anonymous and confidential, the students were also told not to include any personal details.

The questionnaire generated numerical data. The SPSS program version 24.0 was used to analyse students' responses. Descriptive statistical analysis was adopted to treat the findings. Frequencies and percentages were calculated to obtain an overview of the participants' demographic data. The scale items were analysed quantitatively for percentages and means and presented in a tabular form. The interpretation of the mean scores of anxiety was based on the following pattern: 1.00-1.50 = very low, 1.51-2.50 = low, 2.51-3.50 = moderate, 3.51- 4.50 = high, 4.51-5.00 = very high.

5. Results and Discussion

The questionnaire data were analysed quantitatively for percentages and means. The percentages of each item were computed to determine the extent of the participants' agreement and disagreement. This includes the percentages of students who disagreed and strongly disagreed with the statements (D+SD), the percentages representing the neutrality of the respondents (N), and the combinational percentages of students who agreed and strongly agreed with the items (A+SA). In addition, the mean score (M) for each item was calculated to ascertain the level of anxiety. Students' responses on the anxiety scale are presented in descending order in Table 1.

The results showed that the highest scores reflecting input anxiety are for the items "I get nervous if listening test passages are read just once" (M=4.09); "I get upset when I do not understand what the author is saying in English" (M=3.92); "I get upset when I do not understand every single word during a listening comprehension exercise" (M=3.89); "I get panicky when there are many words I don't know in English tests" (M=3.88); and "I get upset when I do not understand grammar or sentence structure when

reading in English" (M=3.53). A total of 80.0% of the students suffered from listening or receiver anxiety when test recordings were played only once. In her study about anxiety in EFL listening comprehension, Xu (2011) found that one of the sources of listening anxiety associated with the characteristics of input was the lack of repetition of language input. This feeling of apprehension was particularly intense during test-taking situations where the student must decode the test question and find the right answer (Xu 2011: 1712). Listening test situations can be stressful because students do not have the opportunity to repeat the input as much as they want. A total of 83.1% of the respondents experienced reading anxiety when they misunderstood the author's message. Students become anxious and frustrated when they are unable to understand what they are reading. According to MacIntyre and Gardner (1994a: 286), students with high levels of input anxiety may ask the teacher to repeat sentences or may have to reread foreign language texts on several occasions in order to compensate for the missing input. The results also indicated that 69.2% of the respondents felt anxious when they did not understand every word during a listening exercise. These students held wrong beliefs that in order to understand English they had to comprehend every single word that was uttered (Horwitz et al. 1986: 130). In order to reduce anxiety, teachers should help their students overcome their preconceived ideas about understanding every word they hear (Elkhafaifi 2005: 215). In addition, 83.0% of the participants became anxious in test-taking situations when they came across various unknown words. Students become anxious when they are unable to recognise words and decipher their meaning. This apprehension magnifies during tests and exams. In total, 68.7% of the students experienced reading anxiety when they encountered complex grammar or sentence structures. Learners with high levels of input anxiety get tense when they are presented with new words, sentence structures, or grammar points in English.

Table 8-1: Descriptive Statistics for the Questionnaire Items

Statements	D+SD%	N %	A+SA%	M	Anxiety level	Anxiety type
I get worried when I have little time to think about what I have heard	3.0	7.7	89.3	4.28	High	Processing
I get nervous if listening test passages are read just once	13.8	6.2	80.0	4.09	High	Input
I can feel my heart pounding when the teacher asks an unexpected question that I have to answer verbally	10.8	15.4	73.8	3.95	High	Output
I feel anxious when the teacher asks me to write an essay in English when I am not familiar with the topic	13.8	6.2	80.0	3.95	High	Processing
I get upset when I do not understand what the author is saying in English	13.8	3.1	83.1	3.92	High	Input
I start to panic when I have to speak English without preparation	12.3	12.3	75.4	3.89	High	Output
I get upset when I do not understand every single word during a listening comprehension exercise	13.8	16.9	69.2	3.89	High	Input
I get panicky when there are many words I don't know in English tests	13.9	3.1	83.0	3.88	High	Input
I feel so anxious during exams that I cannot remember anything I studied	15.4	9.2	75.4	3.86	High	Output

I feel very insecure when giving presentations in English in front of the other students	20.0	10.8	69.2	3.72	High	Output
I worry about my inability to find the appropriate words to express my ideas in English	21.6	7.7	70.8	3.63	High	Processing
I get upset when I do not understand grammar or sentence structure when reading in English	21.9	9.4	68.7	3.53	High	Input
It frightens me when I do not understand what the teacher is saying in English	27.0	7.9	65.1	3.49	Moderate	Input
I never feel quite sure of myself when speaking English in the classroom	35.4	10.8	53.8	3.37	Moderate	Output
My mind seems to go blank when I start working on an English composition	36.0	18.8	45.2	3.25	Moderate	Processing
I get nervous when the teacher asks me to write a text summary in English	29.2	21.6	49.2	3.18	Moderate	Output
I have a terrible time wording my thoughts when speaking in English	35.4	20.0	44.6	3.15	Moderate	Processing
I worry about my inability to answer the teacher's questions after a silent reading	35.4	15.4	49.2	3.15	Moderate	Processing

The top items that mirrored processing anxiety are "I get worried when I have little time to think about what I have heard" (M=4.28); "I feel anxious when the teacher asks me to write an essay in English when I am not familiar with the topic" (M=3.95); and "I worry about my inability to find the appropriate words to express my ideas in English" (M=3.63). A total of 89.3% of students panicked when they did not have sufficient time to process information. Anxiety, in this case, interferes with students' ability to concentrate on the task and process language input. Lack of time to process the language input was another factor highlighted by Xu's (2011: 1713) students who reported being apprehensive when asked to provide an immediate answer to a listening passage. Besides, 80.0% of the respondents felt fretful when they were unfamiliar with the writing topic. Students find it difficult to write about a subject in which they have no topical or lexical knowledge. Writing about unfamiliar subjects can evoke anxiety and impair students' ability to complete the assignment. Thus, allowing students to write about familiar and interesting subjects could help reduce anxiety and enhance cognitive performance. Furthermore, 70.8% of the participants worried about their incapability to find adequate forms to express themselves in English. Since the respondents were beginner university students, their apprehension might be attributed to their immature lexical and grammatical knowledge. Students become anxious and frustrated when they know what to say but are unable to find suitable words to do so.

The top anxiety statements associated with the output stage are "I can feel my heart pounding when the teacher asks an unexpected question that I have to answer verbally" (M=3.95); "I start to panic when I have to speak English without preparation" (M=3.89); "I feel so anxious during exams that I cannot remember anything I studied" (M=3.86); and "I feel very insecure when giving presentations in English in front of the other students" (M=3.72). Anxious students experience some physiological anxiety reactions. Indeed, 73.8% of the students suffered from a rapid heartbeat rate when asked to give a verbal response to an unexpected question. Aydin (2013) and Horwitz et al. (1986) found that an accelerated heart rate is a disagreeable physical response commonly associated with anxiety arousal. In addition, 75.4% of the respondents were panicky when asked to speak spontaneously. Putting students on the spot by asking them to speak without preparation can induce anxiety and disrupt output performance. Therefore, allowing time for preparation could be an influential factor in lowering anxiety and enhancing oral production. The same percentage (75.4%) suffered from test anxiety. This apprehension affected students' memory processes and precluded them from remembering and retrieving previously studied material. According to Kralova and Petrova (2017: 117), anxiety at

the output stage results in “memory lapses”. Horwitz et al. (1986: 126) found that highly anxious students “become forgetful” during tests and oral exercises. Anxiety, in this context, is debilitating because it leads to deficits in students’ output performance and affects exam scores. Furthermore, 69.2% of the students were vulnerable and lacked self-confidence when giving oral presentations in front of their peers. These students suffered from what is called stage fright or performance anxiety. Highly anxious students feel uneasy when asked to speak in front of the class (Horwitz et al. 1986: 129). Thereby, involving students in group presentations could minimise their fear of being in the spotlight.

What is worth noting is that among the questionnaire items, 12 items generated high anxiety while five statements yielded moderate anxiety. Among the 12 highly rated items, five statements mirrored input anxiety, three statements reflected processing anxiety, and four items were indicative of output anxiety. To be more specific, the main cause of anxiety among the study participants was related to the comprehension of language input. This finding contradicts the results by Williams and Andrade (2008) and Awan et al. (2010) who found that anxiety occurred mainly at the processing and output stages of language learning. Since the study participants were beginner university students, the arousal of anxiety at the input stage could be attributed to the newness of the foreign language learning setting. This could have affected their ability to encode language input and process information in the subsequent stages of English learning.

In order to answer the first research question, the mean scores of each respondent were computed to establish the level of anxiety. Based on their scores on the anxiety scale, the students were classified into different anxiety groups. The number and the percentage of students in each group are portrayed in Table 2. In addition, the overall mean scores were calculated to determine the level of anxiety in relation to the three learning phases. The results are shown in Table 2.

Table 8-2: Anxiety Levels in Relation to the Language Learning Stages

Anxiety type	Anxiety level	Number of students	Percentage	Overall mean	Meaning
Input Anxiety	Very high	4	6.2%	3.80	High anxiety
	High	44	67.7%		
	Moderate	16	24.6%		
	Low	1	1.5%		
	Very low	0	0%		
Processing Anxiety	Very high	3	4.6%	3.57	High anxiety
	High	28	43.1%		
	Moderate	30	46.1%		
	Low	4	6.2%		
	Very low	0	0%		
Output Anxiety	Very high	0	0%	3.66	High anxiety
	High	40	61.5%		
	Moderate	20	30.8%		
	Low	5	7.7%		
	Very low	0	0%		

Descriptive statistics showed that the participants displayed a wide range of anxiety levels. Findings regarding the levels of input anxiety revealed that the majority of the participants (67.7%) had high anxiety while 24.6% had medium anxiety. The results also demonstrated that only a small percentage of students were in the very high (6.2%) and the low anxiety (1.5%) categories. The participants' levels of processing anxiety, on the other hand, fluctuated between high (43.1%) and moderate (46.1%). A small portion of students was in the very high (4.6%) and the mild (6.2%) anxiety groups. As for output anxiety, the majority of the students (61.5%) felt high anxiety whereas 30.8% had a medium level of anxiety. Only 7.7% of the students reported a low anxiety level. Among the three types of anxiety, input anxiety ranked first with a mean score of 3.80, followed by output anxiety with a mean score of 3.66. Processing anxiety came in third position with a mean score of 3.57. The results showed that the level of anxiety in each language learning phase was relatively high. Since the study participants were enrolled in their first semester at the university, a high

anxiety level was not surprising. Students with high levels of anxiety have high affective filters that prevent them from obtaining comprehensible input, processing information, and conveying messages in English. Indeed, the results indicated that input anxiety precluded students from understanding messages, vocabulary items, and grammar structures in English. Anxiety at the input stage functioned like a mental wall that prevented the language input from reaching the cognitive processing system. At the processing stage, anxiety interfered with students' cognitive activity and impeded their ability to think and accomplish language tasks. According to Tobias (1986: 6), the amount of processing anxiety depends on the complexity of a given task or material. The more difficult the task is, the more anxious the students will be. Anxiety at the output stage was negatively correlated with students' written and oral performances. Output anxiety affected students' exam scores and their ability to communicate in English. The study findings demonstrate that anxiety had detrimental effects on students' cognitive processes. Such findings are consistent with the literature on the impact of anxiety on cognitive processing.

6. Conclusion

The present study endeavoured to determine levels of anxiety at each language learning stage and shed light on the impact of anxiety on cognitive processing. The findings confirmed the research hypotheses and made it clear that first-year students of English suffered from high levels of input anxiety, processing anxiety, and output anxiety, and that anxiety is damaging at each stage. Therefore, language teachers should be aware of students' emotional states, determine the most anxiety-provoking events inside the classroom, and take measures to minimise the negative influence of anxiety. Besides teachers' contributions, students should practise language skills, expand their lexical knowledge, prepare themselves well, and overcome their incorrect beliefs.

The present study is determined by many limitations. First, it used only one instrument to investigate the topic. In order to have a clearer picture of the impact of anxiety on cognitive processing, upcoming research ought to use other data collection instruments and conduct experimental studies. Second, the results cannot be generalised to all EFL learners in Algeria. Future studies should include more EFL students at different study levels in order to compare the degree of anxiety experienced by beginner, intermediate and advanced learners. Third, since females outnumbered male students, the study did not take into consideration the gender variable.

Further research is needed to compare the levels of anxiety experienced by male and female students.

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CHAPTER NINE

STUDENTS' PERCEPTIONS OF THE USE OF CODE-SWITCHING IN EFL CLASSES AT MOULOUD MAMMERI UNIVERSITY

HANANE AIT HAMOUDA

Abstract

The current study aims to report the way students perceive the non- or near-exclusive use of the target language in EFL classes and to figure out whether they consider code-switching a barrier in the cognitive process of producing English. To achieve this objective, an online questionnaire with open and close-ended questions was emailed to second-year master's students enrolled in the *Language and Communication* programme in the Department of English, at Mouloud Mammeri University of Tizi-Ouzou. The collected data are reported quantitatively and qualitatively. The free-text answers are examined employing qualitative content analysis which consists of a procedure allowing an in-depth analysis of the respondents' answers. It was found that the EFL classes at Mouloud Mammeri University do not have a pure target language environment and the students perceive the non-pure English language environment positively. The outcomes also revealed that code-switching in EFL classes does not alter the students' language production process.

Keywords: Code-switching, language production process, near- or non-exclusive use of the foreign language, EFL classes.

1. Introduction

Code-switching is a common phenomenon in bilingual and multilingual communities. It is defined by Numan and Carter (2001), as indicated by Sert (2005: 1), as "a phenomenon of switching from one language to another in

the same discourse". Since the 1980s, a growing concern has been devoted to the study of code-switching in foreign language classrooms where it is widely observed. Thus, this phenomenon is at the core of many debates concerning its effectiveness. Some scholars, to name a few, Chaudron (1988); Wong-Fillmore (1985); Ellis (1984); Prucha (1983), as cited by Noli et al. (2013: 479) negatively perceive the use of code-switching in classrooms and consider it a hindrance in the learning process. They have argued that learners may depend only on teachers' code-switching to understand their lectures. Moreover, students may be confused and internalise different errors concerning language use. Yet, researchers like Vazquez-Faria (1982), Levine (2003), and Chen Liping (2004), as mentioned by Rukh et al. (2014: 1112), advocated the positive aspects of using code-switching in classrooms. They claimed that its use is highly recommended in foreign language classes, because it accelerates and facilitates the learning process, and saves time.

The present study seeks to capture second-year master's students' perceptions of the use of code-switching in EFL classes. It also aims to figure out whether the students consider the non- or near-exclusive use of English a hindrance in the cognitive process of producing English. Accordingly, this work seeks to answer these research questions:

- How do the students perceive the use of code-switching in EFL classes?
- Do they consider that code-switching alters the cognitive process of producing English?

The following hypotheses are formulated as an attempt to predict the results:

- The students perceive positively the use of code-switching in EFL classes.
- The students perceive negatively the use of code-switching in EFL classes.
- The students consider code-switching as an obstacle in the cognitive process of English production.
- The students do not consider code-switching as a barrier to the cognitive process of English production.

2. Review of the Literature

2.1. Previous Empirical Studies

A large body of empirical studies has investigated the use of code-switching in EFL classes. They mainly shed light on the perceptions of both teachers and learners regarding the switch between the mother tongue and the target language. We can mention a few pieces of research in this respect.

Firstly, a work originating from Namibia University by Simasiku et al. (2015) dealt with the potential of code-switching in enhancing learners' achievements according to teachers' points of view. The findings demonstrated that teachers strongly believe that code-switching plays an important role in improving the learning process. Secondly, Macaro, as reported by Llurda (2006: 63), carried out research in pedagogical settings (classrooms) where the learners had almost the same mother tongue. His study sought to bring into focus different issues, among them, capturing the learners' views regarding teachers' code-switching. He found that the participants positively perceived code-switching in EFL classes, that is, during the classes the learners look for the switch of teachers from the target language to the mother tongue to understand better the foreign language and they claimed that they needed to understand what they are learning via their mother tongue. Thirdly, Levine (2003) conducted an internet-based research using an online questionnaire about the use of the target and the first languages in foreign language classes at university level in the USA and Canada. The results of his study suggested that the use of the mother tongue in foreign language classes serves several functions, such as discussing grammar, vocabulary usage, etc. Last but not least, there was an investigation at the University of Béjaïa regarding the students' use of code-switching for the sake of achieving effective communication. Zidouni's work (2016) showed, on the one hand, that the participants consider code-switching as an instrument which permits avoiding communication breakdowns. On the other hand, they insist on the efficient use of this strategy otherwise it may impede the effective learning of English.

2.2. Key Terms

2.2.1 Code and Code-Switching

The term "code" may be defined, according to Bernstein (1971), as reported by Jingxia (2010: 10), as "any kind of system that two or more people employ for communication". That is to say, code is a means people employ to communicate and convey meaning. As far as code-switching is concerned, it is, according to Milroy and Muysken (1995), as reported by Cantone (2007: 56), "the alternate use by bilinguals of two or more languages in the same conversation". Code-switching is also defined as "the ability to select the language according to the interlocutor, the situational context, the topic of the conversation, and so forth, and to change languages within an interactional sequence in accordance with sociolinguistic rules" Cantone (2007: 57). In other words, code-switching refers to the capacity to switch from one language to another in relation to various parameters: people to whom someone talks, the place where the conversation takes place, etc. Code-switching has several functions; Moha Ennaji (2005: 124) lists seven of them:

Referential function: consists of overcoming some communication problems such as the lack of vocabulary related to a particular topic.
Directive function: is a strategy used by the speaker to include or exclude someone from the conversation. For instance, someone can talk about any given topic by using a language that is not understood by a particular person to exclude the latter from the conversation.
Phatic function: is related to the tone of the speaker who can change his/her intonation throughout a conversation.
Metalinguistic function: serves to show the linguistic potential of the speaker through mastering at least two languages.
Expressive function: is used to express the identity of the speaker (his/her belonging to a speech community).
Solidarity function: helps to express support towards a particular person or group.
Clarification function: may be used for the sake of clarifying some blurred concepts.

2.2.2 Language Production

Language production refers to the cognitive process through which nonverbal communication intentions are transformed into verbal actions. It

is a process through which people express their thoughts and communicate with others. It also refers to "the process involved in creating and expressing meaning through language" Richards and Schmidt (2010: 321). According to Levelt (1989), as indicated by Pawlak and Klimczak (2015: 225), language production goes through four stages:

Conceptualisation: is about conceiving an intention, selecting the relevant information to be expressed for the achievement of any given communicative purpose, and ordering this information for expression. The sum of these mental activities is called conceptualising.
Formulation: is to turn thoughts into linguistic forms. In other words, it consists of expressing meaning through a syntactic structure.
Articulation: Once the conversion of thoughts into linguistic form is accomplished, the brain sends the information to the vocal organs such as the larynx, tongue, and lips to externalise the thoughts in the form of sounds.
Self-regulation: or self-monitoring, is the stage in which speakers correct the mistakes they make while speaking by themselves.

3. Methodology

3.1 Population of the study

The population of the current study includes 27 second-year master's students enrolled in the *Language and Communication* programme in the Department of English, at Mouloud Mammeri University in Tizi-Ouzou, Algeria. They have been selected randomly; i.e. we have not taken into account any criteria such as gender, age, etc. when selecting the representative sample since the object of interest consists of the students' perceptions only. The respondents' mother tongue is Kabyle; they also speak Arabic which is an official language in Algeria along with French, which is the first foreign language taught in schools and it is spoken in almost all Algerian regions, particularly in Kabylie.

3.2 Data Collection

Data are gathered using a questionnaire composed of closed and open-ended questions. The questionnaire comprises two parts. One is devoted to students' attitudes towards code-switching in EFL classes; the other one is made up of questions seeking to find whether they perceive code-switching as an obstacle altering the cognitive process of English production.

3.3 Data Analysis

The outcomes of the analysis are reported quantitatively and qualitatively. The combination of the two methods of analysis makes the study more reliable. As Clert et al. (2001: 2) indicate, "qualitative methods allow the in-depth study of selected issues, cases, or events and can provide critical insights… or the reasons behind certain results observed in a quantitative analysis". In this regard, the quantitative results are presented in terms of numbers. Yet, statistical numbers cannot capture the students' perceptions and opinions. The qualitative results allow an in-depth description of the students' answers.

The scrutiny of the qualitative data relies on a qualitative content analysis. The latter is used for the sake of answering open-ended questions and analysing perceptions, as well. Qualitative content analysis is "interpretive (and) involves [a] close reading of [the] text" Given (2008: 120). That is to say, applying qualitative content analysis consists of interpreting the meaning of the analysed text depending on the context. In the current study, we will analyse the open-ended questions to figure out the students' perceptions of the use of code-switching in EFL classes and the way they perceive its influence on the cognitive process of EFL production.

4. Results

4.1. Students' Attitudes

To capture the students' attitudes towards the use of code-switching in EFL classes, the respondents were asked to specify the number of years they have been taught English at university, their level in English, if they were used to a near or non-exclusive use of English, and the way they perceive code-switching.

The analysis of the first part of the questionnaire, "Students' attitudes" showed that all the respondents (100%) have been taught English at university for five years. The majority of the students (77.8%) claimed that they have a "good" level of English while 22.2% of them described it as "not bad". All the participants (100%) indicated that they are accustomed to code-switching in class. They also claimed that their teachers tend to switch from one language to another; 55.6% of the participants claimed that their teachers "often" switch from one language to another, whereas 33.3% stated that the teachers "always" code-switch. Only 11.1% of the respondents said that teachers "sometimes" use other languages besides English in class. The majority of the respondents (88.9%) affirmed that code-switching is a

communicative tip. Some of their free-text answers are as follows: code-switching "helps teachers to better explain and learners to better understand"; it is "a tool to make better understanding and conceptualising of the target language concepts". It "gives its users a more nuanced and tolerant view of different cultures […] each code contains different cultural assumptions and expectations". Whereas few of them (11.1%) stated that code-switching is a barrier to mastering the target language (English), "we need to learn (master) the language we are going to be specialised in and code-switching is not useful in such situations". 77.8% of the students declared that they are not frustrated when teachers switch from one language to another. In their free-text answers, they claimed: "code-switching allows better understanding, conceptualising and accommodating between L1 and L2", "code-switching has a fruitful role in the learning process. Teachers use this strategy mainly to explain difficult points, new vocabulary items and give examples in the mother tongue". Yet, 22.2% asserted being frustrated by teachers' code-switching because they have difficulties following their teachers when using other languages. "Sometimes we feel so used to English that we find difficulties to follow [sic] when teachers use other languages, especially when explaining new concepts". The analysis of the students' answers also showed that 77.8% of the respondents claimed to be at ease while producing the English language. Yet, 22.2 % of the participants said that they feel frustrated while producing the English language.

4.2. Language Production

As for the second part of the questionnaire, the students were asked a set of questions related to the cognitive process of language production to find out whether they consider code-switching in EFL classes a hindrance in the cognitive process of producing English.

The analysis showed that 55.6% of the respondents asserted that they use English to conceptualise their thoughts before turning them into speech or writing because, as indicated in their free-text answers, they "master the English language" and consider that thinking in English permits "avoiding communication breakdowns". In total, 55.6% of the students claimed that they use French; they specified in their free-text answers that it is a matter of "habit" and French "is the first foreign language taught in schools". Meanwhile, 22.2% of the respondents claimed that they use their mother tongue, Kabyle, because it is the language they have mastered the best, as they stated, "it is the language I know the most". A considerable number of the participants (88.9%) stated that they rely on the grammar rules of the

English language when formulating meaningful sentences, whereas few of them (11.1%) claimed that they rely first on another language then they translate into English. All students (100%) switch between at least two languages while speaking. They declared in their free-text answers that it is "an unconscious practice", "it helps to convey thoughts [and] ideas mainly when the listeners do not master English", and when "forgetting some words in English". A total of 66.7% of the participants asserted that the non-exclusive use of the target language does not have negative effects on their speech and writing, whereas 33.3% of the participants stated that the use of code-switching in EFL classes had an impact on their speech and writing. Actually, in their free-text answers, they said that they faced some difficulties while speaking, which, according to them, is due to the use of other languages while speaking in class that alters the transmission of the intended meaning. They also declared that they make mistakes while writing because of the influence of French. All the students (100%) declared that they make errors while speaking or writing the English language. In their free-text answers, some of the respondents claimed that they tend to correct their errors by themselves (self-correction) but they also take into consideration the feedback of teachers and peers. However, others argued that they generally tend to wait for teachers' corrections.

5. Discussion

The different outcomes have revealed that second-year master's classes at Mouloud Mammeri University do not have a pure target language environment. That is to say, the students and the teachers tend to switch from one language to another while speaking in EFL classes since all the participants are accustomed to this phenomenon. Thus, one can assume that teachers' code-switching does not interfere with the improvement of their English language level since the majority of the participants qualify their level as not bad or good. Code-switching is perceived positively since the majority of the participants view it as a communicative strategy. Indeed, teachers probably use code-switching during the classes to explain the lessons well. It is also considered as a means of creating a comfortable atmosphere for studying; more than half of the participants feel at ease when teachers alternate between languages. This phenomenon does not have negative effects on the cognitive process of language production. Indeed, as we can conclude from their free-text answers already mentioned in the results section, the four cognitive stages individuals go through to externalise their thoughts are not that altered because the majority of students use the English language to conceptualise their thoughts, their

speech is fluent and the non-exclusive use of the foreign language does not negatively affect the writing or speaking process. In fact, most of the students succeed in communicating by using the English language; they conceptualise sentences relying on the rules governing the English language, and the students self-regulate their errors.

In short, regarding the interpretation of the results, it may be drawn that second-year master's students, in the *Language and Communication* programme, perceive positively the near- or non-exclusive use of the target language in EFL classes and do not consider code-switching as a barrier to the cognitive process of English production. Indeed, the advanced hypotheses: "The students perceive positively the use of code-switching in EFL classes" along with "The students do not consider code-switching as a barrier for the cognitive process of English production" were confirmed. This interpretation joins those of the empirical studies mentioned before in which it was found that learners have positive attitudes towards code-switching, and the use of other languages besides the target one has an important role in EFL classes in improving the learning process when used in an efficient way.

6. Conclusion

To sum up, the outcomes of this study revealed that code-switching is not a barrier preventing the students from mastering English; however, referring to these results should be contextualised since they concern only a small representative sample at a specific university who provided us with their opinions regarding code-switching. Yet, it is hoped that this article helps to clarify to some extent the issue of the use of code-switching in EFL classes as it would pave the way to future researchers interested in the subject. In this respect, a similar study in a multicultural environment where learners do not all share a common language with some of their teachers, or carrying out a quasi-experimental study on the influence of code-switching on language production and/or comprehension, would be of great interest.

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Appendix

Questionnaire

This questionnaire aims to gather information about your perceptions and attitudes towards the use of code-switching in EFL classes and whether you perceive it as an obstacle which alters the cognitive process of English production. Your answers are very important for the present study. Therefore, you are kindly asked to answer the following questions. Your answers will definitely remain anonymous and confidential, so please feel comfortable to provide sincere responses to the questions.

Students' attitudes

1. How many years have you been taught English at university?
a) 5 years b) 6 years c) 7 years d) more (specify)

2. How do you qualify your level of English?
a) Excellent b) Good c) Not bad d) Bad

3. Are you accustomed to code-switching during your lectures?
Yes No

4. Teachers are used to switching from one language to another
a) Sometimes b) Often c) Always d) Never

5. How do you consider code-switching?
a) A communicative strategy/tip
b) A lack of English mastery
Justify your answer:
……
……..……
……..……

6. Do you feel frustrated when teachers switch from one language to another?
Yes No
Why?
……
……
……..……

7. Do you feel at ease while producing the English language?
Yes No

Language Production

1. In EFL classes, which language do you use to conceptualise your thoughts before turning them into speech or writing?
a) English b) French c) Mother tongue (specify)
Justify your answer:
……
……
……..……

2. Do you formulate meaningful sentences before articulating them by:
a) Relying on the grammar rules of the English language
b) Using another language, then translating into English

3. While speaking, do you switch between at least two languages?
Yes No
Why?
……
……
……..……

4. Does the non-exclusive use of English in EFL classes alter the effectiveness of your speech and/or writing?
Yes No
If Yes, what are the difficulties you face while speaking and/or writing?
……
……..……
……

5. While speaking/writing in English, do you make errors?
Yes No

6. Do you correct them by yourself, or do you always wait for teachers' or peers' feedback?

……
……
……..……

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