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Ministry of Higher Education and Scientific Research
University of Mohamed Seddik BenYahia. Jijel
Faculty of Letters and Languages

## Department of English



# The Relationship between Learning Styles and Vocabulary Level: <br> The Case of First year Undergraduate LMD learners of English at Mohamed Seddik Ben Yahia University 

Dissertation submitted in partial fulfillment of the requirements for the degree of Master in didactics of foreign languages

Submitted by

- Hadji MANEL

Supervised by

- Chioukh CHADIA


## Board of Examiners

- Chairperson: Zahia BOUCHAIR, Jijel University
- Supervisor: Chadia CHIOUKH, Jijel University
- Examiner: Safia NEGHIZ, Jijel University


## Declaration

I hereby declare that the dissertation entitled "A Correlational Study on Learning Styles and Vocabulary Levels: The Case of First Year LMD Learners of English at Mohamed Seddik Ben Yahia University" is my own work and all the sources I have used have been acknowledged by means of references. I also certify that I have not copied or plagiarized the work of other students or researchers partially or fully. In case any material is not documented, I shall be responsible for the consequences.
Signature ..... Date
Manel Hadji ..... 14/07/2021

## Dedication

I dedicate this work to
my Mother whom I know she would be proud as she had always been
my Father who is so kind, thoughtful and supportive
my Sister who has always supported me and helped me whenever I faced obstacles throughout my life and throughout this rsearch my cousins Mounia and Bouchra for their love and support

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#### Abstract

Vocabulary knowledge is a key component for successful communication. In the last two decades, the concept of learning styles has been investigated with regard to various aspects of vocabulary knowledge. Therefore, the current study investigates the relationship between learning styles and vocabulary level. The current research aims at identifying the learners' learning styles, investigating whether they have sufficient vocabulary knowledge at different word levels and exploring the relationship between learning styles and vocabulary level. In this research, it is hypothesized that learning styles correlate strongly with vocabulary levels. To achieve these aims, a descriptive study has been adopted following a quantitative paradigm. Accordingly, a correlational study was conducted on fifty eight (58) first year undergraduate LMD learners using a questionnaire and a test. The adapted and used learning style questionnaire included the visual, auditory, extrovert, introvert, global, particular, metaphoric and literal styles. Additionally, the adapted vocabulary test consisted of the 2000 word level, the 3000 word level and the 5000 word level. The findings revealed that first year undergraduate LMD learners belonged to different learning styles. However, the majority of the learners were visual, extrovert, particular and metaphoric. The results also revealed that the majority of learners have insufficient vocabulary knowledge in all the levels. Moreover, there was no significant relationship among learning styles and vocabulary levels. There were negligible and weak correlations, and there was only one moderate negative relationship between the literal style and the 2000 word level.


Key words: learning styles, vocabulary level, vocabulary knowledge. Vocabulary test, learning style questionnaire

## List of Abbreviations, Acronyms, and Symbols

EFL: English as Foreign Language
F: Frequency
FD: field dependent
FID: field independent
LMD: License, Master and Doctorate
LS: Learning style
LSs: Learning styles
LSS: Learning Style Survey
L2: second language
N (population): Number
n (sample): Number
P: Probability
PLSPQ: Perceptual Learning Style Preferences Questionnaire
Q: Question
SD: Standard Deviation
Sig: Significant
SPSS: Statistical Package for Social Sciences
VLT: Vocabulary Levels Test
\%: Percentage

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## Résumé

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## Terminology

Styles: "Overall patterns that give general direction to learning behavior" (Cornett, 1983, p. 9)

Strategies: "specific actions, behaviors, steps or techniques- such as seeking out conversation patterns, or giving oneself encouragement to tackle a difficult language taskused by students to enhance their own learning" (Scarcella \& Oxford, 1992) ( as cited in Oxford, 2001, p.2). Unlike learning styles that represent the general approaches learners take to learn, learning strategies are the behaviours and actions learners take to learn.

Perceptual Learning Styles (Also called Sensory Preferences): Perceptual Learning Styles refer to the use of senses as channels to learn and gain knowledge; they are the visual, auditory, kinesthetic and tactile modalities (Oxford, 2001, p.3).

Cognitive styles: According to Messick (1976) cognitive styles are defined as "a person's typical mode of perceiving, remembering, thinking and problem solving" (as cited in LamPhoon, 1986, p.18).

Personality Styles (Also called psychological styles): Personality styles are based on Carl Jung's model (1923). They refer to personality traits and characteristics that may be influenced by biological and environmental conditions (Oxford, 2001, p.4).

Learning style Preferences: Learning style preferences refers to the learners' preferred mode of receiving information that matches the educational environment and conditions surrounding that student during the learning process.

Vocabulary Level: "The boundary between low frequency word and high frequency words that is best made after 2000 word level" (Nation, 2000 ) (as cited in Kafipour, Yazdi \& Shokrpour, 2011, p. 307).

## 1. Background of the Study

Due to its importance, a bulk of research is found on vocabulary as an attempt to investigate the best way to approach vocabulary learning and the factors that may influence this learning process. Subsequently, various aspects of vocabulary knowledge were researched in relation to several concepts in the EFL field, one of which is learning styles which refers to the general approaches that learners use to learn. A number of researchers focused on the concept of learning styles and considered it useful in developing further understanding about the process of learning (e.g., Oxford, 2001 \& Cassidy, 2004). To explore the relationship between learning styles and the different aspects of vocabulary knowledge, a number of studies were conducted.

In Iran, Padidar, Tayebi, and Shakarami (2015) conducted a research on 110 EFL high school learners with the aim of investigating the relationship between the learners' learning styles and their degree of vocabulary retention. The learners were divided into three groups based on their perceptual learning styles (visual, auditory or kinesthetic) based on David's Questionnaire (1997) of learning styles and given a pre-test, a post-test and a delayed test. The findings revealed a strong relationship among the perceptual learning styles, vocabulary learning and retention with greater vocabulary retention among the visual learners. Another study that focused on perceptual learning styles was conducted in Indonesia. Suaib (2017) explored the influence of the visual, auditory and kinesthetic learning styles on increasing learners' vocabulary. The researcher implemented a quasiexperiment on forty learners of the seventh grade with the aim of exploring if learning styles affect the learners' vocabulary achievement. The results revealed that the implementation of the three perceptual learning styles improved the vocabulary achievement of the learners.

In the Algerian context, there was a scarcity of research that link learning styles and vocabulary knowledge. However, there have been some investigations on the tow variables. A piece of research was conducted by Bellout (2014) on a sample of fifty two second year LMD (License, Master, Doctorate) learners of English to investigate the effectiveness of learning styles and motivation on vocabulary acquisition for writing purposes. The researcher attempted to match the vocabulary teaching methods with the learning styles of the learners to explore to what extent learners are motivated by this matching as well as the effect of this motivation on vocabulary acquisition and retention. The researcher administered questionnaires for teachers and learners, conducted a true experiment and did an interview with learners of the experimental group. The findings revealed that the learners in the experimental group managed to learn the new words and retain them successfully in their written productions. Moreover, Raha and Keskes (2017) explored the effectiveness of learning styles on enhancing the writing skill. For this purpose, the researchers conducted a true experimental design on first year LMD learners. They manipulated the teaching activities presented during the sessions for the experimental group on the basis of the learners' preferred learning styles using the Grasha-Reichman Learning Style Survey. The findings revealed that the writing skills of the learners in the experimental group improved with the use of activities based on their preferred learning style.

The aspect of vocabulary level was explored in relation to learning styles by Kafipour, Yazdi and Shokrpour (2011) in Iran. For this purpose, they conducted a correlational study on 250 Juniour EFL learners. The researchers used Joy Reid's (1987) Perceptual Learning Style Preferences Questionnaire (PLSPQ) to explore their learning style preferences and Nation's (2001) vocabulary levels test (VLT) to identify their vocabulary level in five levels ( 2000 word level, 3000 word level, 5000 word level,

University word level and 10000 word level). The findings revealed that there was no relationship between learning styles and vocabulary levels of the learners. This study inspired the current research to investigate the learning styles of the learners', their vocabulary knowledge at different levels and the possible relationship between the two variables using a different a learning style inventory.

## 2. Statement of the Problem

Undoubtedly, a wide knowledge of the high-frequent and the low-frequent words and their meanings strengthen comprehension and communication. In universities, the acquisition of vocabulary is mostly dependent on incidental acquisition or on the efforts of the learners. Hence, the quest to find the most suitable ways to learn vocabulary led researchers to attempt to investigate various aspects of vocabulary knowledge with regard to the learners' learning styles.

Vocabulary is considered as a problematic area for learners specially first year undergraduate LMD learners. The success in vocabulary learning is determined by the learner's ability to recall the words and to know the meaning of the words. According to Yule 2003 stated that "learning" is "a conscious process of accumulating knowledge of the vocabulary and grammar of a language" (as cited in Abdul, Abdul \& Rasul, 2007, p. 1).

Even though a study was already conducted on the relationship between learning styles and the vocabulary level of learners in Iran, the current study explores the relationship between the two variables using another learning style inventory, Cohen, Oxford and Chi's (2001) Learning Style Survey (LSS). Moreover, in the Algerian context, a scarcity of research was found on studies that investigate learning styles in relation to vocabulary and no study was found on the relationship between learning styles and vocabulary level. For these reasons, the present study attempts to investigate whether there is a significant relationship between learning styles and the vocabulary level of learners.

## 3. Hypothesis and Research Questions

The current research is based on the hypothesis that learning styles correlate strongly with vocabulary levels. Additionally, it seeks to answer the following questions:

1. What are the learning styles of first year undergraduate LMD learners of English at Mohamed Seddik Ben Yahia University?
2. Do they have sufficient receptive vocabulary knowledge at different vocabulary levels?
3. Is there a significant relationship between learning styles and vocabulary levels of first year undergraduate LMD learners of English at Mohamed Seddik Ben Yahia University?

## 4. Aim of the Research

The present research aims at investigating first year undergraduate LMD learners' learning styles. Moreover, it aims at identifying whether they have sufficient receptive vocabulary knowledge of the most frequent words or not at different vocabulary levels. Additionally, the current study aims at exploring the relationship between various learning styles and different vocabulary levels.

## 5. Methodology of the Research

To investigate the relationship between learning styles and vocabulary levels among first year undergraduate LMD learners of English at Mohamed Seddik Ben Yahia University, a correlational study is conducted on a sample of fifty eight (58) out of two hundred and seventy six (276) learners. A questionnaire and a vocabulary level test are administered to the learners simultaneously to collect the necessary quantitative data to conduct the correlation. This study adopted the quantitative paradigm given the fact that it would result in the statistical measures suitable for the nature of this research.

## 6. Structure of the Study

The present research paper is composed of two chapters. The first chapter is devoted to the literature review while the second one covers the field work. The first chapter is divided into two sections. The first section is concerned with the notion of learning styles while the second one covers vocabulary, vocabulary learning and vocabulary level. The second chapter is devoted to elucidating the methodology according to which the present research was conducted. Additionally, it presents the analysis, the interpretation and the discussion of the results. The limitations of the study as well as some suggestions and recommendations for future research are stated in this second chapter.

# Chapter One: Learning Styles, Vocabulary, Vocabulary Learning and Vocabulary <br> <br> Level 

 <br> <br> Level}

## Section one: Learning Styles <br> Introduction

This chapter explores the construct of learning styles in the first section and the aspects of vocabulary, vocabulary learning and vocabulary level in the second section. The first section provides a definition of learning styles and briefly explores its history. It proceeds to identify the factors that influence learning styles and the significance of these styles of learning. It also provides the difference between learning styles and cognitive styles. The first section ends with outlining some models of cognitive and learning styles. The second section is devoted to discuss some key concepts in relation to vocabulary, vocabulary learning and vocabulary level; it provides the definition of vocabulary and other related terms. Additionally, it highlights on the aspects involved in knowing a word and the importance of vocabulary. Also, it elaborates on vocabulary sources and vocabulary learning strategies, and it explains the difference between receptive and productive vocabulary. Moreover, it elaborates on vocabulary size as well as vocabulary levels. Finally, it explores the connection between learning styles and vocabulary level.

### 1.1.1. Definition of Learning Styles

The notion of LSs was defined differently by researchers in this area. Keef (1979) considered LSs to be rather consistent idiosyncratic ways influenced by cognitive, affective, and psychological aspects that reflect how the learner learns in an educational context (as cited in Ellis, 1989, p.249). Reid (1995) referred to LSs as "an individual's natural, habitual and preferred way(s) of absorbing, processing and retaining new information and skills" (as cited in Dörnyei, 2005, p.121). This means that they are the learner's frequent, unique, and best manner of receiving, processing, and recalling
knowledge; hence, they can be changed since they are habits. In a simpler manner, Oxford (2001) defined LSs as "the general approaches- for example, global or analytic, auditory or visual- that students use in acquiring a new language or in learning any other subject" (p. 2). Therefore, LSs are the sum of personal behaviours, preferences, tendencies and beliefs that develop into habits used to acquire knowledge.

Oxford (2001) stated that LSs are said to "generally operate on a continuum" (p. 3), that is, the learner is not either visual or kinesthetic, for example, but he/she is more of one style than the other. Ehrman and Oxford (1995) stated that "naturally, not everyone fits neatly into one or another of these categories to the exclusion of the other, parallel categories (e.g. visual, auditory, kinesthetic)" (p.69). Furthermore, Dörnyei and Skehan (2003) argued that "a preposition may be deep-seated, but it does imply some capacity for flexibility and scope for adaptation of particular styles to meet the demands of particular circumstances" (p.602). Thus, distinct LSs can be implemented in different educational contexts or two LSs are used; one of which is the dominant one.

Given the above, the learner's tendency to adopt one style does not indicate that he/she is restricted to it. Loo (1997) warned about drawing any conclusions about the issue of "stability" of LSs (as cited in Cassidy, 2004, p. 422).

### 1.1.2. A Brief History of Learning Styles

The beginning of LS research is rooted in the field of psychology, with Carl Jung's theory (1923) addressing the cognitive and sensory aspects. He claimed that information is perceived through the senses or intuition and judged through thoughts or feelings. In 1962, his model was realized in the Myers-Briggs Type Indicator (Pritchard, 2009, p.45). After the coinage of the term cognitive styles in 1937 by Gordon Allport (Kirby, 1979, as cited in Lam-Phoon, 1986, p.20), research in the area of LSs began to flourish starting from the

1940s and witnessed the proposal of several models. The major investigations of LSs were conducted in the 1980s and the 1990s (e.g., Oxford, 1995; Reid, 1987).

### 1.1.3. Significance of Learning Styles

Research in the area of LSs indicates that LSs influence the learning process (e.g., Cho \& Ma, 2012; Reha \& Keskes, 2017). According to Oxford (2001), LSs contribute to the identification of "how_ and how well_ our students learn a second language or a foreign language" (p. 359). The learners' different ways of processing information and their distinct learning experiences, abilities and personalities necessitate knowing about their own LSs to guide their selection of learning strategies and to understand their strengths and weaknesses; hence, foster autonomy of learning. Moreover, LSs are useful for teachers for the selection of activities, technologies, and teaching methods. Therefore, the main focus of the identification and description of LSs is to understand how learners learn something to foster learning and attempt to understand the variance in their results.

### 1.1.4. Factors Influencing Learning Styles

Oxford (2001) identified three factors as a subset of biological differences (a) biorhythms, (b) sustenance, and (c) location (p.7). Firstly, biorhythms refer to the time of the day during which the learner is most comfortable and prepared to grasp information. For instance, a learner prefers to learn at night because that may be the ideal timing of the day to grasp information. Secondly, sustenance is related to whether or not a learner consumes food or drinks during study hours. Thirdly, location refers to the environmental conditions in which the learner is studying such as lightening (Oxford, 2001, p.7).

In addition to Oxford's factors, other factors are said to have a significant difference on the choice of LSs including gender (e.g., Reid 1987; Kim, 2009) and age (e.g., Reid 1987; Corbin, 2017). Ried's (1987) study revealed that males had more preference to use the visual and tactile LSs than females. Additionally, the older the
learners were the more they preferred the visual, the auditory, the kinesthetic and tactile styles. These two factors are said to possibly influence learner's LS.

### 1.1.5. Learning Styles versus Cognitive Styles

The term cognitive style was used at the beginning of research in the area of style before it extended to the use of LSs. On the one hand, cognitive styles refer to the style or "predisposition" for processing information (Dörnyei and Skehan, 2003, p. 602); thus, the main focus is the cognitive aspect concerning how information is perceived, organized, and recalled. On the other hand, LSs refer to the approaches taken to learn any kind of knowledge; it includes dimensions that cover a variety of aspects such as the cognitive, the psychological, and the sensory. Therefore, cognitive styles can be subsumed within LSs.

### 1.1.6. Models of Cognitive Styles

The literature presents a considerable number of models of cognitive styles. Two models were selected due to their significance. Firstly, field independent and field dependent (FID/FD) is one of the most researchable approaches to cognitive styles in the field of L2 (Dörnyei, 2007, p. 136). Secondly, the wholist-analytical and the verbal-imager model is considered as one of the strongest cognitive styles encompassing the distinctions that were proposed in other preceding cognitive models (Dörnyei, 2007, p.127).

### 1.1.6.1. Field Independent and Field Dependent

Among the pioneers who suggested a dimension of cognitive styles are Herman Witkin and his colleagues (1962). They provided a distinction between FID and FD learners on the basis of those who take an analytical approach and those who take a holistic approach to assess the extent to which a person is influenced by his/her surroundings, placing the learner somewhere along the two ends. FID learners are characterized by having the ability to analyze the parts identifying the important from the non-important
information while FD learners are oriented toward analyzing the whole and taking others as a source of knowledge (Dörnyei, 2007, p. 127).

To measure these dimensions, tests such as the Embedded Figures Test (EFT) were used. Following this proposal, other cognitive styles were introduced such as that one of Riding and Cheema's (1991) (Dörnyei, 2007, p. 128).

### 1.1.6.2. Wholist-Analytical and Verbal-Imager

Richard J. Riding and Indra Cheema (1991) proposed two broad dimensions of cognitive styles: the wholist-analytical and the verbal-imager. The wholist-analytical style dimension is concerned with whether learners process knowledge as a whole or as discrete elements. The verbal-imager dimension deals with the mental representation of information. Verbalizers represent information using words whereas imagers "tend to think in mental pictures or images" (Dörnyei, 2007, p. 127). It is worth mentioning that "the two style dimensions interact with each other, resulting in various combination patterns" (Dörnyei, 2007, p. 129). To measure these dimensions, the Cognitive Style Analysis (CSA) -a computer-based tool for the assessment of cognitive styles-was developed by Riding (1991) (Dörnyei, 2007, p. 129).

### 1.1.7. Models of Learning Styles

Researchers proposed numerous models in the area of LS research that provide different classifications and dimensions of LSs. Some of these models include (a) the Myers-Briggs Type Indicator (1962), (b) Perceptual Learning Style Model (1979), (c) Oxford \& Anderson's Model (1995), and (d) Ehrman and Leaver Model (2003).

### 1.1.7.1. The Myers-Briggs Type Indicator (1962)

The Myers-Briggs Type Indicator (MBTI) was proposed by Isabel Myers and Katherine Briggs in 1962. It is considered as the strongest influential style inspired by Jung's psychological theory for measuring the type of personality (Rayner, 2015, p.111). It
consists of four bi-polar scales: sensor or intuitor, thinker or feeler, judger or perceiver, and extrovert or introvert distinction. The extrovert/introvert distinction was the most appealing concept the MBTI brought to attention (Pritchard, 2009, p.46). Even though the MBTI is a psychology-related test, it is considered as a LS model in the L2 field since it "has a strong focus on cognitive styles" (Ortega, 2009, p. 193). It allows the learners to gain knowledge about their personalities and tendencies providing a ground for enhancement of learning through the possibility of the implementation of the results in educational contexts.

### 1.1.7.2. The Visual, Auditory and Kinesthetic LS Model (Perceptual LSs) (1979)

Sensory styles are the physical and perceptual modalities through which information is perceived. They are the visual, auditory and kinesthetic modalities which were introduced by Neuro-Linguistic Programming (NLP), a field of research concerned with studying the relationship between language and neurology and their influence on behaviour and learning (Pritchard, 2009, p. 44). Visual learners prefer to receive information through any means they can see such as pictures, and they use their imagination by visualising scenes in their minds from things they heard or read. Auditory learners rely on their listening skills; for instance, they use audio tapes to learn. Also, they learn through discussions. Kinesthetic learners like to explore and move around.

Several inventories were proposed to measure sensory styles by researchers such as Neil Fleming (1987) and Joy Reid (1984). In 1987, Neil Fleming included sensory LSs changing auditory to aural learners and adding the read/write distinction which classified those who prefer to learn information through words either read or written such as essays and newspaper articles. His questionnaire was called the VARK and it assessed the extent to which the learner relied on these modalities. Also, Joy Reid along with other researchers pioneered the designing of instruments that measure LS differences for non-native speakers of English. In 1984, she devised a self-reported questionnaire used in ESL setting
called Perceptual Learning Style Preference Questionnaire (PLSPQ) (Bacha, 2011, p.169). Reid included perceptual LSs, and she added tactile learners (hands-on learners) who learn best when they do things with their own hands such as building things or creating artwork, as well as another distinction, the individual/group learners, which distinguished between learners who prefer to complete tasks individually and those whose optimal learning mode is working within groups. According to Dörnyei (2007), the PLSPQ was "the first learning style measure widely known in the L2 field" (p. 142), and it is among the most known inventories that assess perceptual LSs.

In 2007, Dörnyei noted that "the different sensory preferences do not exclude each other..., but they [learners] usually display slight preferences, or modality strengths, one way or the other" (p. 141). Hence, all learners use perceptual styles; however, they use them at varying degrees, with the existence of a preferred dominant style.

### 1.1.7.3. Rebecca Oxford and Neil Anderson's Model (1995)

In relation to second and foreign language learning, Oxford and Anderson (1995) identified eight out of twenty dimensions that they considered to be the most salient styles for the learner. The learner can place himself/herself along the continuum of each dimension. Table 1 presents the eight styles with their description.

Table 1
A Description of Oxford and Anderson's (1995) Learning Style Dimensions

| Learning style <br> dimensions | Description |
| :--- | :--- |
| Analytical | Separate the information into parts to grasp the whole <br> Logical learners who focus on grammar rules |
| Global | Take information as a whole <br> Intuitive learners who prefer communicative activities |
| Field independent | Analytical and Abstract Thinkers <br> Prefer to work individually and follow their own standards <br> Field dependentHolistic (i.e. global) <br> Rely on the world around them and enjoy group work |


| Feeling-oriented | Influenced by emotions and social factors <br> Decisions are based on the influence of feelings <br> Emotions and social factors are of less consideration <br> Decisions stem from logic and reasoning |
| :--- | :--- |
| Impulsive | Decisions and answers are given quickly <br> prone to make errors <br> Decisions and answers are given after thorough reflection <br> Exhibit accuracy |
| Intuitive-random | Enjoy random deviation such as telling a story in the classroom <br> which is not part of the plan <br> Comfortable with the absence of full knowledge and use <br> compensation strategies such as prediction <br> Prefer to guide their own learning |
| Concrete-sequential | Do not enjoy any deviation from the plan <br> Prefer to be given all the necessary information and to be guided by <br> the teacher to accomplish a work |
| Closure-oriented | Planners; hard workers; ambiguity intolerant <br> Adhere to time <br> Take decisions rather quickly <br> Open-oriented |
| Link fun with studies and educational activities <br> Ambiguity Tolerant <br> Finishing on time is not prioritised <br> Take their time to make decisions |  |
| Extroverted | Sociable and motivated to work within groups <br> Enjoy activities that require interaction such as role plays. |
| Inroverted | Tend to work individually or with a close friend <br> Prefer to not involve in group activities constantly |
| Visuals <br> Auditory <br> Hands-on | subtitle 1.1.8.2) |

Oxford (1993) designed the Style Analysis Survey (SAS) to measure some LSs. The inventory consisted of five parts. The first one measured perceptual LSs: visual, auditory, and hands-on. The remaining parts measured personality traits: extroverted versus introverted, global versus analytical, intuitive-random versus concrete-sequential, and closure-oriented versus open. As Dörnyei (2007) reported, the ultimate advantage the SAS offered is that it "has been devised by an L2 expert and has primarily been used with L2
learners" (p. 143), which makes it of great use in the L2 field. However, the SAS did not include items that address L2 learning in particular (Cho \& Ma, 2012, p. 157).

The SAS was improved by Cohen, Oxford, and Chi (2001) with the Learning Style Survey (LSS). The improved version, LSS, contained more style dimensions than the SAS as well as more focus on aspects in relation to "language-related issues" (Dörnyei, 2007, p. 143). The LSS contained six additional dimensions: (a) FID versus FD, (b) impulsive versus reflective, (c) metaphoric versus literal, (d) deductive versus inductive, (e) sharpener versus leveler, and (f) synthesising versus analytic. Also, global-analytical was changed to global-particular. Table 2 presents the description of the last four styles.

Table 2
A Description of the Four Learning Style Dimensions Added to the LSS

| Learning styles <br> dimensions | Description |
| :--- | :--- |
| Metaphoric | Learning through metaphoric conceptualization of concepts |
| Literal | Learning through literal representation of concepts |
| Deductive | From general to specific |
| Inductive | From specific to general |
| Sharpener | Attend to the differences between materials to remember it better <br> Attend to the similarities and establish connections to remember the <br> material |
| Leveler | The tendency to summarise materials well <br> Analytic |

Since it is related to language learning directly, the LSS is used in the EFL field. For example, Abdul, Abdul and Rasul's (2007) conducted a study on Iraqi undergraduate EFL learners using adapted parts from the LSS. The findings revealed that the learners' preferred styles were the visual, the introvert, the particular and the synthesizing LSs. Among the advantages the LSS offers is the existence of a variety of style dimensions that provide the opportunity for exploring LSs and their relation to language learning.

## Section Two: Vocabulary, Vocabulary Learning and Vocabulary Level

### 1.2.1. Definition of Vocabulary and Related Words

Vocabulary, according to Hornby (2000), is "a list of words in a language with their meaning" (as cited in Dib, 2017, p. 98). Hence, the main composition of vocabulary is words. Likewise, Robinson (2000) asserted that "vocabulary is concerned with individual words and their particular meanings" (p. 42). Therefore, vocabulary is one of the most important aspects of language use. It is the main composition of written and spoken speech through which learners communicate and express their thoughts.

Thornbury (2002) suggested a wider composition of vocabulary than merely single words; he defined vocabulary as "a collection of items" (p. 14). The word items may refer to single words or other kinds of language items such as collocations. Scrivener (2005) asserted that vocabulary includes single words as well as combinations of two or three words such as phrasal verbs (p.227). Therefore, vocabulary is composed of words and two or three joint words that carry meaning (s). On a larger scale, Scrivener (2005) asserted that lexis refers to vocabulary items, collocations and lexical items (ready-made chunks) which include content words only (e.g., someone you can ask for advice) (p. 227).

Oxford University Press (2020) defined word as "a single distinct meaningful element of speech or writing, used with others (or sometimes alone) to form a sentence and typically shown with a space on either side when written or printed". In other words, a word is a meaningful item of language used to form spoken or written speech. A word can be either a content or a function word. Content words include nouns, verbs, adjectives and adverbs. Content words are crucial for understanding sentences because they carry and shape meaning. Function words including articles, pronouns, prepositions and conjunctions link content words to make meaning more accurate (Thornbury, 2002, p.4).

A word family consists of a headword, its inflexions and its derivatives. On the one hand, inflexions are formed by adding suffixes to the root for grammatical purposes (e.g. cook) to form the past form of a verb (e.g., cooked), for instance. On the other hand, forming derivatives requires the addition of affixes (suffixes or prefixes) to the root (e.g., cooker). Research revealed that it is easier and more logical to determine the number of word families a learner knows rather than the single words (Thornbury, 2002, p. 5).

A lexical unit (also called lexical chunks) is composed of more than one single word that has a meaning; it is a fixed chunk of language. It can be a phrasal verb, a compound noun, an idiom or a phrase (Scrivener, 2005, p.227).

### 1.2.2. Aspects Involved in Knowing a Word

Vocabulary is composed of different aspects of word knowledge. Paul Nation (2000) developed a descriptive model of the aspects involved in knowing a word. The model demonstrated in table 3 provides a division of word knowledge into three aspects: (1) knowledge of the form, (2) knowledge of the meaning, and (3) knowledge of the use. Each of which is further divided into sub-elements. Nation (2000) distinguished between receptive $(\mathrm{R})$ and productive $(\mathrm{P})$ vocabulary within each of the sub-categories.

Table 3
Nation's (2000) Word Knowledge Model

| Form | Spoken | R | What does the word sound like? |
| :---: | :---: | :---: | :---: |
|  |  | P | How is the word pronounced? |
|  | Written | R | What does the word look like? |
|  |  | P | How is the word written and spelled? |
|  | Word parts | R | What parts are recognizable in this word? |
|  |  | P | What word parts are needed to express the meaning? |
| Meaning | Form and meaning | R | What meaning does this word form signal? |
|  |  | P | What word form can be used to express this meaning? |
|  | Concepts and referents | R | What is included in this concept? |
|  |  | P | What items can the concept refer to? |
|  | Associations | R | What other words does this word make us think of? |
|  |  | P | What other words could we use instead of this one? |
| Use | Grammatical | R | In what patterns does the word occur? |


|  | Functions | P | In what patterns must we use this word? |
| :--- | :--- | :--- | :--- |
|  | Collocations | R | What words or type of words occur with this one? |
|  | P | What words or type of words must we use with this <br> one? |  |
|  | Constraints <br> on use <br> (register, <br> frequency) | R | Where, when and how often would we expect to meet <br> this word? |
|  | P | Where, when and how often can we use this word? |  |

Note. R=receptive; $\mathrm{P}=$ productive. Adapted from Learning Vocabulary in Another Language by I.S.P. Nation, 2000, pp. 40-41, Cambridge: Cambridge University Press.

Table 3 represents the aspects involved in knowing a word according to Nation's (2000) description. Firstly, knowledge of the word form refers to knowledge of three areas: pronunciation of the word, its spelling and its word parts which refers to the affixes used to form its inflections and derivatives that can change its meanings. Secondly, knowledge of word meaning includes form and meaning which involves the ability to link a certain form to its meaning and to its translation in the native language. Also, it includes concepts, referents and associations which are related to the fact that a word may have different possible translations and meanings in another language. Thirdly, knowledge of word use is divided into grammatical functions which refer to which part of speech the word belongs to and its link to other words, collocations which are words that co-occur frequently and constraints in use which refer to the conditions in which the word is to be used.

### 1.2.3. Importance of Vocabulary

Written or spoken speech is mainly based on knowing vocabulary. Extensive vocabulary knowledge enables the learner to communicate and understand the foreign language sufficiently and contributes in mastering the language skills. Thornbury (2002) asserted that "you can say very little with grammar, but you can say almost anything with word" (p.13). This view stresses the role and importance of vocabulary in establishing communication. Moreover, Nation and Coady (1988) argued that vocabulary is among the factors that contribute to readability (as cited in Nation, 1990, p. 116). Additionally, Oxford and Crookall (1990) asserted that vocabulary has a crucial role to play in relation to
language proficiency (p.25). Thus, mastery of the foreign language cannot be achieved without gaining sufficient vocabulary knowledge.

### 1.2.4. Vocabulary Sources

To ensure the continuous and successful learning of vocabulary, learners can use a variety of sources. Herman (1987) suggested that vocabulary can be acquired from the context when reading (as cited in Şen \& Kuleli, 2015, p. 556). Some of the advocates of this approach, such as Nagy, Herman, and Anderson (1985) suggested learning vocabulary through repetition of vocabulary words or units within different contexts. Additionally, Thornbury (2002) proposed exposing the learner to language input through reading to enhance incidental vocabulary, that is, contextualisation of words (p.22).

In addition to the contextualization of words as a source of vocabulary, Thornbury (2002) suggested other sources including word lists, textbooks, vocabulary books, the teacher, and peers (p. 32). Firstly, word lists contain randomly listed words which allow the learner to internalise the words incidentaly or intentionaly without confusion. Secondly, textbooks contain useful, frequent, teachable, learnable and contextualised words for learning core vocabulary. Thirdly, vocabulary books, which are of different kinds such as phrase books, contain a bulk of exercises and activities of different types with the aim of enriching the learners' word knowledge. Fourthly, the teacher is a fundamental useful source of vocabulary; through the speech he/she uses and the exercises presented, the learners acquire new vocabulary mainly incidentaly as well as through the explicit presentation of new words (Thornbury, 2002, p.48). Some of the research conducted such as Lee's (2003) revealed that teacher's instructions resulted in positive results pertaining to vocabulary learning (as cited in Şen \& Kuleli, 2015, p. 556). Fifthly, the learner can also learn new vocabulary through peer interaction in the classroom since learners feel more comfortable around their peers than around the teacher. Using these
sources as well as other ones such as dictionaries, novels, vocabulary games, songs, and YouTube videos, learners can enrich their vocabulary knowledge and advance their level of foreign language learning.

### 1.2.5. Vocabulary Learning Strategies (VLS)

Considered as a sub-category within language learning strategies, vocabulary learning strategies (VLS) can be defined as learning techniques used, generally consciously, to enlarge and enrich one's vocabulary. The implementation of one strategy over the other depends mainly on its compatibility with the learner's learning style. Several taxonomies for VLS were developed; the most commonly known is of Schmitt's (1997), who used Oxford's (1990) classification of language learning strategies.

Schmitt (1997) classified VLS into discovery strategies for defining a new word and consolidating strategies for internalising and consolidating meanings of the newly learnt word. Firstly, discovery strategies consist of determination strategies used to find the meaning of a new word such as guessing and the use of reference materials as sources such as dictionaries. Also, they include social strategies which involve seeking help from the teacher or peers to find meaning. Secondly, consolidation strategies include memory strategies, which mainly involve the use of mnemonic devices to memorise vocabulary. Moreover, cognitive strategies are a sub-category as well, similar to memory strategies. However, in these strategies, the learner focuses on using repetition and means such as flash cards and word lists to learn different vocabulary aspects such as synonyms (Bellout, 2014, pp. 50-51). Additionally, metacognitive strategies are among consolidation strategies which involve monitoring the learning process, the performance and the evaluation of what was learned (Schmitt, 1997) (as cited in Dib, 2017, p.103).

### 1.2.6. Receptive Vocabulary and Productive Vocabulary

Receptive vocabulary (also called passive) is the recognition that a certain form carries a certain meaning (Nation, 1990, p. 5). Hence, the learner is able to recognise a word when seeing (reading) it or hearing it. This type of vocabulary is sufficient for understanding speech and reading texts. With regard to receptive vocabulary, Bauer and Nation (1993) asserted that the learner may possibly be able to recognise a word from the same family if he/she knew at least one word from that family (Schmitt, 2010, p. 192). Productive vocabulary (also called active) is the production of spoken or written speech through the retrieval of already existing knowledge. Hence, it involves receptive vocabulary as well as knowledge of the appropriate usage of words (Nation, 1990, p. 5).

Nation (2000) links receptive vocabulary to listening and reading whereas productive vocabulary to speaking and writing. This idea explains Schmitt (2010) words on the development of receptive vocabulary. Schmitt (2010) asserted that "receptive mastery generally develops before productive mastery, although this may not be the case for every item" (p. 21). Therefore, it can be said that receptive vocabulary accumulates before the productive one which means that the learner's receptive vocabulary knowledge is larger than his/her productive vocabulary knowledge (Milton 2009, p.13). Moreover, in comparisons done between receptive and productive vocabulary test scores, the results revealed that receptive vocabulary was generally higher than the productive one (e.g., Laufer, 2005 as cited in Schmitt, 2010, p. 22; Waring, 1997, as cited in Nation, 2000, p. 593). Additionally, Kamil and Hiebert (2005) asserted that through receptive vocabulary the learner will be able to produce vocabulary (p. 3).

### 1.2.7. Vocabulary Size

Vocabulary Knowledge involves knowing the breadth, that is, how many words the learner knows and the depth, which indicates how well the words are known. To achieve
sufficient vocabulary breadth knowledge, vocabulary size is one of its crucial aspects. It refers to the number of words known and knowledge of other aspects such as collocations (Milton, 2009, p.13).

Unlike grammar, vocabulary does not have specific words or units to be taught or learnt to master the language. Harmer (1991) suggested two criteria: frequency and coverage for the selection of vocabulary size (as cited in Pavlů, 2009, p. 28). Frequency refers to the number of times a word occurs in a given text while coverage represents the "running words where each recurrence of a word is counted as additional coverage" (Nation, 1993, p. 193). Thus, the more a word occurs, the more coverage it provides.

To achieve native-like proficiency, a mastery of the vocabulary size of native speakers is needed. According to Schmitt (2010), the vocabulary size of native speakers was estimated at a range of 16,000-20,000 word families (p. 6). However, Bayazidi (2017) asserted that the learner is not required to know the vocabulary size of native speakers; they should know the necessary vocabulary size for effective communication in the foreign language (p.30). According to Nation (2006), this vocabulary was estimated with 6,000 to 7,000 word families for communication and around 8,000 to 9,000 word families for understanding written texts such as novels and newspapers (p. 59). Also, Hu \& Nation (2000) asserted that knowledge of these families is necessary to achieve $98 \%$ of coverage of running words (tokens), that is, to be able to know 49 tokens from 50 words in a text (as cited in Nation, 2006, p. 63).

Nation (2001) identified a threshold of 2000 word families as the level at which learners should be in order to understand and benefit from the spoken or written speech (as cited in Milton, 2009, p.54). According to Thornbury (2002), the number of words that the learner must learn largely dependent on his or her need, but he or she must reach 2000 to 3000 word families to achieve core vocabulary (i.e., a threshold) (p.21).

### 1.2.7.1. Vocabulary Levels

According to Nation (2002), the level of vocabulary is "the boundary between low frequency word and high frequency words that is best made after 2000 word level" (as cited in Kafipour, Yazdi \& Shokrpour, 2011, p. 307). On the one hand, high frequency words are those words that appear frequently and have a wide coverage; they represent the most important words in the language that must be learnt or taught (Nation, 2000, p.21). Moreover, Harold Palmer (1917) suggested that the most frequent words are the easiest to learn and the most useful ones (as cited in Milton, 2009, p. 44). On the other hand, low frequency words are words that do not occur as much as high frequency words such as rarely used words or proper nouns. The distinction between high frequency words and low frequency words is made based on frequency, coverage and quantity of words -the number of words that the learner need to know at each level (Nation, 2000, p.31).

Vocabulary levels include the most frequent word families in general vocabulary and in the academic one. The levels are set to determine the necessary words the learner needs to know to achieve the learning objectives and goals. These levels are formed on the basis of word frequency counts, that is, vocabulary counts done by listing the words that frequently occur and their position of occurrence within the selected text (s) (Nation, 1990, pp.76-78). The first division of these levels was made by Nation $(1983,1990)$ through a test he developed called the vocabulary levels test (VLT), based on the Thorndike and Lorge count (1944) and the University Word List (1990) (Nation, 1990, pp. 263-264).

The VLT was divided into five levels. The first level, 2000 word level, contained the most frequent 2000 word families needed for daily conversations to achieve sufficient communication (Schmitt, 2010, p. 197). Also, it represents the words of simplified books. Secondly, 3000 word level contained the highly frequent 3000 word families that enable the learner to read. Thirdly, the University Word Level consisted of word families of
specialised vocabulary of university texts. Fourthly, the 5000 word level contained high and low-frequency words. Fifthly, 10,000 word level constituted wider word families that occur in advanced spoken or written speech and low-frequency words (Nation, 1990, p.79).

### 1.2.8. Learning Styles and Vocabulary Levels

Nation (1990) argued that one of the aspects that can hinder the learning of vocabulary is the way the word is learnt or taught (p. 33). Learning vocabulary can be done through different strategies which are largely determined by one's learning style. For example, a learner may try to learn vocabulary through flash cards, which involves the implementation of the visual learning style. A study of Padidar, Tayebi, and Shakarami (2015) on the relationship between learning styles, vocabulary learning and retention among Iranian High School students revealed that LSs, especially the visual style, had a strong relationship with the aforementioned variables. Tight (2019) identified the possible link that could exist between LSs and vocabulary. He suggested that LSs can be among the factors that influence vocabulary learning (as cited in Akbarian, Afzali-Shahri, GHasemiRezveh \& Salimi, 2019, p. 80). Moreover, Akbarian, Afzali-Shahri, Ghasemi-Rezveh and Salimi (2019) conducted a correlational study on perceptual LSs and vocabulary depth, particularly, polysemy, synonyms and collocations. The results revealed the existence of a relationship between perceptual LSs and vocabulary depth.

In relation to vocabulary learning, Oxford and Crookall (1990) argued that LSs are an aspect that should be given attention in the field of teaching and learning English as a foreign language (p.25). Accumulating vocabulary requires the learner's participation, attention and motivation, which could be enhanced and reinforced when they approach learning vocabulary using the style that corresponds with their abilities and personalities.

## Conclusion

Overall, this chapter has reviewed learning styles, vocabulary, vocabulary learning and vocabulary level in two sections. The first section discussed various issues pertaining to learning styles. It provided some definitions including learning styles and cognitive styles. Also, it explored the history of learning styles and highlighted the importance of learning styles and the factors that may influence these styles. Moreover, it elaborated on some of the most important cognitive and learning style models. The second section provided definitions of vocabulary and some related terms (word, word family and lexical unit). Additionally, it highlighted the aspects involved in knowing a word and the importance of vocabulary. Also, it elaborated on vocabulary sources and vocabulary strategies. Subsequently, it provided a distinction between receptive and productive vocabulary. After that, it elaborated on the issues of vocabulary size, vocabulary level and vocabulary levels. Finally, it discussed the link between learning styles and vocabulary level. The following chapter will discuss the field work of this research.

## Introduction

The previous chapter, chapter one, was devoted to the literature review of the current study. It explored the concepts of learning styles and vocabulary level. This chapter covers the practical part of this research, the field work. It deals with the research methodology design, the data analysis, the interpretation and the discussion of the results. The chapter ends with acknowledging the limitations of the current research and providing some suggestions and recommendations for future research.

### 2.1. Research Methodology

The current study investigated the possible relationship between learning styles and vocabulary level. It adhered to the quantitative research paradigm which involves the use of statistical procedures to mainly analyse the collected numerical data (Dörney, 2007, p.24). Therefore, the quantitative method seems to be the most suitable paradigm to answer the research questions and the hypothesis. To conduct this research, a correlational study, whose design is descriptive, was conducted to provide the statistical results necessary for investigating the possible relationship between the two variables. A Correlational design is a "statistical procedure used to determine whether there is a relationship between data of two sets of variables and how strong is that relationship" (Nunan \& Bailey, 2009, p. 396). A positive correlation means that two variables are in the same direction; their measurements are either increasing or decreasing, whereas a negative correlation means that the measurements are not increasing or decreasing together, but each of them is going in the opposite direction of the other (Nunan and Bailey, 2009, p.72). A zero correlation means that there is no relationship between the two variables.

### 2.2. Sampling Procedure

A sample refers to a group of participants who are representative of the targeted population in the conducted research (Dörnyei, 2007, p. 96). Hence, the sampling
procedure requires selection of a representative group of participants. According to Dörnyei (2007), to conduct a correlational study, it is suggested that the sample consists of no fewer than 30 participants (p.99). For this research, a representative sample of fifty eight ( $\mathrm{n}=58$ ) first year undergraduate LMD learners from different groups at the department of English language at the University of Mohamed Seddik Ben Yahia were randomly selected from two hundred and seventy six $(\mathrm{N}=276)$ learners. The identity of the participants remained anonymous.

First year undergraduate LMD learners were selected as the population for this research because they are novice EFL learners who are supposed to seek ways to enlarge and enrich their vocabulary. These ways are likely to adhere to their LSs. Also, since they are novice EFL learners, it is important to determine the extent to which they are knowledgeable about vocabulary items. Furthermore, knowing the dominant LSs of the learners is expected to aid both learners and teachers in the learning and teaching process.

### 2.3. Data Gathering Instruments

To collect the needed data for conducting this research, two instruments were administered simultaneously. The two research tools were a questionnaire and a vocabulary levels test, which adhered to the quantitative method.

### 2.3.1. The Questionnaire

Brown (2001) asserted that self-reported questionnaires that require the participants to respond to questions or statements by providing or selecting answers from the given suggestions are a common tool for data collection (as cited in Dörnyei, 2007, p. 102). The questionnaire is an easily administered tool that allows for the gathering of plenty of information in a short period of time. Additionally, it yields in statistical data suitable for the present study. The primary aim of the questionnaire is to classify the learners into types of LSs within each category.

### 2.3.1.1. Administration of the questionnaire

Before the administration of the questionnaire, a pilot study was conducted online to ensure that the questions and statements were clearly stated. Seven learners responded to the questionnaire and did not report any difficulties in answering the questions. Therefore, the questionnaires were administered in the classroom at the end of the sessions with the presence of the researcher and the learners' teachers to collect the data. Learners were instructed on how to respond to the questionnaire and were given the chance to ask for further clarifications or explanations to avoid any ambiguity. The data were collected on the $26^{\text {th }}, 28^{\text {th }}$, and $29^{\text {th }}$ of April during the academic year of 2020/2021. The learners took about ten to fifteen minutes to finish the questionnaire and handed their responses on the spot after they had finished.

### 2.3.1.2. Description of the Questionnaire

In the current study, the questionnaire administered consisted of twenty nine (29) questions in total, and it was divided into two sections. The first section consisted of three questions covering background information about the learners including their gender (Q1), age (Q2), and high school stream (Q3). This section aims at gathering some personal and background information about the learners.

The second section, which is the most important part for this research, is a learning style inventory which was adapted from Cohen, Oxford, and Chi's Learning Style Survey (LSS) (2001). Oxford (2001) asserted that the most popular way of style assessment is through the use of self-reported inventories (p. 8). Hence, this section aims at identifying the participants' LSs. The validity and reliability of the LSS were found to be acceptable by Cesur \& Fer (2009). The purpose behind the selection of LSS in particular for investigating the learners' style is that it has more focus on aspects in relation to language
learning (Dörnyei, 2005, p. 143). Moreover, it is simple and easily scored, it contains various style dimensions, it is designed for young learners, and it is used in the EFL field.

Four parts of the survey of the LSS were adapted, part one, part two, part five and part eleven, because they are the most relevant LSs to the current study and were modified according to the needs of the present research. The modified inventory consisted of twenty six (26) close-ended statements categorised within four parts with equal statements for each style dimension within each part. The first part consisted of ten (10) statements; it investigated how physical senses were used to learn English vocabulary. In this part, the visual style and auditory styles were selected for the current research excluding the kinesthetic one since it was irrelevant to study. The second part contained six (6) statements; it explored how learners expose themselves to vocabulary learning situations. It included the extrovert and introvert LSs. The third part, which included six (6) statements, investigated how learners received information related to vocabulary. It covered the global style and the particular styles. The fourth part consisted of four (4) statements; it explored how literally reality was taken encompassing the metaphoric and literal styles of learning.

All of the statements were slightly modified- except for the third statement in the eleventh part of the LSS— with the addition of words such as English vocabulary and new words or other words to make the inventory more relevant to the current research and the classroom context. Also, more explanatory words that served as examples were added (see Appendix C for more details on the selected parts and statements from the LSS).

Contrary to Cohen, Oxford and Chi's (2001) LSS scale (from 0 to 4), the learners were required to respond to the statements following a numerical rating scale from 1 to 5 . They were instructed to assign numbers according to the options that express the frequency of their learning habits, behaviours or actions for each statement ( $1=$ never, $2=$ rarely, $3=$ sometimes, 4=often and 5= always).

### 2.3.2. The Vocabulary Test

To measure the learners form and meaning recognition at different frequency levels, Paul Nation's $(1983,1990)$ vocabulary levels test (VLT) was adapted for this study. The test can be used to measure and test the learners' receptive vocabulary knowledge (Nation, 2000, p. 243). Milton (2009) asserted that Nation's (1990) VLT was useful for the assessment of the Foreign Language learner level of vocabulary knowledge (p. 192). Additionally, Schmitt (2010) stated that the VLT was commonly used in L2 research (p. 161). Moreover, the test is short, compared to other vocabulary levels tests, and its reliability and validity were established by Read (1988) and Belgar \& Hunt (1999). Therefore, the VLT would be a suitable test for this research.

### 2.3.2.1. Administration of the Test

Similar to the questionnaire used in the current study, the tests were administered in the classroom, with the presence of the researcher and the teacher at the end of the sessions. The learners were instructed on how to answer the test and were given the opportunity to ask for further clarifications on the test to avoid any ambiguity. The data were gathered on the $26^{\text {th }}, 28^{\text {th }}$, and $29^{\text {th }}$ of April during the academic year of 2020/2021. In Nation (2000), it is estimated that it takes about 20 to 30 minutes to finish all the levels (p. 636). The learners took around 15 minutes to 25 minutes to answer the test consisting of three levels and handed the papers after finishing on the spot.

### 2.3.2.2. Description of the Vocabulary Test

Three levels out of five levels of the VLT were adapted to conduct this study, namely, the 2000, the 3000 and the 5000 word levels. These three sections were selected because the 2000 and the 3000 word levels measure general vocabulary for beginners, and the 5000 word level measures wider vocabulary knowledge. Hence, these levels are suitable for assessing the receptive vocabulary of first year undergraduate LMD learners.

The test is practical and simple in a sense that it is a multiple choice matching of words with their corresponding meaning. Each level contains eighteen (18) items arranged in six clusters; within each cluster there are three words. Each three words or explanations on the left side are given six suggested numbered vocabulary items on the right side with three correct answers and three distractors in each cluster to select the correct answer from. The students are required to write the number of the corresponding vocabulary items besides the given words or definitions. The test is easily scored giving one point for each correct answer. The points are grouped to give a mark out of eighteen (18). The learners would be considered as having sufficient knowledge in a given level if they managed to score above twelve (12); however, a score of twelve (12) or less indicates that the learner needs to learn more vocabulary at that level (Nation, 1990, p. 262).

### 2.4. Data Analysis and Interpretation

The data obtained from the questionnaire, the test and the correlation between LSs and vocabulary levels are presented in tables. The results are analysed and interpreted, then, discussed to answer the research questions.

### 2.4.1. The Questionnaire

In what follows, the learners' responses to the questions and the statements are presented in tables. The tables demonstrate the frequencies and percentages of the learners' choices and their LSs identified according to the total of their choices to the statements.

## Section One: Background Information

## Q1. Gender

Table 4
Learners' Gender

| Options | $\mathbf{n}$ | (\%) |
| :--- | ---: | :---: |
| Male | 5 | $(8.6)$ |
| Female | 53 | $(91.4)$ |
| Total | 58 | $(100)$ |

The first question aimed at identifying the learners' gender since it could be an influencing factor on the variation of learners' LSs (as explained in subtitle 1.1.4). As shown in table 4, fifty-three participants ( $91.4 \%$ ) are females while five learners ( $8.6 \%$ ) are males. Hence, the large majority of the participants in this study are females. This huge gap between the two genders means that the results will largely be representative of females. Nonetheless, both genders were included to exclude the gender paradox.

## Q2. Age

Table 5
Learners' Age

| Age Intervals | n | (\%) |
| :--- | ---: | :---: |
| $\mathbf{1 8 - 2 0}$ | 49 | $(84.6)$ |
| $\mathbf{2 1 - 2 3}$ | 6 | $(10.3)$ |
| $\mathbf{2 4 - 2 6}$ | 3 | $(5.1)$ |
| Total | 58 | $(100)$ |

The second question in this section was set to get more insights on the variance in the composition of the EFL learners pertaining to their age. Table 5 demonstrates that forty nine $(84.6 \%)$ of the learners are between 18 and 20 years old. The remaining six learners $(10.3 \%)$ are aged between 21 and 23 years old and three learners (5.1\%) are aged between 24 and 26 years old. These results indicate that the majority of the learners are of the same age. Therefore, they are expected to have common learning tendencies and goals.

## Q3. Stream

Table 6
Learners' Stream

| Options | $\mathbf{n}$ | $(\%)$ |
| :--- | ---: | :---: |
| Literary | 48 | $(82.8)$ |
| Scientific | 10 | $(17.2)$ |
| Total | 58 | $(100)$ |

The third question stratified the learners according to their high school stream with the aim of getting insights on their exposure to English throughout the years preceding their enrollment at university. The results show that the majority of the sample, forty eight learners ( $82.8 \%$ ), were on the literary stream, whereas ten learners ( $17.2 \%$ ) were on the scientific stream. Hence, literary stream learners are expected to have sufficient vocabulary knowledge since they had more exposure to the English language at high school than did the learners of the scientific stream.

## Section Two: Learning Style Inventory

## Part One: How I Use my Physical Senses to Learn English Vocabulary

Statements that cover the visual and the auditory LSs are included to explore how learners use their physical senses to learn English vocabulary. The first five statements cover the visual style while the following five ones cover the auditory style. The results are demonstrated in Table 7 and Table 8 for the visual style and auditory style, respectively. Moreover, in Table 9, the learners' LSs are presented as either visual, auditory or both visual and auditory.

Table 7
Learners' Responses to the Visual Style Statements

| Statements | Options |  |  |  |  | Total |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Never | Rarely S | Sometimes | Often | Always |  |  |
|  | F (\%) | F (\%) | F (\%) | F (\%) | F (\%) |  | (\%) |
| 1. I remember an English word better if I write it down | 0 (0) | 4 (6.9) | 27 (46.6) | 9 (15.5) | 18 (31) | 58 | (100) |
| 2.When I listen to an audio or a speech in English, I visualise pictures, numbers, or words in my head | 1 (1.7) | 10 (17.25) | ) 18 (31) | 12 (20.7) | 17 (29.4) | 58 | (100) |
| 3.I prefer to learn English vocabulary with TV or video rather than audio-scripts or songs | 7 (12.1) | 6 (10.3) | ) 11 (19) | 11 (19) | 23 (39.6) | 58 | (100) |
| 4.I use colour-coding to highlight words to help me when I learn new English words | 7 (12.1) | 1 (1.7) | 9 (15.5) | 13 (22.4) | 28 (48.3) | 58 | (100) |
| 5.Charts, diagrams, and maps help me understand what someone says in the English language | 7 (12.1) | 13 (22.4) | ) 18 (31) | 10 (17.25) | 10 (17.25) | 58 | (100) |

The first statement was set to know if learners needed to write an English word to remember it better. The aim of this statement is to get insights on how often learners recall words better when they see them written. Table 7 shows that almost half of the learners ( $46.6 \%$ ) picked 'sometimes' option, $31 \%$ chose 'always' option and none ( $0 \%$ ) chose 'never' item. These results reveal that a good number of learners occasionally prefer writing words to recall them better as a strategy.

The second statement was designed to explore the learners' tendency to visualise pictures or words in their heads when they listen to an audio or speech in English. It aimed
at investigating how often they used their imagination when learning new English words. The results in table 7 reveal that the percentages of the learners' choices of the items: 'sometimes' and 'always' are very close to each other with $31 \%$ and $29.7 \%$, respectively. Twelve learners (20.7\%) selected 'often' item and ten others (17.25\%) opted for 'rarely' option while only one learner (1.7\%) chose 'never' item. This may indicate that learners tend to use their imagination when they hear English speech depending on the kind of the English speech they are listening to. For example, listening to a fictional story may trigger the learners' imagination more than listening to a news podcast.

The third, fourth and fifth statements aimed at exploring the learners' tendency to use visual aids such as videos, charts, and maps when trying to learn new English words. The third statement addressed the learners' preference to learn new English vocabulary using TV or videos rather than audio-scripts or songs. Table 7 illustrate that $39.6 \%$ chose 'always' option while the options: 'sometimes' and 'often' received an equal distribution of percentages (19\%); $12.1 \%$ selected 'never' option and $10.3 \%$ chose 'rarely' item. This may mean that learners prefer to learn new English vocabulary from TV and videos occasionally. The fourth statement addressed the learners' tendency to highlight new English words when learning. Nearly half of the participants (48.3\%) opted for 'always' option, $22.4 \%$ chose 'often' item, $15.5 \%$ picked 'sometimes' option. These results may suggest that colour-coding is a popular way to remember words among learners. In the fifth statement, learners were required to identify how often charts, diagrams and maps helped them to understand someone's talk in English. The results were diverse with 31 \% of the learners opted for 'sometimes' option, $22.4 \%$ selected 'rarely' item, $17.25 \%$ chose 'often' item, $17.25 \%$ picked 'always' option and $12.1 \%$ opted for 'never' option. This may mean that charts, diagrams and maps are not popular learning materials to use for further understanding of someone's talk in English.

Table 8
Learners' Responses to the Auditory Style Statements

| Statements | Options |  |  |  |  | Total |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Never | Rarely | Sometimes | Often | Always |  |
|  | F (\%) | F (\%) | F (\%) | F (\%) | F (\%) | F \% |
| 6. I remember new English words better if I use them with someone in a discussion | (1.7) | $3 \text { (5.2) }$ | $11 \text { (19) } 10$ | (17.2) | $33 \quad \text { (56.9) }$ | 58 (100) |
| 7. I prefer to learn English vocabulary by listening to audio scripts or songs rather than reading novels or books | $8 \text { (13.8) }$ | 12 (20.7) | 14 (24.1) | 11 (19) | 13 (22.4) | 58 (100) |
| 8. I can understand what people say in English even when I cannot see the words | $4 \text { (6.9) }$ | 2 (3.5) | 21 (36.2) 1 | 19 (32.8) | 12 (20.7) | 58 (100) |
| 9. I easily remember new English words that I hear | 3 (5.1) | 16 (27.6) | 19 (32.8) | 8 (13.8) | 12 (20.7) | 58 (100) |
| 10. When I turn on the TV, I listen to English language conversations more than I read subtitles | 5 (8.7) | 14 (24.1) | 20 (34.5) | 9 (15.5) | 10 (17.25) | 58 (100) |

The sixth statement was set to explore the degree to which learners remembered English words better when they used them in a discussion, with the aim of identifying how frequently they needed to hear themselves using the words. Table 8 shows that more than half of the participants ( $56.9 \%$ ) selected 'always' option, $19 \%$ chose 'sometimes' option, $17.2 \%$ opted for 'often' item and one learner (1.7\%) selected 'never' option. This may indicate that, in many occasions, learners found hearing themselves saying a word useful for recalling it. The seventh statement, addressed their preference to use audio-scripts and
songs to learn English vocabulary rather than novels or books. It aimed at exploring the degree to which learners relied on auditory material rather than on the visual ones. The results reveal that $24.1 \%$ picked 'sometimes' item, $22.4 \%$ chose 'always' option, $20.7 \%$ opted for 'rarely' item, $19 \%$ selected 'often' option, and $13.8 \%$ chose 'never' option. These percentages are low and very close to each other which may reflect that the learners do not highly rely on audio materials to learn vocabulary.

The eighth statement aimed at discovering how often learners found spoken speech sufficient to understand what was heard without its written form. It addressed the frequency of their tendency to understand English speech when they cannot see it written. The yielded results show that $36.2 \%$ of the learners chose 'sometimes' option, $32.8 \%$ picked 'often' item and $20.7 \%$ opted for 'always' item. These findings indicate that learners are likely capable of understanding English talk even if it is not written.

Statements nine and ten aimed at exploring the learners' reliance on the listening skill. Statement nine was set to explore their tendency to recall words that they heard rather than the ones they used like in the sixth statement. The ninth statement aimed at knowing the extent to which they relied on their listening skills to remember words. As demonstrated in table 8, $32.8 \%$ of the learners selected 'sometimes' option, $27.6 \%$ opted for 'rarely' item, $20.7 \%$ chose 'always' option and eight learners (13.8\%) picked 'often' item. In the tenth statement, the learners were requested to identify their frequency of focusing on conversations rather than on subtitles when watching something in English on TV. $34.5 \%$ of the learners chose 'sometimes' option, $24.1 \%$ opted for 'rarely' item, $17.25 \%$ selected 'always' option, $15.5 \%$ chose 'often' option. The findings of the ninth and the tenth statements may indicate that the learners have poor listening skills.

Table 9
The Learners' Learning Style in the Part of Physical Senses

| Learning Style | F | (\%) |
| :--- | :---: | :---: |
| Visual Learners | 33 | $(57)$ |
| Auditory Learners | 21 | $(36)$ |
| Visual and Auditory Learners | 4 | $(7)$ |
| Total | 58 | $(100)$ |

As shown in Table 9, more than half of the learners (57\%) were grouped as visual, twenty one learners (36\%) were classified as auditory and only four learners (7\%) were found to be both visual and auditory. The results reveal that the learners have different learning styles and may combine between two styles within the same category and that the majority of learners ( $93 \%$ ) do not combine between the two styles, visual and auditory.

## Part Two: How I Expose Myself to English Vocabulary Learning Situations

The second part covers the extrovert style and the introvert style to explore how learners expose themselves to vocabulary learning situations. The first three statements cover the extrovert style and the following three statements cover the introvert style. The results are demonstrated in Table 10 for the extrovert style and Table 11 for the introvert style. Additionally, the learners' LSs are identified as extrovert, introvert or both extrovert and introvert at the same time and are presented in Table 12.

Table 10
Learners' Responses to the Extrovert Style Statements

| Statements | Options |  |  |  |  |  |  |  |  | Total |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Never | Rarely |  | Sometimes |  | Often |  | Always |  |  |  |
|  | F (\%) | F | (\%) | F | (\%) | F | (\%) | F | (\%) | F | (\%) |

11. I learn English vocabulary better
when I engage with 4 (6.9) 7 (12.1) 21 (36.2) 14 (24.1) 12 (20.7) 58 (100) others than by myself
12. I learn more

English vocabulary words from my
$\begin{array}{lllllllllll}\text { peers than I do } & 0 & (0) & 6 & (10.3) & 25 & (43.1) & 16 & (27.6) & 11 & (19) \\ 58 & (100)\end{array}$ from my teachers
in the classroom
13. I look to the examples that include the new
English words first 5 (8.6) 5 (8.6) 11 (19) 20 (34.5) 17 (29.4) 58 (100) then try to understand them

In the eleventh statement, learners were required to identify the frequency of their tendency to learn English vocabulary better when engaging with others than by themselves. It aimed at identifying the extent to which they learn vocabulary through meaningful conversations. As table 10 shows, $36.2 \%$ chose 'sometimes' option, $24.1 \%$ opted for 'often' item, $20.7 \%$ selected 'always' option and $12.1 \%$ chose 'rarely' option. This could mean that learners tend to vary between learning vocabulary through engaging with others as a strategy and learning vocabulary individually.

In the twelfth statement, learners were requested to identify the extent to which they learnt more English vocabulary from their peers than they did from their teacher to know how peer interaction is found to be useful for them. The results in the table 10 showed that $43.1 \%$ of learners opted for 'sometimes' item, $27.6 \%$ selected 'often' option, $19 \%$ chose
'always' option while none ( $0 \%$ ) selected 'never' item. These findings reveal that peer interaction may be more useful for vocabulary learning than the teacher-learner interaction.

The thirteenth statement explored the degree to which learners focus on examples that include the new word before understanding its meaning. It aimed at identifying learners' tendency to check the examples before knowing the meaning of the new word. The yielded results reveal that $34.5 \%$ of learners said they often did, $29.4 \%$ said they always did and $19 \%$ said they sometimes did. The results may mean that learners attempt to use a new word occasionally even if they are not well informed of its meaning and uses.

Table 11
Learners' Responses to the Introvert Style Statements

| Statements | Options |  |  |  |  | Total |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Never | Rarely | Sometimes | Often | Always |  |
|  | F (\%) | F (\%) | F (\%) | F (\%) | F (\%) | F (\%) |

14. I prefer to learn vocabulary using games played individually $\quad 13$ (22.4) 14 (24.1) 16 (27.7) 9 (15.5) 6 (10.3) 58 (100) and activities such as doing puzzles

## 15. When $I$ am in the classroom I tend to

keep silent and listen $\begin{array}{llllllllll} & 0 & (0) & 5 & (8.6) & 8(13.8) & 16 & (27.7) & 29 & (49.9) \\ 58 & (100)\end{array}$
to the English talk

## 16. I want to <br> understand the new

English word well and

search for all of its $\quad 1$|  | $(1.7)$ | 6 | $(10.3)$ | 17 | $(29.3)$ | 14 | $(24.1)$ | 20 | $(34.5)$ |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | meanings, synonyms

and antonyms before I
use it

The fourteenth statement addressed the learners' preference to learn English vocabulary using games and activities individually to know the degree of their preference to learn vocabulary individually. Table 11 reveals that $27.7 \%$ of the learners chose
'sometimes' item, $24.1 \%$ selected 'rarely' option and $22.4 \%$ opted for 'never' item. These findings may indicate that learners do not highly favour learning vocabulary through games and activities played individually.

The fifteenth statement addressed the learners' tendency to listen to others speaking English in the classroom more than to talk with the aim of gathering insights on their tendency to learn from others without any participation. Table 11 shows that approximately half of the learners (49.9\%) opted for 'always' item, $27.7 \%$ selected 'often' option, $13.8 \%$ chose 'sometimes' option while none ( $0 \%$ ) chose 'never' option. The obtained results may mean that a good number of learners find learning in the classroom easy when they are silent and listening solely without participating in the talk.

The sixteenth statement, attempted to investigate the learners' tendency to understand the new English word better before using it. It aimed at exploring how often learners feel the need to understand words before using them. As shown in table 11, 34.5\% of learners opted for 'always' item, $29.3 \%$ selected 'sometimes' option, $24.1 \%$ chose 'often' option. The findings reveal that a good number of learners feel the need to know the meanings, synonyms and antonyms of the word before using it in many situations. Hence, this may mean that they tend to understand the word before they attempt to use it.

Table 12
The Learners' Learning Style in the Part of Exposure to Vocabulary Learning Situations

| Learning Style | F | (\%) |
| :--- | :---: | :---: |
| Extrovert Learners | 30 | $(52)$ |
| Introvert Learners | 22 | $(38)$ |
| Extrovert and Introvert Learners | 6 | $(10)$ |
| Total | 58 | $(100)$ |

The results presented in Table 12 reveal that more than half of the learner (52\%) were found to be extrovert, twenty two learners ( $38 \%$ ) were classified as introvert and six
learners ( $10 \%$ ) were grouped as extrovert and introvert at the same time. It can be said that the majority of the learners ( $90 \%$ ) use one LSs only while a minority ( $10 \%$ ) uses both styles, extrovert and introvert LSs, when learning English vocabulary.

## Part Three: How I Receive Information Related to Vocabulary

This part deals with how learners receive the information related to vocabulary learning. The first three statements cover the global LS and the following three statements cover the particular LS. The results are demonstrated in Table 13 for the global style and Table 14 for the particular style while the learners' styles are categorised as global, particular or both global and particular at the same time and presented in table 15

Table 13

Learners' Responses to the Global Style Statements

| Statements | Options |  |  |  |  |  |  |  |  |  | Total |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | ---: | :---: | :---: |
|  | Never | Rarely | Sometimes | Often | Always |  |  |  |  |  |  |
|  | F | $(\%)$ | F | $(\%)$ | F | $(\%)$ | F | $(\%)$ | F |  |  |

17. I prefer synonyms
and short definitions
of new English words 2 (2.5) 2 (2.5) 8 (13.8) 4 (6.9) 42 (72.3) 58 (100)
rather than long
explanations

## 18. I ignore the

 different meanings of the new English words that do not $\quad 8$ (13.8) 8 (13.8) 22 (37.9) 15 (25.8) 5 (8.7) 58 (100) seem relevant to the context in which they occurred
## 19. I get the main

 meaning of theEnglish words and 7 (12.1) 11 (19) 15 (25.8) 13 (22.4) 12 (20.7) 58 (100) that's enough for me

The seventeenth statement addressed the learners' preference for short definitions of words instead of long explanations to identify their tendency to only get the main idea.

As shown in table 13, the majority of learners said that they always preferred synonyms and short definitions ( $72.3 \%$ ), $13.8 \%$ chose 'sometimes' option, $6.9 \%$ selected 'often' option, only two learners (2.5\%) opted for 'rarely' option and two other learners (2.5\%) chose 'never' option. This may mean that learners highly prefer straightforward, simple explanations to get the gist without the need for details.

In the eighteenth statement, learners were required to state the extent to which they ignore the different meanings of the new English word that do not seem relevant to the context in which the word occurs. This statement aimed at identifying the degree to which learners were comfortable with their lack of knowledge. The results reveal that $37.9 \%$ of learners chose 'sometimes' option, $25.8 \%$ opted for 'option' often, $13.8 \%$ picked 'rarely' item, $13.8 \%$ selected 'never' option and $8.7 \%$ chose 'always' option. These results may denote that the learners, occasionally, rely on the context to understand new words. The nineteenth statement investigated the frequency according to which learners considered understanding the main meaning of the word as sufficient. As it is shown in table 13, the percentages of the learners' answers are very close to each other, particularly, $25.8 \%$ selected 'sometimes' option, $22.4 \%$ picked 'often' item and $20.7 \%$ chose 'always' option. Additionally, $19 \%$ of the learners opted for 'rarely' option and $12.1 \%$ said that they were never satisfied with knowing the main meaning only. These results may indicate that learners tend to find that getting the main meaning of the word sufficient for them.

Table 14
Learners' Responses to the Particular Style Statements

| Statements | Options |  |  |  |  |  |  |  |  |  |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
|  | Never | Rarely | Sometimes | Often | Always |  |  |  |  |  |
|  | F | $(\%)$ | F | $(\%)$ | F | $(\%)$ | F | $(\%)$ | F | $(\%)$ |
|  | F | $(\%)$ |  |  |  |  |  |  |  |  |

20. I need very specific examples in order to
fully understand the $\quad 2$ (3.5) 9 (15.5) 12 (20.7) 13 (22.4) 22 (37.9) 58 (100) new English word
21. I am good at catching new phrases or words in $\quad 1$ (1.7) 9 (15.5) 24 (41) 16 (27.6) 8 (13.8) 58 (100) English when I hear them

## 22. I enjoy activities where

I fill in the blank with the 5 (8.7) 6 (10.3) 22 (37.9) 12 (20.7) 13 (22.4) 58 (100) missing words I hear

The twentieth statement was set to probe the learners' need for specific examples to understand the new English word to identify the degree to which they needed details to understand a word. As shown in table 14, 37.9\% of the learners chose 'always' option, $22.4 \%$ selected 'often' option, $20.7 \%$ opted for 'sometimes' option. These findings may mean that the learners need specific examples for many new learnt words to be understood.

In the twenty-first statement, learners were required to identify the degree of their tendency to catch new English words or phrases when hearing them. This statement aimed at identifying the extent to which they focused and remembered particular information when hearing language. Table 14 shows that $41 \%$ of the learners said they sometimes did, $27.6 \%$ chose 'often' option, $15.5 \%$ selected 'rarely' option, $13.8 \%$ picked 'always' option. These results may reflect that the learners are capable of catching new words according to the kind of speech they are hearing, the speaker or their concentration abilities.

The final statement in this part, the twenty-second statement, addressed the learners' extent of enjoyment of "fill in the blank activities" to explore how often they focused on the separate pieces of the language. As table 14 demonstrates, $37.9 \%$ chose
'sometimes' options, $22.4 \%$ selected 'always' item, $20.7 \%$ chose 'often' option. These results may suggest that learners occasionally enjoy "fill in the blank activities" depending on the easiness or difficulty of the text or degree of familiarity with the omitted words.

Table 15
The Learners' Learning Style in the Part of How Information Is Received

| Learning Style | F | (\%) |
| :--- | :---: | :---: |
| Global Learners | 23 | $(40)$ |
| Particular Learners | 27 | $(46)$ |
| Global and Particular Learners | 8 | $(14)$ |
| Total | 58 | $(100)$ |

In this part, twenty seven learners (46\%) were grouped as particular, twenty three learners ( $40 \%$ ) were found to be global and eight learners (14\%) were classified as both global and particular at the same time. Similar to the other parts, the majority of learners ( $86 \%$ ) mostly rely on one style of learning while the remaining minority of learners (8\%) rely on both styles at the same time, global and particular.

## Part Four: How Literally I Take Reality

Part four includes four statements to identify how learners take reality. The first two cover the metaphoric style and the following two cover the literal style. The results are demonstrated in Table 16 for the metaphoric style and Table 17 for the literal style while the learners' LSs are classified as metaphoric, literal or both metaphoric and literal at the same time and presented in Table 18

Table 16
Learners' Responses to the Metaphoric Style Statements

| Statements | Options |  |  |  |  | Total |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Never | Rarely | Sometimes | Often | Always |  |
|  | F (\%) | F (\%) | F (\%) | F (\%) | F (\%) | F (\%) |
| 23. I find that building metaphors in my mind helps me deal with the learnt vocabulary | 3 (5.2) | 10 (17.2) | 22 (37.9) | 16 (27.6) | 7 (12.1) | 58 (100) |
| 24. I find stories and examples help me in learning English vocabulary | 0 (0) | 1 (1.7) | 8 (13.8) | 19 (32.8) | 30 (51.7) | 58 (100) |

The twenty-third and the twenty-fourth statements aimed at exploring the degree of the learners' reliance on metaphorical conceptualisation, that is, their understanding of an idea by means of another, which involves the use of metaphors. The twenty-third statement, addressed the learners' tendency to build metaphors in their minds to internalise the learnt vocabulary. Table 16 shows that $37.9 \%$ of learners selected 'sometimes' option, $27.6 \%$ chose 'often' option, $12.1 \%$ opted for 'always' item and $5.2 \%$ picked 'never' item. This may mean that learners occasionally find using metaphors helpful to deal with the learnt vocabulary. The twenty-fourth statement required the learners to identify how frequently learners find using stories and examples helpful in learning English vocabulary. The results reveal that more than half of the learners (51.7\%) chose 'always' option, 32.8\% opted for 'often' item and none ( $0 \%$ ) picked 'never' item. These findings indicate that a great number of learners find stories and examples helpful in learning English vocabulary.

Table 17
Learners' Responses to the Literal Style Statements


Both the twenty-fifth and twenty-sixth statements aimed at knowing how often learners opt for direct explicit language to learn English vocabulary. The twenty-fifth statement explores the degree to which learners take language literally without dealing in metaphors. Table 17 shows that $36.2 \%$ of learners chose 'sometimes' option, $22.4 \%$ selected 'often' option and $22.4 \%$ picked 'rarely' item. These results may mean that learners tend to vary between taking language literally and using metaphors. The twentysixth statement addressed their likability to use English words that have explicit meaning. The results revealed that $37.9 \%$ chose 'always' option closely followed by $36.2 \%$ who opted for 'often' option. Additionally, $13.9 \%$ selected 'sometimes' option and only one learner (1.7\%) picked 'never' option. These findings may reflect that learners' have an interest in words that have explicit meaning; this may be because it is easier for them to deal with explicit meanings at this stage of learning.

Table 18

The Learners' Learning Style in the Part of How Literally Reality Is Taken

| Learning Style | F | (\%) |
| :--- | :---: | :---: |
| Metaphoric Learners | 33 | $(57)$ |
| Literal Learners | 16 | $(28)$ |
| Metaphoric and Literal Learners | 9 | $(15)$ |
| Total | 58 | $(100)$ |

Table 18 reveals that more than half of the learners (57\%) were found to be metaphoric, sixteen learners (28\%) were classified as literal and nine learners (15\%) were grouped as metaphoric and literal at the same time. In this part, the majority of learners (85\%) were found to be of one LS, either metaphoric or literal, while a minority of learners ( $15 \%$ ) were found to be both metaphoric and literal.

### 2.4.2. Vocabulary Levels Test

The frequencies and percentages of the results of the learners' performance on the test are presented in table 19.

Table 19
Learners' Receptive Vocabulary Knowledge in Three word Levels: 2000, 3000 and 5000 word levels

|  | 2000 word level |  | 3000 word level |  | 5000 word level |  |
| :--- | :--- | :---: | :---: | :---: | :---: | :---: |
|  | F | $(\%)$ | F | $(\%)$ | F | $(\%)$ |
| Sufficient receptive <br> vocabulary knowledge <br> (scored above twelve) | 18 | $(31)$ | 11 | $(19)$ | 5 | $(9)$ |
| Insufficient receptive <br> vocabulary knowledge <br> (scored below twelve) | 40 | $(69)$ | 47 | $(81)$ | 53 | $(91)$ |
| Total |  |  |  |  |  |  |

Table 19 illustrates the learners' receptive vocabulary knowledge in the 2000 word level, 3000 word level and 5000 word level. Surprisingly, table 16 shows that the majority of learners, forty learners (69\%), have insufficient receptive vocabulary knowledge while eighteen learners ( $31 \%$ ) have sufficient receptive vocabulary knowledge in the 2000 word level. These results indicate that first year undergraduate LMD learners need to learn more vocabulary words and items specially since the 2000 word level contains the necessary words for daily communication and simplified reading books, that is, basic vocabulary.

In the 3000 word level, table 19 shows that a large majority of students, forty seven (81\%), have insufficient receptive vocabulary knowledge while eleven ones (19\%) have sufficient receptive vocabulary knowledge. These findings reveal that the majority of students lack sufficient receptive vocabulary knowledge at the 3000 word level. Therefore, learners need to enlarge their vocabulary repertoire to be able to read books containing advanced vocabulary.

In the last level, the 5000 word level, the large majority of learners have insufficient receptive vocabulary knowledge with fifty three learners (91\%), who scored below twelve, and only five learners (9\%) have sufficient vocabulary knowledge at this level. These results mean that most learners have poor knowledge of general advanced vocabulary and some low-frequency words. Hence, first year license learners need to enrich their knowledge of high-frequency advance words and low frequency words.

### 2.4.3. The Relationship Between Learning Styles and Vocabulary Levels

To investigate the relationship between LSs and vocabulary levels (the 2000, the 3000 and the 5000 word levels), the LSs of the learners who had sufficient receptive vocabulary knowledge in the levels were considered. The results are presented in Table 20.

Table 20
The Learning Styles of the Learners Who Had Sufficient Receptive Vocabulary Knowledge in the 2000, 3000 and 5000 Word Levels

|  | 2000 word level |  | $\mathbf{3 0 0 0}$ word level |  | $\mathbf{5 0 0 0}$ word level |  |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: |
| Learning Style | F | $(\%)$ | F | $(\%)$ | F | $(\%)$ |
| Visual | 7 | $(39)$ | 5 | $(45.5)$ | 3 | $(60)$ |
| Auditory | 7 | $(39)$ | 4 | $(36.5)$ | 1 | $(20)$ |
| Both styles | 4 | $(22)$ | 2 | $(18)$ | 1 | $(20)$ |
| Total | 18 | $(100)$ | 11 | $(100)$ | 5 | $(100)$ |
| Extrovert | 10 | $(55.5)$ | 7 | $(64)$ | 3 | $(60)$ |
| Introvert | 7 | $(39)$ | 3 | $(27)$ | 2 | $(40)$ |
| Both styles | 1 | $(5.5)$ | 1 | $(9)$ | 0 | $(0)$ |
| Total | 18 | $(100)$ | 11 | $(100)$ | 5 | $(100)$ |
| Global | 6 | $(33.5)$ | 4 | $(36.5)$ | 0 | $(0)$ |
| Particular | 8 | $(44.5)$ | 4 | $(36.5)$ | 2 | $(40)$ |
| Both | 4 | $(22)$ | 3 | $(27)$ | 3 | $(60)$ |
| Total | 18 | $(100)$ | 11 | $(100)$ | 5 | $(100)$ |
| Metaphoric | 11 | $(61)$ | 7 | $(64)$ | 3 | $(60)$ |
| Literal | 5 | $(28)$ | 3 | $(27)$ | 1 | $(20)$ |
| Both | 2 | $(11)$ | 1 | $(9)$ | 1 | $(20)$ |
| Total | 18 | $(100)$ | 11 | $(100)$ | 5 | $(100)$ |

As shown in Table 20, the LSs of the learners who had sufficient receptive vocabulary knowledge vary in the three levels. In the 2000 word level, $39 \%$ of the learners were visual, $39 \%$ were auditory and $22 \%$ were both visual and auditory at the same time. Also, $55.5 \%$ of the learners were extrovert, $39 \%$ were introvert and $5.5 \%$ were both extrovert and introvert learners. Additionally, $33.5 \%$ were global, $44.5 \%$ were particular and $22 \%$ were both global and particular. Moreover, $61 \%$ were metaphoric, $28 \%$ were literal and $11 \%$ were both metaphoric and literal. In the 3000 word level, $45.5 \%$ of the learners were visual, $36.5 \%$ were auditory and $18 \%$ were visual and auditory. Moreover,
$64 \%$ of the learners were extrovert, $27 \%$ were introvert and $9 \%$ were both extrovert and introvert learners. Also, $36.5 \%$ were global, $36.5 \%$ were particular and $27 \%$ were both global and particular. Additionally, $64 \%$ were metaphoric, $27 \%$ were literal and $9 \%$ were both metaphoric and literal. In the 5000 word level, $60 \%$ of the learners were visual, $20 \%$ were auditory and $20 \%$ were visual and auditory at the same time. Additionally, $60 \%$ of the learners were extrovert, $40 \%$ were introvert and no learners were found to be both extrovert and introvert learners. Moreover, no learners were found global, $40 \%$ were particular and $60 \%$ were both global and particular. Also, $60 \%$ were metaphoric, $20 \%$ were literal and $20 \%$ were both metaphoric and literal. Therefore, it can be said that there is no relationship between LSs and the learners' scores since these learners have different LSs.

To confirm the results a correlation between LSs and the levels was computed using SPSS version 25.0. Pearson Product Moment Correlation Coefficient (also called Pearson's r ) was chosen to conduct this correlation because of the assumptions that underlie its use that are suitable for the current research. These assumptions include a linear relationship, consistent measures, interval or ratio measures and independent measurement of the two sets of data of the variables.

According to Pearson's r , the magnitude, that is, the correlation coefficient r , value is always between +1 and -1 depending on whether it is a positive or a negative correlation. Moreover, the value of the p (probability) is significant at $\mathrm{p}<.05$. According to Guilford's (1973) interpretation table, the interpretation of the correlation coefficient is as follows

- .00 to .20 is negligible (positive or negative)
- . 21 to .40 is low (positive or negative )
- . 41 to .70 is moderate (positive or negative)
- . 71 to .90 is high (positive or negative)
- .91 to .99 is very high (positive or negative)
- 1.00 is perfect (positive or negative)

Table 21
The Relationship Between Learning Styles and Vocabulary Levels

|  | 2000 word level | 3000 word level | 5000 word level | All Levels |
| :---: | :---: | :---: | :---: | :---: |
| Visual |  |  |  |  |
| Pearson Correlation | -. 045 | . 047 | . 021 | . 014 |
| Sig. (2 tailed) | . 739 | . 727 | . 879 | . 916 |
| N | 58 | 58 | 58 | 58 |
| Auditory |  |  |  |  |
| Pearson Correlation | . 140 | . 175 | . 129 | . 165 |
| Sig. (2 tailed) | . 296 | . 189 | . 334 | . 217 |
| N | 58 | 58 | 58 | 58 |
| Extrovert |  |  |  |  |
| Pearson Correlation | . 004 | . 008 | -. 068 | -. 030 |
| Sig. (2 tailed) | . 977 | . 950 | . 614 | . 822 |
| N | 58 | 58 | 58 | 58 |
| Introvert |  |  |  |  |
| Pearson Correlation | -. 158 | -. 120 | -. 105 | -. 138 |
| Sig. (2 tailed) | . 237 | . 368 | . 434 | . 301 |
| N | 58 | 58 | 58 | 58 |
| Global |  |  |  |  |
| Pearson Correlation | -. 110 | -. 162 | -. 253 | -. 202 |
| Sig. (2 tailed) | . 411 | . 224 | . 056 | . 128 |
| N | 58 | 58 | 58 | 58 |
| Particular |  |  |  |  |
| Pearson Correlation | -. 036 | -. 005 | . 126 | . 040 |
| Sig. (2 tailed) | . 789 | . 973 | . 345 | . 766 |
| N | 58 | 58 | 58 | 58 |
| Metaphoric |  |  |  |  |
| Pearson Correlation | -. 074 | -. 014 | . 086 | . 008 |
| Sig. (2 tailed) | . 583 | . 916 | . 521 | . 951 |
| N | 58 | 58 | 58 | 58 |
| Literal |  |  |  |  |
| Pearson Correlation | -.314* | -. 203 | -. 185 | -. 250 |
| Sig. (2 tailed) | . 016 | . 127 | . 165 | . 058 |
| N | 58 | 58 | 58 | 58 |

Note. Sig $=$ Significant. $*=$ The correlation is significant at $\mathrm{p}<.05$

Table 21 illustrates the correlation between LSs and vocabulary levels, the 2000, the 3000 and the 5000 word levels as well as with all the levels combined. As shown in table 21, a negligible relationship was found between the visual LS and the various vocabulary levels with Pearson's $r$ values of -.045 for the 2000 word level, .047 for the 3000 word level, 0.21 for the 5000 word level and .014 for all levels. Also, the table demonstrates a very weak positive relationship between the auditory LS and the 2000 word level with a Pearson's r value of .140 , the 3000 word level with a Pearson's $r$ value of .175 , the 5000 word level with a Pearson's $r$ of .129 and all the levels with a Pearson's $r$ of . 165 . These correlations are negligible and weak which suggests that there are no significant relationships between the learners' test scores and the visual LS or the auditory LS.

Table 21 shows that there was a negligible relationship between the extrovert style and the learners' scores on the test with a Pearson's $r$ value of .004 for the 2000 word level, .008 for the 3000 word level, -.068 for the 5000 word level and .030 for all the levels. Also, the table indicates a very weak negative relationship between the introvert style and all the levels with a Pearson's $r$ value of -.158 for the 2000 word level, -.120 for the 3000 word level, -. 105 for the 5000 word level and -.138 for all levels. Hence, the extrovert and introvert LSs have no significant relationship with the learners' performance on the test.

As demonstrated in Table 21, there were very weak negative relationships between the global style and the 2000 word level $(\mathrm{r}=-.110)$ and the 3000 word level $(\mathrm{r}=-.162)$. Moreover, weak negative relationships were found between the global style and the 5000 word level ( $\mathrm{r}=-.253$ ) and all the levels ( $\mathrm{r}=-.202$ ). Additionally, there was a negligible negative relationship between the particular learning style and the 2000 word level (r= .036) and a negligible negative one between this style and the 3000 word level ( $\mathrm{r}=-.005$ ). Also, the results revealed a very weak positive relationship between the particular style and
the 5000 word level ( $\mathrm{r}=.126$ ). Therefore, it resulted in a negligible relationship between the particular style and all the levels with a value of .040 .

A negligible negative relationship was found between the metaphoric style and the 2000 word level with a value of -.074 as well as between the metaphoric style and the 3000 word level (r= -.014). Additionally, table 21 demonstrates a negligible positive relationship between the metaphoric learning style and the 5000 word level with a value of .086 . Therefore, the relationship between the metaphoric style and all the levels is a negligible positive relationship with a value of .008 . For the literal style, a weak negative relationship was found between this style and the 2000 word level ( $\mathrm{r}=-.314$ ). Furthermore, a weak negative relationship was found between the literal style and the 3000 word level ( $\mathrm{r}=-.203$ ) and between this style and the 5000 word level ( $\mathrm{r}=-.185$ ). Therefore, there was a weak negative relationship between the literal style and all the levels with a value of -.250.

### 2.4.4. Discussion of the Results

### 2.4.4.1. The Questionnaire

The findings of the administered questionnaire provide the necessary information to discuss the overall results and answer the first research question:

What are the learning styles of first year undergraduate LMD learners at Mohamed Seddik Ben Yahia Univesity?

The first section of the questionnaire consisted of three general questions to gather some background information about the learners. This section revealed that the majority of the participants were females, aged between eighteen and twenty and were on the literary stream in high school. Hence, the LSs of the learners largely represent young females; studies such as Reid's (1987) and Corbin's (2017) revealed that LSs are influenced by the factors of gender and age, respectively. Additionally, having been on the literary stream means that the majority of students' have adequate vocabulary knowledge.

The second section was a learning style inventory adapted and modified from Cohen, Oxford and Chi's (2001) LSS. It can be noticed from the overall analysis of this section that, in part one, physical senses, the learners relied on visual aids more than they did on the auditory material. Moreover, the responses provided in the second part, exposure to learning situation, revealed that peer interaction and meaningful interaction were found to be more popular than games and activities played individually to learn English vocabulary. The fact that almost half (49.9\%) of the learners tend to listen to others speaking in the classroom without saying anything explains their preference for peer interaction rather than teacher-learner interaction. Additionally, the majority (72.3\%) of learners preferred short explanations in the third part of how information is received. Finally, more than half of the learners (51.7\%) always found stories helpful to learn English vocabulary in the fourth part, how literally reality is taken. Also, the obtained results from this section indicated that learners vary between the use of explicit language and metaphors to understand words.

Based on the data obtained from different parts of the second section of the questionnaire, the findings revealed that the options sometimes and always received the highest percentages in most of the statements. These findings may reflect the fact that learners vary between the use of strategies pertaining to different styles of learning. Furthermore, this may indicate that learners use both of the LSs of the same category or vary between their uses according to the demands of the learning situation. These results are in line with the arguments provided by researchers such as Ehrman and Oxford (1995) as well as Dörnyei and Skehan (2003), who claimed that learners have the ability to be flexible in the implementation of LSs, switching from one style to the other according to the requirements of the educational circumstances (for more details see subtitle 1.1.2).

After calculating the total number of the learners within each style, the obtained findings revealed that the learners belonged to different styles of learning. However, the majority of learners were visual in the part of physical senses. These findings are compatible with those of Abdul, Abdul and Rasul's (2007), who used a shortened version of Cohen, Oxford and Chi's (2001) LSS, and Padidar, Tayebi, and Shakarami (2015), who used David's questionnaire (1997). Additionally, the majority of learners were extrovert in the part of exposure to English vocabulary learning situations which is incompatible with Abdul, Abdul and Rasul's (2007) findings. However, Abdul, Abdul and Rasul (2007) results are compatible with the ones of the present study with regard to the part of receiving information since the majority of learners were particular. Moreover, the majority of the learners were found to be metaphoric in the part of taking reality literally.

The first research question investigates first year undergraduate LMD learners' learning styles. In light of this research, first year learners were found to be visual in the physical senses category, extrovert in the exposure to learning situations category, particular in the receiving of information category and metaphoric in taking reality literally category. Hence, first year undergraduate LMD learners are visual, extrovert, particular and metaphoric. These styles had the highest number of learners that were grouped under across the four parts (see Tables 9, 12, 15 and 18).

### 2.4.4.2. The Test

The results of the learners' performance on the test are discussed below. The analysis of the tests results provided the answer to the second research question:

Do first year undergraduate LMD learners at Mohamed Seddik Ben Yahia University have sufficient vocabulary knowledge?

In the present study, the majority of learners scored twelve or less out of eighteen in all the three levels. Hence, following Nation's (1990) interpretation of scores, these results
surprising results mean that the majority of learners have insufficient receptive vocabulary knowledge even though most of them had adequate exposure to English since most of the participants studied in the literary stream in high school. These findings contradict Kafipour, Yazdi and Shokrpour's (2011) results. The researchers found that the Iranian undergraduate learners had sufficient receptive vocabulary knowledge in the 2000 and 3000 word levels. However, they needed to enlarge their knowledge in the 5000 word level. This significant difference can be due to the difference in the exposure to language, their vocabulary knowledge or the number of participants since they included two hundred and fifty subjects.

Moreover, it was noticed that the percentages of those who have insufficient vocabulary increases with the increase in the difficulty of the levels. This means that the more low-frequent words the level contains, the harder it is for learners to achieve sufficiency in that level. These findings are consistent with Kafipour, Yazdi and Shokrpour's (2011) since the same pattern occurred in their study.

The second research question explores the learners' receptive vocabulary knowledge sufficiency in three word levels: the 2000, the 3000 and the 5000 word levels. The findings revealed that the majority of first year undergraduate LMD learners have insufficient receptive vocabulary knowledge. $69 \%$ of learners in the 2000 word level, $81 \%$ in the 3000 word level and $91 \%$ in the 5000 word level did not score above twelve.

### 2.4.4.3. The Relationship Between Learning Styles and Vocabulary Levels

The obtained results of the present study pave the way to discuss the findings and answer the third research question:

Is there a significant relationship between learning styles and vocabulary levels of first year undergraduate LMD learners of English at Mohamed Seddik Ben Yahia?

The findings of the current study revealed that the learners who achieved sufficient receptive vocabulary knowledge in the three levels were classified under different LSs. Additionally, the results revealed that there were negligible and low positive and negative relationships between LSs and vocabulary levels. However, the literal style correlated significantly with the 2000 word level $(\mathrm{r}=.016)$ at $\mathrm{p}<.05$ significance value even though it is a low relationship with a Pearson's r value of -.314 . This relationship was the strongest among the LSs and the vocabulary levels while the weakest relationship was a positive one between the extrovert style and the 2000 word level with a Pearson's $r$ value of .004 .

In light of the analysis obtained from the correlation, the third research question, which explores the existence of any significant relationship between LSs and vocabulary levels of first year undergraduate LMD learners, can be answered. It can be inferred that Pearson Correlation Coefficient showed no significant relationship among LSs and the test's scores except for the literal style and the 2000 word level ( $\mathrm{r}=-.314 ; \mathrm{p}=.016<.05$ ). These findings are similar to that one of Kafipour, Yazdi and Shokrpour (2011) who used Reid's inventory of PLSPQ and Nation's (1990) VLT and found no significant relationships between LSs and vocabulary levels.

Bearing in mind the previously stated results, it is worth saying that the research hypothesis postulating that learning styles correlate strongly with vocabulary levels was rejected. As it was shown in table 21, the results revealed that there was no significant relationship among LSs and vocabulary levels. There were negligible and weak correlations and there was a low negative significant relationship between the literal style and the 2000 word level ( $\mathrm{r}=-.314, \mathrm{p}=.016<.05$ ).

### 2.5. Limitations of the Study

When conducting this study, the researcher acknowledges facing some obstacles that influenced and hindered the smoothness of the research process resulting in some limitations.

- There was a lack of studies that link learning styles and vocabulary level.
- The learners' responses to the learning style inventory may not represent their tendencies accurately. Therefore, the results of the inventory depended on the learners' honesty and ability to evaluate their tendencies.
- One of the limitations of this test is that it involves guessing the correct answer when the learner is not familiar with the vocabulary items on either sides. Moreover, Nation's (1990) VLT is outdated considering the lists that he used and the development of other recent vocabulary levels tests (e.g., Schmitt, Schmitt \& Clapham, 2001; Webb, Sasao \& Ballance, 2017).


### 2.6. Suggestions and Recommendations for Future Research

Learning styles are among the newly researched aspects in the EFL field. In the Algerian context, the concept of learning styles is insufficiently studied. Therefore, more research needs to be conducted on this notion. On the basis of the findings obtained, some suggestions and recommendations for future research are proposed.

- To explore the concept of learning styles, it would be insightful to conduct studies that link learning styles to other aspects of language learning such as proficiency and reading.
- To provide more information on the relationship between learning styles and vocabulary, it would be useful to conduct studies that explore the relationship between learning styles and other aspects of vocabulary such as productive vocabulary or vocabulary depth.
- The current research used Cohen, Oxford and Chi's (2001) learning style inventory; other learning style inventories can be used to explore the learners' learning styles.
- The current study explored receptive vocabulary using Nation's (1990) VLT; other tests can be used to investigate receptive vocabulary such as Schmitt, Schmitt \& Clapham, (2001).
- The findings revealed that learners have preferred learning styles in each of the categories. Therefore, teachers need to be aware of their learners' learning styles and to attempt to incorporate them into their teaching instruction, especially, when introducing new vocabulary.
- The results revealed that first year undergraduate LMD learners do not highly rely on their listening skills. Hence, teachers need to encourage and help their learners to enhance their listening skills.


## Conclusion

This chapter covered the field work of the current research. It was concerned with the methodological framework, the presentation, the analysis, the interpretation and the discussion of the results. It ended with highlighting the limitations of this study and providing some suggestions and recommendations for future research.

## General Conclusion

Vocabulary knowledge is salient for EFL learners to develop and master the language. Various aspects of vocabulary knowledge were investigated including vocabulary level which is an aspect of vocabulary that refers to knowledge of the most and least frequent words at various word family levels. Having sufficient vocabulary knowledge contributes directly to the facilitation of comprehension and communication. In the recent years, vocabulary has been investigated with regard to learning styles. Learning styles, which are the general approaches of learning, have been receiving considerable attention in the last two decades with the shift toward a learner centered approach.

The current research was inspired by Kafipour, Yazdi and Shokrpour's (2011) study which sought to explore if there was a significant relationship between learning styles and vocabulary level using Joy Reid's (1987) Perceptual Learning Style Preferences Questionnaire (PLSPQ). Similarly, the present study investigated the relationship between learning styles and vocabulary levels; however, the learning style inventory used was Cohen, Oxford and Chi's (2001) Learning Style Survey (LSS). For this purpose, a correlational study was conducted following the quantitative paradigm. To collect the necessary data, a questionnaire and Paul Nation's $(1990,2001)$ vocabulary levels test were administered to fifty eight (58) first year undergraduate LMD learners simultaneously. The study attempted to identify the learning styles of the learners and to determine whether they have sufficient vocabulary knowledge at three different vocabulary levels: the 2000, the 3000 and the 5000 word levels. Additionally, it aimed at exploring the relationship between learning styles and vocabulary level.

The research paper consisted of two chapters: the literature review and the field work. The literature review chapter was divided into two sections. The first section was dedicated to explore learning styles. It provided an overview of the most important
concepts in relation to learning styles, a historical background as well as the importance of this concept, and it highlighted some of the learning style models. The second section covered the aspects of vocabulary, vocabulary learning and vocabulary level. It shed light on some crucial notions pertaining to vocabulary and it outlined the importance of vocabulary. The field work chapter consisted of the research methodology, the analysis of the collected data, the interpretation and discussion of the results. The limitations of this study and the suggestions and recommendations for future research are also included.

The findings of the present study revealed that first year undergraduate LMD learners belonged to different LSs. However, the majority of learners were visual in the physical senses category, extrovert in the exposure to learning situations category, particular in the category of receiving of information and metaphoric in the category of how literally reality is taken. Moreover, it was found that they have insufficient receptive vocabulary knowledge. $69 \%$ of learners in the 2000 word level, $81 \%$ in the 3000 word level and $91 \%$ in the 5000 word level did not score above twelve. Additionally, the current research revealed that there was no relationship between learning styles and vocabulary levels. There were negligible and low insignificant correlations. However, there was a significant weak negative relationship between the literal learning style and the 2000 word level ( $\mathrm{r}=-.314$ ) at a significance of $\mathrm{p}=.016<.05$. This relationship was the strongest while the weakest relationship was a positive one between the extrovert style and the 2000 word level with a Pearson's r value of .004 .

Learning styles is a concept that is given importance regardless of the controversies that surround it and the variation of the models and inventories used to investigate it. Cassidy (2004) asserted that this variation pertaining to definitions, models and measures provided for learning styles is useful to develop further understanding about learning (p. 420). Therefore, it would be useful to conduct more research on learning styles.

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## Appendices

# Appendix A <br> Learning Style Survey*: <br> Assessing Your Own Learning Styles 

Andrew D. Cohen, Rebecca L. Oxford, and Julie C. Chi
The Learning Style Survey is designed to assess your general approach to learning. It does not predict your behavior in every instance, but it is a clear indication of your overall style preferences. For each item, circle the response that represents your approach. Complete all items. There are eleven major activities representing twelve different aspects of your learning style. When you read the statements, try to think about what you generally do when learning. It generally takes about 30 minutes to complete the survey. Do not spend too much time on any item - indicate your immediate feeling and move on to the next item.

For each item, circle your response:
0 = Never
1 = Rarely
2 = Sometimes
3 = Often
4 = Always

## Part 1: HOW I USE MY PHYSICAL SENSES

1. I remember something better if I write it down. $\quad 01234$
2. I take detailed notes during lectures. $\quad 01234$
3. When I listen, I visualize pictures, numbers, or words in my head. $\begin{array}{lllll}0 & 1 & 2\end{array}$
4. I prefer to learn with TV or video rather than other media. 01234
5. I use color-coding to help me as I learn or work. $\quad 01234$
6. I need written directions for tasks. $\quad 01234$
7. I have to look at people to understand what they say. $\quad 01234$
8. I understand lectures better when professors write on the board. $\quad 01234$
9. Charts, diagrams, and maps help me understand what someone says. 01234
10. I remember peoples' faces but not their names.

01234

## A - Total

11. I remember things better if I discuss them with someone. $\quad 01234$
12. I prefer to learn by listening to a lecture rather than reading. $\quad 01234$
13. I need oral directions for a task.

01234
14. Background sound helps me think.

01234
15. I like to listen to music when I study or work.

01234
16. I can understand what people say even when I cannot see them.

01234
17. I remember peoples' names but not their faces.
18. I easily remember jokes that I hear.

01234
19. I can identify people by their voices (e.g., on the phone).

01234
20. When I turn on the TV, I listen to the sound more than I watch

01234
the screen.
B - Total
21. I'd rather start to do things, rather than pay attention to directions.
$\begin{array}{llll}01 & 2 & 3\end{array}$
22. I need frequent breaks when I work or study.

01234
23. I need to eat something when I read or study.

01234
24. If I have a choice between sitting and standing, I'd rather stand.

01234
25. I get nervous when I sit still too long.

01234
26. I think better when I move around (e.g., pacing or tapping my feet).

01234
27. I play with or bite on my pens during lectures.

01234
28. Manipulating objects helps me to remember what someone says.

01234
29. I move my hands when I speak.

01234
30. I draw lots of pictures (doodles) in my notebook during lectures.

C - Total

## Part 2: HOW I EXPOSE MYSELF TO LEARNING SITUATIONS

| 1. I learn better when I work or study with others than by myself. | 0 | 1 | 2 | 3 | 4 |
| :--- | :--- | :--- | :--- | :--- | :--- |
| 2. I meet new people easily by jumping into the conversation. | 0 | 1 | 2 | 3 | 4 |
| 3. I learn better in the classroom than with a private tutor. | 0 | 1 | 2 | 3 | 4 |
| 4. It is easy for me to approach strangers. | 0 | 1 | 2 | 3 | 4 |
| 5. Interacting with lots of people gives me energy. | 0 | 1 | 2 | 3 | 4 |
| 6. I experience things first and then try to understand them. | 0 | 1 | 2 | 3 | 4 |

A - Total
7. I am energized by the inner world (what I'm thinking inside).

01234
8. I prefer individual or one-on-one games and activities.

01234
9. I have a few interests, and I concentrate deeply on them.

01234
10. After working in a large group, I am exhausted.

01234
11. When I am in a large group, I tend to keep silent and listen.

01234
12. I want to understand something well before I try it.

01234

B - Total

## Part 3: HOW I HANDLE POSSIBILITIES

| 1. I have a creative imagination. | 0 | 1 | 2 | 3 | 4 |
| :--- | :--- | :--- | :--- | :--- | :--- |
| 2. I try to find many options and possibilities for why something |  |  |  |  |  |
| happens. | 0 | 1 | 2 | 3 | 4 |
| 3. I plan carefully for future events. <br> 4. I like to discover things myself rather than have everything <br> explained to me. | 0 1 2 3 4  <br> 5. I add many original ideas during class discussions. 0 1 2 3 4 <br> 6. I am open-minded to new suggestions from my peers.      | 0 | 1 | 2 | 3 |

7. I focus in on a situation as it is rather than thinking about how

> A - Total it could be.
8. I read instruction manuals (e.g., for computers or VCRs) before

01234 using the device.
9. I trust concrete facts instead of new, untested ideas.
$\begin{array}{llll}0 & 1 & 234\end{array}$
10. I prefer things presented in a step-by-step way.
01234
11. I dislike it if my classmate changes the plan for our project.
01234
12. I follow directions carefully.

## Part 4: HOW I DEAL WITH AMBIGUITY AND WITH DEADLINES

| 1. I like to plan language study sessions carefully and do lessons <br> on time or early. <br> 2. My notes, handouts, and other school materials are carefully <br> organized. | 0 | 123 | 4 |
| :--- | :--- | :--- | :--- | :--- |
| 3. I like to be certain about what things mean in a target language. <br> 4. I like to know how rules are applied and why. | 011234 |  |  |


|  | A - Total |  |  |  |  |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |
|  |  |  |  |  |  |
|  |  | 1 | 2 | 3 | 4 |
| 5. I let deadlines slide if I'm involved in other things. | 0 | 1 | 2 | 3 | 4 |
| 6. I let things pile up on my desk to be organized eventually. | 0 | 1 | 2 | 3 | 4 |
| 7. I don't worry about comprehending everything. | 0 | 1 | 2 | 3 | 4 |

B-Total

## Part 5: HOW I RECEIVE INFORMATION

| 1. I prefer short and simple answers rather than long explanations. | 0 | 1 | 2 | 3 | 4 |
| :--- | :--- | :--- | :--- | :--- | :--- |
| 2. I ignore details that do not seem relevant. | 0 | 1 | 2 | 3 | 4 |
| 3. It is easy for me to see the overall plan or big picture. | 0 | 1 | 2 | 3 | 4 |
| 4. I get the main idea, and that's enough for me. | 0 | 1 | 2 | 3 | 4 |
| 5. When I tell an old story, I tend to forget lots of specific details. | 0 | 1 | 2 | 3 | 4 |

6. I need very specific examples in order to understand fully. $\quad 01234$
7. I pay attention to specific facts or information. $\begin{array}{lllll}0 & 1 & 24\end{array}$
8. I'm good at catching new phrases or words when I hear them. 01234
9. I enjoy activities where I fill in the blank with missing words I hear. $\quad 01234$
10. When I try to tell a joke, I remember details but forget the punch line. $\begin{aligned} & 0 \\ & 1\end{aligned} 24$
B - Total

## Part 6: HOW I FURTHER PROCESS INFORMATION

1. I can summarize information easily. $\quad 01234$
2. I can quickly paraphrase what other people say. $\quad 01234$
3. When I create an outline, I consider the key points first. $\quad 01234$
4. I enjoy activities where I have to pull ideas together. $\quad \begin{array}{lllll}0 & 1 & 2 & 3\end{array}$
5. By looking at the whole situation, I can easily understand someone. 01234
6. I have a hard time understanding when I don't know every word.
01234
7. When I tell a story or explain something, it takes a long time.
01234
8. I like to focus on grammar rules.
01234
9. I'm good at solving complicated mysteries and puzzles.
01234
10. I am good at noticing even the smallest details regarding some task.
01234

> B - Total

## Part 7: HOW I COMMIT MATERIAL TO MEMORY

1. I try to pay attention to all the features of new material as I learn.
2. When I memorize different bits of language material, I can retrieve
these bits easily - as if I had stored them in separate slots in my brain.

| 3. As I learn new material in the target language, I make fine distinctions |
| :--- |
| among speech sounds, grammatical forms, and words and phrases. |


#### Abstract

A - Total 4. When learning new information, I may clump together data by $\quad 01234$ eliminating or reducing differences and focusing on similarities. 5. I ignore distinctions that would make what I say more accurate $\quad 01234$ in the given context. 6. Similar memories become blurred in my mind; I merge new 01234 learning experiences with previous ones.


## Part 8: HOW I DEAL WITH LANGUAGE RULES

1. I like to go from general patterns to the specific examples in 01234 learning a target language.
2. I like to start with rules and theories rather than specific examples. 01234
3. I like to begin with generalizations and then find experiences that

01234 relate to those generalizations.

> A - Total
4. I like to learn rules of language indirectly by being exposed to examples of grammatical structures and other language features. 5. I don't really care if I hear a rule stated since I don't remember rules very well anyway.
6. I figure out rules based on the way I see language forms behaving

01234 over time.

## Part 9: HOW I DEAL WITH MULTIPLE INPUTS

1. I can separate out the relevant and important information in a
given context even when distracting information is present.
2. When I produce an oral or written message in the target language,

| I make sure that all the grammatical structures are in |
| :--- |
| agreement with each other. |
| 3. I not only attend to grammar but check for appropriate level | 0 | 01234 |
| :--- | :--- | of formality and politeness.

$\qquad$
01234

01234
5. It is a challenge for me to both focus on communication in speech or writing while at the same time paying attention to grammatical agreement (e.g., person, number, tense, or gender).
6. When I am using lengthy sentences in a target language, I get 01234
distracted and neglect aspects of grammar and style.

## Part 10: HOW I DEAL WITH RESPONSE TIME

1. I react quickly in language situations. $\quad 01234$
2. I go with my instincts in the target language. $\quad 01234$
3. I jump in, see what happens, and make corrections if needed. 01234

A - Total
4. I need to think things through before speaking or writing. 01234
5. I like to look before I leap when determining what $\quad 01234$
to say or write in a target language.
6. I attempt to find supporting material in my mind before I 01234 set about producing language.

## Part 11: HOW LITERALLY I TAKE REALITY

1. I find that building metaphors in my mind helps me deal with $\quad 0 \quad 1234$ language (e.g., viewing the language like a machine with component parts that can be disassembled).
2. I learn things through metaphors and associations with other $\quad 0 \quad 1234$ things. I find stories and examples help me learn.
3. I take learning language literally and don't deal in metaphors.

01234
4. I take things at face value, so I like language material that says what it means directly.

> A - Total
what it means directly.

01234
B - Total

## Understanding your totals

Once you have totaled your points, write the results in the blanks below. Circle the higher number in each part (if they are close, circle both). Read about your learning styles starting below.

## Part 1:



B__Auditory
C
Part 2:
A
B___Introverted

## Part 3:

A___Random-Intuitive
B___Concrete-Sequential

## Part 4:

A__Closure-Oriented
B $\qquad$ Open
Introverted

## Part 5:

A__ Global
B__Particular

## Part 9:

A___Field-Independent
B $\square$ Field-Dependent

## Part 6:



Synthesizing
 Analytic

## Part 7:

A $\qquad$ Sharpener B_L_Leveler

## Part 10:

A__ Impulsive

## Part 11:

A_Metaphoric
B Literal

## Note:

Before reading the next section, understand that this is only a general description of your learning style preferences. It does not describe you all of the time, but gives you an idea of your tendencies when you learn. Note that in some learning situations, you may have one set of style preferences and in a different situation, another set of preferences. Also, there are both advantages and disadvantages to every style preference.

If on the sensory style preferences (visual, auditory, tactile/kinesthetic) you prefer two or all three of these senses (i.e., your totals for the categories are within five points or so), you are likely to be flexible enough to enjoy a wide variety of activities in the language classroom. On the other dimensions, although they appear to be in opposition, it is possible for you to have high scores on both, meaning that you do not have a preference one way or the other. Here are three examples: on the extrovertedintroverted distinction, you are able to work effectively with others as well as by yourself; on the closure-open distinction, you enjoy the freedom of limited structure and can still get the task done before the deadline without stress; on the global-particular distinction, you can handle both the gist and the details easily.

Furthermore, learning style preferences change throughout your life, and you can also stretch them, so don't feel that you are constrained to one style.

## Part 1: HOW I USE MY PHYSICAL SENSES

If you came out as more visual than auditory, you rely more on the sense of sight, and you learn best through visual means (books, video, charts, pictures). If you are more auditory in preference, you prefer listening and speaking activities (discussions, lectures, audio tapes, role-plays). If you have a tactile/kinesthetic style preference, you benefit from doing projects, working with objects, and moving around (games, building models, conducting experiments).

## Part 2: HOW I EXPOSE MYSELF TO LEARNING SITUATIONS

If you came out more extraverted on this survey, you probably enjoy a wide range of social, interactive learning tasks (games, conversations, discussions, debates, role-plays, simulations). If you came out more introverted, you probably like to do more independent work (studying or reading by yourself or learning with a computer) or enjoy working with one other person you know well.

## Part 3: HOW I HANDLE POSSIBILITIES

If you scored more random-intuitive, you are most likely more future-oriented, prefer what can be over what is, like to speculate about possibilities, enjoy abstract thinking, and tend to disfavor step-by-step instruction. If your style preference was more concrete-sequential, you are likely to be more presentoriented, prefer one-step-at-a-time activities, and want to know where you are going in your learning at every moment.

## Part 4: HOW I APPROACH TASKS

If you are more closure-oriented, you probably focus carefully on most or all learning tasks, strive to meet deadlines, plan ahead for assignments, and want explicit directions. If you are more open in your orientation, you enjoy discovery learning (in which you pick up information naturally) and prefer to relax and enjoy your learning without concern for deadlines or rules.

## Part 5: HOW I RECEIVE INFORMATION

If you have a more global style preference, you enjoy getting the gist or main idea and are comfortable communicating even if you don't know all the words or concepts. If you are more particular in preference, you focus more on details and remember specific information about a topic well.

## Part 6: HOW I FURTHER PROCESS INFORMATION

If you are a synthesizing person, you can summarize material well, enjoy guessing meanings and predicting outcomes, and notice similarities quickly. If you are analytic, you can pull ideas apart and do well on logical analysis and contrast tasks, and you tend to focus on grammar rules.

## Part 7: HOW I COMMIT MATERIAL TO MEMORY

If you are a sharpener, you tend to notice differences and seek distinctions among items as you commit material to memory. You like to distinguish small differences and to separate memory of prior experiences from memory of current ones. You can easily retrieve the different items because you store them separately. You like to make fine distinctions among speech sounds, grammatical forms, and meaningful elements of language (words and phrases). If you are a leveler, you are likely to clump material together in order to remember it, by eliminating or reducing differences, and by focusing almost exclusively on similarities. You are likely to blur similar memories and to merge new experiences readily with previous ones. If you are concerned about accuracy and getting it all right, then the sharpener approach is perhaps preferable. If you are concerned about expediency, then being a leveler may be the key to communication.

## Part 8: HOW I DEAL WITH LANGUAGE RULES

If you are a more deductive learner, you like to go from the general to the specific, to apply generalizations to experience, and to start with rules and theories rather than with specific examples. If you are a more inductive learner, you like to go from specific to general and prefer to begin with examples rather than rules or theories.

## Part 9: HOW I DEAL WITH MULTIPLE INPUTS

If you are more field-independent in style preference, you like to separate or abstract material from within a given context, even in the presence of distractions. You may, however, have less facility dealing with information holistically. If you are more field-dependent in preference, you tend to deal with information in a more holistic or "gestalt" way. Consequently you may have greater difficulty in separating or abstracting material from its context. You work best without distractions.

## Part 10: HOW I DEAL WITH RESPONSE TIME

If you are a more impulsive learner, you react quickly in acting or speaking without thinking the situation through. For you, thought often follows action. If you are a more reflective learner, you think things through before taking action and often do not trust your gut reactions. In your case, action usually follows thought.

## Part 11: HOW LITERALLY I TAKE REALITY

If you are a metaphoric learner, you learn material more effectively if you conceptualize aspects of it, such as the grammar system, in metaphorical terms. You make the material more comprehensible by developing and applying an extended metaphor to it (e.g., visualizing the grammar system of a given language as an engine that can be assembled and disassembled). If you are a literal learner, you prefer a relatively literal representation of concepts and like to work with language material more or less as it is on the surface.

## Tips for the learner

Each style preference offers significant strengths in learning and working. Recognize your strengths to take advantage of ways you learn best. Also, enhance your learning and working power by being aware of and developing the style areas that you do not normally use. Tasks that do not seem quite as suited to your style preferences will help you stretch beyond your ordinary comfort zone, expanding your learning and working potential.

For example, if you are a highly global person, you might need to learn to pay more attention to detail in order to learn more effectively. If you are an extremely detail-oriented person, you might be missing out on some useful global characteristics, like getting the main idea quickly. You can develop such qualities in yourself through practice. You won't lose your basic strengths by trying something new; you will simply develop another side of yourself that is likely to be very helpful to your language learning.

If you aren't sure how to attempt new behaviors that go beyond your favored style, then ask your colleagues, friends, or teachers to give you a hand. Talk with someone who has a different style from yours and see how that person does it. Improve your learning or working situation by stretching your style!

[^0]dimensions and items are drawn from Oxford's Style Analysis Survey, 1995, in J. Reid (Ed.),Learning styles in the ESL/EFL classroom(pp. 208-215). Boston: Heinle \& Heinle/Thomson International. Other key dimensions and some of the wording of items comes from Ehrman and Leaver's E\&L Questionnaire, 2001. For more information on this questionnaire, see the Resources Section of this Guide

## Appendix B

## A Learning Style Questionnaire

Dear Student, This questionnaire is administered for the purpose of collecting data on first year students' learning styles for a correlational study on learning styles and vocabulary level. I would very much appreciate your contribution to this research by answering the items in this questionnaire. Your identity would remain confidential and your results will be used for research purposes only. Please be honest and choose answers that you consider more appropriate. Thank you in advance for your time, cooperation, and participation.

## Section One: Background Information

Please tick $(\sqrt{ })$ the convenient answer and write your age in the column

2. Age: $\quad \square$
3. High school stream: Literary $\square$ Scientific $\square$

## Section Two: Learning Style Inventory

Learning styles are the general ways people use to learn. The following statements will indicate your general preferred style for learning vocabulary. Circle the number that corresponds with your approach. Give the answers that you mostly relate to and move to the next question without thinking deeply about your answers.

Circle ONE response according to these $\mathbf{1}=$ Never $\quad \mathbf{2}=$ Rarely $\quad 3=$ Sometimes
$4=$ Often $\quad 5$ = Always

## Part 1: How I Use my Physical Sense to Learn English Vocabulary

| 1. I remember an English word better if I write it <br> down | 1 | 2 | 3 | 4 | 5 |
| :--- | :--- | :--- | :--- | :--- | :--- |
| 2. When I listen to an audio or a speech in English, I <br> visualise pictures, numbers, or words in my head | 1 | 2 | 3 | 4 | 5 |
| 3. I prefer to learn English vocabulary with TV or <br> video rather than audio-scripts or songs | 1 | 2 | 3 | 4 | 5 |
| 4. I use colour-coding to highlight words to help me <br> when I learn new English words | 1 | 2 | 3 | 4 | 5 |
| 5. Charts, diagrams, and maps help me understand <br> what someone says in the English language | 1 | 2 | 3 | 4 | 5 |
| 6. I remember new English words better if I use them <br> with someone in a discussion | 1 | 2 | 3 | 4 | 5 |
| 7. I prefer to learn English vocabulary by listening to <br> audio scripts or songs rather than reading novels or <br> books | 1 | 2 | 3 | 4 | 5 |
| 8. I can understand what people say in English even <br> when I cannot see the words. | 1 | 2 | 3 | 4 | 5 |
| 9. I easily remember new English words that I hear | 1 | 2 | 3 | 4 | 5 |
| 10. When I turn on the TV, I listen to English <br> language conversations more than I read subtitles | 1 | 2 | 3 | 4 | 5 |

Part 2: How I Expose Myself to Vocabulary Learning Situations

| 11. I learn English vocabulary better when I engage <br> with others than by myself | 1 | 2 | 3 | 4 | 5 |
| :--- | :--- | :--- | :--- | :--- | :---: |
| 13. I learn more English vocabulary words from my <br> peers than I do from my teachers in the classroom | 1 | 2 | 3 | 4 | 5 |
| 13. I look to the examples that include the new <br> English words first then try to understand them | 1 | 2 | 3 | 4 | 5 |


| 14. I prefer to learn vocabulary using games played <br> individually and activities such as doing puzzles | 1 | 2 | 3 | 4 | 5 |
| :--- | :--- | :--- | :--- | :--- | :--- |
| 15. When I am in the classroom I tend to keep silent <br> and listen to the English talk | 1 | 2 | 3 | 4 | 5 |
| 16. I want to understand the new word well and search <br> for all of its meanings, synonyms and antonyms before <br> use it. | 1 | 2 | 3 | 4 | 5 |

Part 3: How I Receive Information Related to Vocabulary

| 17. I prefer synonyms and short definitions of new <br> English words rather than long explanations | 1 | 2 | 3 | 4 | 5 |
| :--- | :--- | :--- | :--- | :--- | :--- |
| 18. I ignore the different meanings of the new English <br> words that do not seem relevant to the context in <br> which they occurred | 1 | 2 | 3 | 4 | 5 |
| 19. I get the main meaning of the English words and <br> that's enough for me | 1 | 2 | 3 | 4 | 5 |
| 20. I need very specific examples in order to fully <br> understand the new English word | 1 | 2 | 3 | 4 | 5 |
| 21. I am good at catching new phrases or words in <br> English when I hear them. | 1 | 2 | 3 | 4 | 5 |
| 22. I enjoy activities where I fill in the blank with the <br> missing words I hear | 1 | 2 | 3 | 4 | 5 |

Part 4: How Literally I Take Reality

| 23. I find that building metaphors in my mind helps <br> me deal with the learnt vocabulary | 1 | 2 | 3 | 4 | 5 |
| :--- | :--- | :--- | :--- | :--- | :--- |
| 24. I find stories and examples help me in learning <br> English vocabulary. | 1 | 2 | 3 | 4 | 5 |
| 25. I take learning English language literally and <br> don't deal in metaphors | 1 | 2 | 3 | 4 | 5 |
| 26. I like English words that have explicit meaning | 1 | 2 | 3 | 4 | 5 |

## Appendix C

A Table that shows the adapted Parts, Learning Styles and Statements from the Cohen, Oxford and Chi's Learning Style Survey (2001) used in the Current Research

| Parts | Styles | The Learning style inventory used | The Original Version (LSS) |
| :---: | :---: | :---: | :---: |
| Part 1 | Visual | Statement 1 <br> Statement 2 <br> Statement 3 <br> Statement 4 <br> Statement 5 | Statement 1 Statement 3 Statement 4 Statement 5 Statement 9 |
|  | Auditory | Statement 6 <br> Statement 7 <br> Statement 8 <br> Statement 9 <br> Statement 10 | Statement 11 <br> Statement 12 <br> Statement 16 <br> Statement 18 <br> Statement 20 |
| Part 2 | Extrovert | Statement 11 <br> Statement 12 <br> Statement 13 | Statement 1 <br> Statement 3 <br> Statement 6 |
|  | Introvert | Statement 14 <br> Statement 15 <br> Statement 16 | Statement 8 <br> Statement 11 <br> Statement 12 |
| Part 5 | Global | Statement 17 <br> Statement 18 <br> Statement 19 | Statement 1 <br> Statement 2 <br> Statement 4 |
|  | Particular | Statement 20 <br> Statement 21 <br> Statement 22 | Statement 6 <br> Statement 8 <br> Statement 9 |
| Part <br> 11 | Metaphoric | Statement 23 <br> Statement 24 | Statement 1 <br> Statement 2 |
|  | Literal | Statement 25 <br> Statement 26 | Statement 3 <br> Statement 4 |

## Appendix D

A Table that illustrates the learners' scores in the learning style inventory and in the test as well as their learning styles

| Style | Visual/ Auditory Styles |  |  | Extrovert/ <br> Introvert Styles |  |  | Global/ <br> Particular Styles |  |  | Metaphoric/ Literal Styles |  |  | Word Levels |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | V | A | Learners' Style | E | I | Learners' Style | G | P | Learners' Style | M | L | $\begin{aligned} & \text { Lear- } \\ & \text { ners' } \\ & \text { Style } \end{aligned}$ | 2000 | 3000 | 5000 |
| 01 | 22 | 17 | V | 9 | 7 | E | 11 | 11 | G+P | 7 | 3 | M | 17 | 15 | 14 |
| 02 | 17 | 17 | V+A | 13 | 8 | E | 10 | 10 | G+P | 8 | 4 | M | 18 | 18 | 18 |
| 03 | 21 | 20 | V | 13 | 14 | I | 9 | 11 | P | 9 | 9 | M+L | 9 | 3 | 2 |
| 04 | 21 | 14 | V | 7 | 9 | I | 5 | 10 | P | 7 | 7 | M+L | 17 | 17 | 13 |
| 05 | 18 | 20 | A | 10 | 8 | E | 6 | 10 | P | 8 | 8 | M+L | 12 | 11 | 12 |
| 06 | 18 | 17 | V | 12 | 8 | E | 10 | 12 | P | 6 | 6 | M+L | 6 | 6 | 1 |
| 07 | 22 | 21 | V | 15 | 13 | E | 13 | 14 | P | 8 | 8 | M+L | 10 | 3 | 5 |
| 08 | 20 | 14 | V | 10 | 9 | E | 10 | 11 | P | 5 | 5 | M+L | 9 | 6 | 3 |
| 09 | 20 | 17 | V | 10 | 9 | E | 12 | 10 | G | 7 | 7 | M +L | 16 | 12 | 6 |
| 10 | 18 | 16 | V | 13 | 12 | E | 14 | 9 | G | 7 | 7 | M+L | 12 | 4 | 3 |
| 11 | 15 | 23 | A | 13 | 12 | E | 15 | 12 | G | 8 | 8 | M+L | 11 | 7 | 7 |
| 12 | 18 | 21 | A | 11 | 12 | I | 12 | 9 | G | 8 | 6 | M | 10 | 5 | 6 |
| 13 | 13 | 16 | A | 8 | 11 | I | 11 | 11 | G+P | 7 | 4 | M | 10 | 7 | 5 |
| 14 | 17 | 16 | V | 8 | 11 | I | 8 | 11 | P | 8 | 6 | M | 12 | 11 | 11 |
| 15 | 20 | 15 | V | 10 | 9 | E | 13 | 10 | G | 10 | 7 | M | 9 | 4 | 6 |
| 16 | 13 | 23 | A | 14 | 12 | E | 9 | 11 | P | 8 | 5 | M | 15 | 13 | 12 |
| 17 | 13 | 20 | A | 13 | 8 | E | 13 | 13 | G+P | 10 | 6 | M | 12 | 11 | 11 |
| 18 | 17 | 17 | V+A | 12 | 12 | E+I | 11 | 10 | G | 8 | 7 | M | 17 | 13 | 5 |
| 19 | 16 | 18 | A | 9 | 7 | E | 11 | 8 | G | 9 | 8 | M | 8 | 3 | 4 |
| 20 | 16 | 13 | V | 11 | 12 | I | 11 | 10 | G | 5 | 7 | L | 11 | 7 | 8 |
| 21 | 21 | 12 | V | 11 | 9 | E | 12 | 12 | G+P | 8 | 7 | M | 9 | 7 | 5 |
| 22 | 13 | 25 | A | 9 | 10 | I | 7 | 9 | P | 7 | 6 | M | 13 | 12 | 9 |
| 23 | 17 | 13 | V | 7 | 14 | I | 9 | 12 | P | 9 | 8 | M | 8 | 10 | 9 |
| 24 | 15 | 18 | A | 13 | 11 | E | 10 | 8 | G | 10 | 8 | M | 9 | 6 | 5 |
| 25 | 13 | 19 | A | 7 | 6 | E | 12 | 6 | G | 7 | 3 | M | 14 | 7 | 2 |
| 26 | 25 | 17 | V | 14 | 10 | E | 7 | 11 | P | 9 | 6 | M | 17 | 16 | 15 |
| 27 | 15 | 11 | V | 9 | 8 | E | 13 | 8 | G | 7 | 6 | M | 13 | 10 | 3 |
| 28 | 24 | 21 | V | 12 | 11 | E | 13 | 10 | G | 9 | 7 | M | 12 | 16 | 6 |
| 29 | 14 | 16 | A | 9 | 10 | I | 8 | 9 | P | 8 | 7 | M | 8 | 3 | 4 |
| 30 | 20 | 15 | V | 13 | 8 | E | 12 | 12 | G+P | 7 | 9 | L | 8 | 5 | 0 |
| 31 | 17 | 20 | A | 9 | 13 | I | 10 | 10 | G+P | 7 | 8 | L | 16 | 16 | 13 |
| 32 | 22 | 16 | V | 11 | 10 | E | 8 | 10 | P | 6 | 8 | L | 8 | 9 | 4 |
| 33 | 22 | 19 | V | 13 | 13 | E+I | 10 | 14 | P | 10 | 7 | M | 12 | 10 | 8 |
| 34 | 15 | 20 | A | 6 | 13 | I | 11 | 13 | P | 8 | 5 | M | 9 | 5 | 4 |
| 35 | 22 | 16 | V | 11 | 8 | E | 13 | 11 | G | 8 | 7 | M | 10 | 7 | 6 |
| 36 | 19 | 17 | V | 11 | 12 | I | 12 | 10 | G | 7 | 6 | M | 12 | 11 | 2 |
| 37 | 14 | 12 | V | 5 | 14 | I | 12 | 8 | G | 8 | 7 | M | 8 | 7 | 2 |
| 38 | 21 | 15 | V | 9 | 10 | I | 14 | 12 | G | 8 | 7 | M | 9 | 7 | 8 |


| 39 | 15 | 21 | A | 8 | 13 | I | 11 | 13 | P | 8 | 6 | M | 13 | 12 | 11 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| 40 | 13 | 22 | A | 11 | 15 | I | 14 | 15 | P | 7 | 6 | M | 11 | 10 | 1 |
| 41 | 11 | 19 | A | 10 | 11 | I | 12 | 13 | P | 8 | 7 | M | 12 | 6 | 6 |
| 42 | 17 | 17 | $\mathrm{~V}+\mathrm{A}$ | 13 | 12 | E | 11 | 13 | P | 8 | 6 | M | 15 | 9 | 11 |
| 43 | 15 | 19 | A | 12 | 7 | E | 12 | 10 | G | 8 | 7 | M | 15 | 16 | 9 |
| 44 | 20 | 10 | V | 12 | 8 | E | 12 | 8 | G | 10 | 7 | M | 12 | 11 | 6 |
| 45 | 21 | 17 | V | 6 | 11 | I | 15 | 8 | G | 6 | 9 | L | 14 | 14 | 12 |
| 46 | 21 | 20 | V | 12 | 11 | E | 11 | 13 | P | 9 | 6 | G | 10 | 9 | 2 |
| 47 | 19 | 13 | V | 8 | 9 | I | 8 | 9 | P | 5 | 9 | L | 12 | 6 | 6 |
| 48 | 16 | 17 | A | 10 | 10 | $\mathrm{E}+\mathrm{I}$ | 11 | 10 | G | 9 | 7 | M | 11 | 9 | 3 |
| 49 | 21 | 18 | V | 9 | 11 | I | 10 | 8 | G | 7 | 8 | L | 8 | 8 | 3 |
| 50 | 22 | 20 | V | 14 | 14 | $\mathrm{E}+\mathrm{I}$ | 14 | 13 | G | 7 | 10 | L | 10 | 8 | 4 |
| 51 | 17 | 17 | $\mathrm{~V}+\mathrm{A}$ | 9 | 12 | I | 8 | 8 | $\mathrm{G}+\mathrm{P}$ | 7 | 9 | L | 13 | 11 | 8 |
| 52 | 14 | 19 | A | 13 | 11 | E | 11 | 9 | G | 6 | 8 | L | 11 | 12 | 5 |
| 53 | 15 | 20 | A | 11 | 10 | E | 7 | 12 | P | 6 | 8 | L | 14 | 14 | 10 |
| 54 | 22 | 14 | V | 13 | 13 | $\mathrm{E}+\mathrm{I}$ | 8 | 10 | P | 8 | 9 | L | 9 | 9 | 6 |
| 55 | 18 | 19 | A | 13 | 10 | E | 14 | 9 | G | 6 | 7 | L | 11 | 9 | 4 |
| 56 | 18 | 16 | V | 14 | 14 | $\mathrm{E}+\mathrm{I}$ | 8 | 11 | P | 7 | 8 | L | 10 | 8 | 4 |
| 57 | 23 | 9 | V | 11 | 10 | E | 4 | 6 | P | 7 | 8 | L | 10 | 5 | 2 |
| 58 | 19 | 10 | V | 7 | 13 | I | 9 | 13 | P | 5 | 8 | L | 14 | 8 | 10 |

## Appendix E

## Nation's (1990) Vocabulary Levels Test




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1. anterior
2. concave small and weak
3. interminable easily changing
4. puny _ endless
5. volatile
6. wicker
7. dregs
8. flurry
9. hostage
10. jumble $\qquad$
worst and most useless parts of anything
11. saliva
natural liquid present in the mouth confused mixture
12. truce
13. auspices
14. casualty ___ being away from other people
15. froth $\qquad$ someone killed or injured
16. haunch $\qquad$ noisy and happy celebration
17. revelry
18. seclusion

## Appendix F

## A Vocabulary Levels Test

A vocabulary levels test is a kind of tests that aims at measuring your receptive knowledge of vocabulary at different levels. This test measures your level at the 2,000 , the 3,000 , and the 5,000 word levels.

Choose the right word for each meaning. Select its number and write it next to that meaning. Example:

|  | 1. business <br> Part of a house __ | 2. clock | Part of a house _6_ |
| :--- | :--- | :--- | :---: |

## 2,000 Word Level

|  | 1. original |  | 1. blame |
| :---: | :---: | :---: | :---: |
| Complete | 2. private | Keep away from sight __ | 2. hide |
| First | 3. royal | Have a bad effect on something | 3. hit |
| Not public | 4. slow | Ask __ | 4. invite |
|  | 5. sorry |  | 5. pour |
|  | 6. total |  | 6. spoil |


|  | 1. apply |  | 1. accident |
| :---: | :---: | :---: | :---: |
| Choose by voting ___ | 2. elect | Having a high opinion of yourself | 2. choice |
| Become like water | 3. jump | Something you must pay ___ | 3. debt |
| Make __ | 4. melt | Loud deep sound ___ | 4. fortune |
|  | 5. manu |  | 5. pride |
|  | 6. threat |  | 6. roar |


| Money paid regularly for doing a job __ | 1. basket |  | 1. birth |
| :--- | :--- | :--- | :--- |
| Heat__ | 2. crop | Being born__ | 2. dust |
| Meat__ | 3. flesh | Game__ | 3. operation |
|  | 4. salary | Winning__ | 4. row |
|  | 5. temperature | 5. sport |  |
|  | 6. thread | 6. victory |  |

## 3,000 Word Level

|  | 1. administration |  | 1. bench |
| :---: | :---: | :---: | :---: |
| Managing business and affairs __ | 2. angel | Part of a country | 2. charity |
| Spirit who serves God __ | 3. front | Help to the poor | 3. fort |
| Group of animals __ | 4. herd | Long seat | 4. jar |
|  | 5. mate |  | 5. mirror |
|  | 6. pond |  | 6. province |

A thin, flat piece cut from something $\qquad$ 1. coach 4. interior Person who is loved very much $\qquad$ 2. darling
5. opera

Sound reflected back to you $\qquad$ 3. echo
6. Slice

|  | 1. marble <br> Inner surface of your hand __ <br> 2. palm | Use pictures or example | 1. discharge <br> 2. encounter |
| :--- | :--- | :--- | :--- |
| Excited feeling __ | 3. ridge | to show meaning__ | 3. illustrate |
| Plan__ | 4. scheme | Meet _ | 4. knit |
|  | 5. statue | Throw up into air__ | 5. prevail |
|  | 6. thrill |  | 6. toss |


| Happening once a year __ | 1. annual | 4. concealled |
| :--- | :--- | :--- |
| Certain__ | 2. blank | 5. definite |
| Wild__ | 3. brilliant | 6. savage |

## 5,000 Word Level

Cloth worn in front to your clothes ___
Stage of development $\qquad$
State of untidiness or dirtiness $\qquad$

| 1. alcohol | 4. mess |
| :--- | :--- |
| 2. apron | 5. phase |
| 3. lure | 6. plank |

1. apparatus

Set of instruments
2. compliment
or machinery $\qquad$
Money received by the government $\qquad$
3. revenue
4. scrap

Expression of admiration $\qquad$ _
5. tile
6. ward


## Appendix G

CORRELATIONS
/VARIABLES=Visual Level2000 Level3000 Level5000 levels
/PRINT=TWOTAIL NOSIG
/MISSING=PAIRWISE.
Corrélations
Remarques

|  | 崖 |  |
| :---: | :---: | :---: |
| Sortie obtenue Commentaires |  | 21-JUN-2021 21:32:22 |
| Entrée | Données | F:ImanellSans titre1.sav |
|  | Jeu de données actif | Jeu_de_données1 |
|  | Filtre | <sans> |
|  | Pondération | <sans> |
|  | Fichier scindé | <sans> |
|  | N de lignes dans le fichier de travail | 58 |
| Gestion des valeurs manquantes | Définition de la valeur | Les valeurs manquantes définies par |
|  | manquante | l'utilisateur sont traitées comme étant manquantes. |
|  | Observations utilisées | Les statistiques associées à chaque paire de variables sont basées sur |
|  |  | l'ensemble des observations contenant des données valides pour cette paire. |
| Syntaxe |  | CORRELATIONS |
|  |  | /VARIABLES=Visual Level2000 |
|  |  | Level3000 Level5000 levels |
|  |  | /PRINT=TWOTAIL NOSIG /MISSING=PAIRWISE. |
| Ressources | Temps de processeur | 00:00:00,03 |
|  | Temps écoulé | 00:00:00,03 |

Corrélations

|  |  | Visual | Level2000 | Level3000 | Level5000 | Levels |
| :--- | :--- | ---: | ---: | ---: | ---: | ---: |
| Visual | Corrélation de Pearson | 1 | ,- 045 | , 047 | , 021 | , 014 |
|  | Sig. (bilatérale) |  | , 739 | , 727 | , 879 | , 916 |
|  | N | 58 | 58 | 58 | 58 | 58 |
| Level2000 | Corrélation de Pearson | ,- 045 | 1 | , $770^{* *}$ | , $700^{* * *}$ | , $893^{* *}$ |
|  | Sig. (bilatérale) | , 739 |  | , 000 | , 000 | , 000 |
|  | N | 58 | 58 | 58 | 58 | 58 |
| Level3000 | Corrélation de Pearson | , 047 | , $770^{* *}$ | 1 | , $690^{* * *}$ | , $913^{* *}$ |
|  | Sig. (bilatérale) | , 727 | , 000 |  | , 000 | , 000 |
|  | N | 58 | 58 | 58 | 58 | 58 |
| Level5000 | Corrélation de Pearson | , 021 | , $700^{* *}$ | , $690^{* *}$ | 1 | , $896^{* *}$ |
|  | Sig. (bilatérale) | , 879 | , 000 | , 000 |  | , 000 |
|  | N | 58 | 58 | 58 | 58 | 58 |
| Levels | Corrélation de Pearson | , 014 | , $893^{* *}$ | , $913^{* *}$ | , $896^{* * *}$ | 1 |
|  | Sig. (bilatérale) | , 916 | , 000 | , 000 | , 000 |  |
|  | N | 58 | 58 | 58 | 58 | 58 |

**. La corrélation est significative au niveau 0,01 (bilatéral).
/VARIABLES=Extrovert Level2000 Level3000 Level5000 levels
/PRINT=TWOTAIL NOSIG
/MISSING=PAIRWISE.

## Corrélations

Remarques

| Entrée | Données <br> Jeu de données actif <br> Filtre <br> Pondération <br> Fichier scindé <br> N de lignes dans le fichier de travail | F:ImanellSans titre1.sav Jeu_de_données1 <br> <sans> <br> <sans> <br> <sans> |
| :---: | :---: | :---: |
| Gestion des valeurs manquantes | Définition de la valeur manquante | Les valeurs manquantes définies par l'utilisateur sont traitées comme étant manquantes |
|  | Observations utilisées | Les statistiques associées à chaque paire de variables sont basées sur l'ensemble des observations contenant des données valides pour cette paire. |
| Syntaxe |  | CORRELATIONS <br> /VARIABLES=Extrovert Level2000 <br> Level3000 Level5000 levels <br> /PRINT=TWOTAIL NOSIG <br> /MISSING=PAIRWISE. |
| Ressources | Temps de processeur | 00:00:00,03 |
|  | Temps écoulé | 00:00:00,05 |

Corrélations

|  |  | Extrovert | Level2000 | Level3000 | Level5000 | Levels |
| :--- | :--- | ---: | ---: | ---: | ---: | ---: |
| Extrovert | Corrélation de Pearson | 1 | , 004 | ,- 008 | ,- 068 | ,- 030 |
|  | Sig. (bilatérale) |  | , 977 | , 950 | , 614 | , 822 |
|  | N | 58 | 58 | 58 | 58 | 58 |
| Level2000 | Corrélation de Pearson | , 004 | 1 | , $770^{* *}$ | , $700^{* *}$ | , $893^{* *}$ |
|  | Sig. (bilatérale) | , 977 |  | , 000 | , 000 | , 000 |
|  | N | 58 | 58 | 58 | 58 | 58 |
| Level3000 | Corrélation de Pearson | ,- 008 | , $770^{* *}$ | 1 | , $690^{* *}$ | , $913^{* *}$ |
|  | Sig. (bilatérale) | , 950 | , 000 |  | , 000 | , 000 |
|  | N | 58 | 58 | 58 | 58 | 58 |
| Level5000 | Corrélation de Pearson | ,- 068 | , $700^{* *}$ | , $690^{* *}$ | 1 | , $896^{* *}$ |
|  | Sig. (bilatérale) | , 614 | , 000 | , 000 |  | , 000 |
|  | N | 58 | 58 | 58 | 58 | 58 |
| levels | Corrélation de Pearson | ,- 030 | , $893^{* *}$ | , $913^{* *}$ | , $896^{* *}$ | 1 |
|  | Sig. (bilatérale) | , 822 | , 000 | , 000 | , 000 |  |
|  | N | 58 | 58 | 58 | 58 | 58 |

**. La corrélation est significative au niveau 0,01 (bilatéral).

## Resumé

La connaissance du vocabulaire est un élément clé pour une communication réussie. Au cours des deux dernières décennies, le concept de styles d'apprentissage a été étudié en ce qui concerne divers aspects de la connaissance du vocabulaire. Par conséquent, la présente étude examine la relation entre les styles d'apprentissage et le niveau de vocabulaire. L'objectif principal de la recherche actuelle est d'explorer la relation entre les styles d'apprentissage et le niveau de vocabulaire. Il vise également à identifier les styles d'apprentissage des apprenants et à déterminer s'ils ont une connaissance suffisante du vocabulaire à différents niveaux de mots. Pour atteindre ces objectifs, une étude descriptive a été adoptée suivant un paradigme quantitatif. Ainsi, une étude corrélationnelle a été menée auprès de cinquante-huit (58) apprenants LMD de première année à l'aide d'un questionnaire et d'un test. Le questionnaire de style d'apprentissage adapté et utilisé comprenait les styles visuel, auditif, extraverti, introverti, global, particulier, métaphorique et littéral. De plus, le test de vocabulaire adapté comprenait le niveau 2000 mots, le niveau 3000 mots et le niveau 5000 mots. Les résultats ont révélé qu'il n'y avait pas de relation significative entre les styles d'apprentissage et les niveaux de vocabulaire. Il y avait des corrélations négligeables et faibles, et il n'y avait qu'une seule relation négative modérée entre le style littéral et le niveau de 2000 mots. Il a également révélé que les styles d'apprentissage préférés et dominants des apprenants sont le visuel, l'introverti, le global et le métaphorique. De plus, il a été révélé que la majorité des apprenants ont une connaissance insuffisante du vocabulaire à tous les niveaux. Quelques suggestions et recommandations pour d'autres recherches futures sont proposées.

Mots clés : styles d'apprentissage, niveau de vocabulaire, connaissanc0e du vocabulaire. Test de vocabulaire, questionnaire de style d'apprentissage

## ملخص

معرفة المفردات هي عنصر أساسي للتواصل الناجح. في العقدين الماضيين، تم التحقيق في مفهوم أساليب التعلم فيما يتعق بجوانب مختلفة من معرفة المفردات. لذلك، تبحث الاراسة الحالية في العلاقة بين أساليب التطم ومستوى المفردات. الهذف الرئيسي من البحث الحالي هو استكشاف العلاقة بين أساليب التُلم ومستوى المفردات. ويهـف أيضًا إلى تحديد أنماط تعلم المتعلمين والتحقيق فيما إذا كانت لايهم معرفة كافية بالمفردات في مستويات الكلمات المختلفة. لتحقيق هذه الأهداف، تم اعتماد دراسة وصفية باتباع نموذج كمي. وفقًا لذلك، تم إجراء دراسة ارتباطية على ثمانية وخمسين (58) من طلاب السنة الأولى الجامعيين الغير متخرجين باستذام استبيان واختبار . تضمن استبيان أسلوب التُلم المعدل والمستخذم الأساليب المرئية والسمعية والمنفتحة والانطوائية والعالمية والخاصة والمجازية والحرفية. بالإضافة إلى ذلك يتألف اختبار المفردات المعدلة من مستوى 2000 كلمة ومستوى 3000 كلمة ومستوى 5000 كلمة. كثفت النتائج أنه لا توجد علاقة ذات دلالة إحصائية بين أنماط التعلم ومستويات المفردات. كانت هناك ارتباطات ضعيفة، ولم يكن هناك سوى علاقة سلبية واحدة متوسطة بين النمط الحرفي ومستوى 2000 كلمة. كما كثفت أن أنماط التعلم المفضلة والمهيمنة لاى المتطمين هي البصري والانطوائي واللعالمي والاستعاري. علاوة على ذلك تم الكشف عن أن غالبية المتعمين ليس لايهم معرفة كافية بالمفردات في جميع المستويات. تم اقتراح بعض الاقتراحات والتوصيات لمزيد من البحث في المستقبل.
(الكمات الأساسية: أساليب التعلم، مستوى المفردات، معرفة المفردات. اختبار المفردات، استبيان أسلوب التعلم


[^0]:    *Author's Note: The format of the Learning Styles Survey and a number of the

