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**The Role of Extensive Reading in Raising L2 Students' Awareness about
Developing their Higher-Order Thinking Skills**

The Case Study of Third-Year Students at the Department of English in Mila University
Centre

**A Dissertation Submitted in Partial Fulfillment for the Requirement of the Master Degree in
Didactics of Foreign Languages**

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The best way to improve your knowledge of a foreign language is to go and live among its speakers. The next best way is to read extensively in it.

(Nuttall, 1982, p.168).

Dedication

First and Foremost, my deepest and most sincere thanks go to the Almighty “Allah” my creator, my strong pillar and my source of inspiration, he has been with me throughout completing this research work.

I dedicate this work to:

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I would like to dedicate this research work to the all dearest persons to my heart

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Abstract

It is common in the language classroom that the ability of students to think at higher levels is among the worthiest benefits that learners aim to fulfil from language study. Such a result cannot be left to chance; nevertheless, it should be planned in advance carefully. This present research work aims at investigating the role of extensive reading (ER) in developing L2 (Second Language) students' higher-order thinking skills (HOTSs) and the advantages that they may achieve through this kind of reading, especially when it is coupled with the purpose of improving their thinking skill. Extensive reading as an approach to language teaching and learning is given a little consideration, and it is mostly neglected at the level of the Algerian universities. The absence of a reading module in the LMD (License, Master, and Doctorate) system has lessened the opportunity for students to read and develop their thinking abilities. Therefore, it is hypothesized in this study that students who read extensively would develop their higher-order thinking skills. In order to investigate the previous hypothesis, quantitative and qualitative methods are used based on administering a questionnaire to third year LMD students of English in addition to an interview that is conducted with a population of English language teachers, at the department of English, in Mila University Centre (Algeria) in order to assess to what extent students are aware of the role that ER plays in developing their HOTSs, and finding out to what extent teachers support their students to read extensively in order to achieve higher levels of thinking. In the light of the result obtained, our research findings suggest that the status of ER should be reconsidered in EFL (English as a Foreign Language) classes owing to its significant role in the enhancements of students' HOTSs along with some recommendations for both students and teachers.

List of Abbreviations

EFL: English as a Foreign Language.

ERP: Extensive Reading Programme.

ER: Extensive Reading.

ESL: English as a Second Language.

FL: Foreign Language.

FVR: Free Voluntary Reading.

HOTSs: Higher-Order Thinking Skills.

L1: First Language.

L2: Second Language.

LMD: License, Master, Doctorate.

LOTS: Lower-Order Thinking Skills.

PR: Pleasure Reading.

SL: Second Language.

SR: Supplementary Reading.

SSR: Sustained Silent Reading.

TL: Target Language.

USSR: Uninterrupted Sustained Silent Reading.

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General Introduction

Nowadays, structured thinking has become one of the most important skills that learners seek to develop in order to achieve academic success. Hence, engaging EFL students in the process of extensive reading as a pleasurable activity that enhances their higher-order thinking skills is one of the aims that teachers look for in their classes. In fact, higher-order thinking skills are one of the most interesting skills by which learners can demonstrate that they are active agents in the process of learning and knowledge construction, rather than passive recipients of knowledge. Unfortunately, students at different levels mainly at higher education lack what is called independent reading, in the sense that, they do not read either inside or outside the classroom and they ignore the benefits that they might gain from reading extensively and its great role in developing their highest levels of thinking. Another problem lies in the methodology that teachers use when teaching reading; they still follow the traditional approaches of teaching which favour the acquisition of knowledge over its application. This method lacks effectiveness and appropriateness; in other words, it does not provide adequate opportunities for learners to develop not only their HOTSs but also some other important skills. The final outcome of this ineffective teaching methodology is that many students are not competent thinkers, because they encounter many learning difficulties and score bad in exams. Thus, an appropriate module that is concerned only with reading would help students improve their HOTSs and their overall learning. Extensive reading with its aesthetic characteristics would provide learners with various ideas, different reading strategies, and critical thinking abilities, even various writing styles that help them ameliorate their thinking. As a matter of fact, this dissertation sheds light on the role of extensive reading in the development of L2 students' higher order thinking skills since it is considered as the food of the mind, and higher-order thinking skills are the key to any door of knowledge; therefore, both of them complete each other in improving students' learning.

1. Statement of the Problem

In the Algerian EFL classes, thinking is one of the skills that require a special attention due to its difficulty to be developed. It has a significant role in enhancing students' academic success because it is the pathway that leads them to a better learning. Despite the students' efforts to improve their thinking abilities to reach its highest levels, they still have problems. Algerian students of English as a Foreign Language at Mila University Centre face difficulties in developing their higher-order thinking skills. In informal conversations with teachers of English at the Department of English, in Mila University Centre, it has been noticed that the absence of a reading module has lessened the opportunity for learners to enhance this skill; thereupon, the requirement arises to investigate this problem that EFL students encounter.

In an attempt to overcome this problem, most of teachers see that students' lower levels of thinking are due to some factors particularly the lack of reading in the foreign language. As a result, they motivate their students to read extensively in order to improve their thinking and reach its highest levels.

2. Aims of the Study

This study aims at:

- Highlighting the impact of extensive reading on students' higher-order thinking skills.
- Calling students' attention towards the importance of extensive reading in the development of their higher levels of thinking.

3. Research Questions

The study aims to answer the following questions:

- Do students recognize the role of extensive reading in developing their higher levels of thinking?

- Do teachers motivate their students to read extensively in order to improve their thinking ability?

4. Research Hypothesis

- It is hypothesized in this study that students who read extensively would develop their higher-order thinking skills.

5. Research Methodology

5.1. Methods of Investigation

In order to reach the research desirable aims, quantitative and qualitative methods which are less time consuming are relied on to validate the above-mentioned hypothesis.

5.2. Research Tools

For the sake of gathering the needed data, the research has depended on:

- **A semi-structured questionnaire**

The questionnaire is a data collection tool that requires from the respondents to answer proposed questions that are related to the research problem.

- **A structured interview**

The interview is a conversation between a researcher and a respondent in which the interviewer seeks answers from the interviewee for a particular aim.

This study has been conducted through handing a questionnaire to third year EFL students at Mila University Centre in order to investigate to what extent they are aware of the significance of extensive reading in ameliorating their higher-order thinking skills.

The teachers' interview has been conducted with teachers of English at the same university in order to assess to what extent they are supporting their learners to read extensively for the sake of improving their highest levels of thinking.

5.3. Population

The population that has been involved in this work is third year EFL students and teachers of English at Mila University Centre during the academic year 2018\2019.

Structure of the Dissertation

This dissertation consists of three chapters, two are theoretical and one is practical. The two theoretical chapters present the related literature of this study and the practical chapter describes the field work.

Chapter one sheds light on extensive reading as an effective approach to reading. It first defines reading in general, and then defines intensive reading being the standard form of reading that is adopted in the Algerian universities. It further introduces extensive reading as an approach to teaching reading in EFL classes. It includes the models of reading, reading strategies, in addition to some theories about extensive reading. Besides, it accounts for an extensive reading programme as a solution to EFL readings along with its main principles. The chapter ends up with the benefits that students might gain from reading extensively.

Chapter two presents a shortened overview about what higher-order thinking is, including a general background about HOTSs, and the dimensions of the cognitive domain of Bloom's taxonomy. It defines Lower-order thinking skills being the kind of skills that most of learners are involved in, and defines higher-order thinking skills being the skills that students need to develop. Furthermore, the chapter illustrates the differences between the original version of Bloom's taxonomy and the revised one, and suggests five ways to develop HOTSs. In addition, it deals with types of thinking and some theories that are related to HOTSs, as well as its importance for students. The relationship between extensive reading and higher-order thinking skills and the contribution that ER provides to the development of HOTSs are the concluding points to this chapter.

Chapter three deals with a detailed description, analysis and discussion of the data gathered. It focuses on analyzing and interpreting students' questionnaire and teachers' interview, and gives some suggestions and recommendations for both of them.

Chapter One

The Extensive Reading Approach

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Introduction

Language is divided into four macro skills; namely, speaking and listening, writing and reading. The latter, is considered as a vital ability in either a first language (L1) or in a second\ foreign language (SL\FL) that learners have to master. Reading is said to be a pleasurable activity that deepens students' thinking skills and broadens their vision towards knowledge. This chapter sheds light on the main perspectives of reading as well as the importance of extensive reading in SL\ FL reading instruction. From the start, a brief definition of reading is presented with a relation to discoveries that are made by pioneers in the field, identifying its distinct types; extensive reading and intensive reading, trying to describe both types and the ways through which they are utilized. Extensive reading represents the main concern of this research, in which a major interest is put on its theoretical aspects. Therefore, a definition of extensive reading is provided along with a definition of intensive reading being the type of reading that invades most of EFL reading classrooms. In addition, the reading models are identified according to some experts in the field. Stepwise, both scanning and skimming are introduced being the most popular reading strategies that are used by students. Furthermore, the input hypothesis and the schema theory are two main theories that are related to extensive reading and strongly reinforce it in order to be valued.

The chapter further accounts for an extensive reading programme being the key to any successful paradigm; it also emphasizes its importance to be implemented in the SL\ FL curriculum to promote a good reading habit among students. This chapter highlights the main principles that are considered as the basic criterion of an effective extensive reading programme. This theoretical chapter includes the benefits of extensive reading approach which work as an incentive reason behind integrating it in EFL instructions and these are the concluding points to the first chapter.

1. Defining Reading

Reading is considered as the most important skill in EFL classes that learners must acquire; it is an active cognitive process in which the reader interacts directly with the written words and the content of its use. Reading is an individual and flexible process that requires a careful attention and a deep thinking, because it helps students to get a new knowledge and develops their foreign language proficiency.

In fact, giving a straightforward definition to reading is not an easy task; therefore, reading specialists have come a long way to provide a clear definition to the term reading. Day and Bamford define reading as: “the construction of meaning from a printed or written message” (1998, p.12). This means that meaning construction is processed through the involvement of reader’s background knowledge with the written message. In the same line, Grabe and stoller (2002) state that reading is the ability to decode meaning from the printed text and interpret this information adequately. The writer’s text holds information that he wants to transmit to the reader; the latter is actively involved in this process to attain the targeted meaning that the text conveys. Moreover, readers seek to get an overall understanding of what is encoded in the text throughout analyzing the written form of a written material in which “reading is the process of receiving and interpreting information encoded in language form via the medium of print” (Urquhart & Weir, 1998, p. 22).

Reading is an essential activity that should be included in any EFL class where students are exposed to a large amount of the TL (Target Language). Researchers in the field of foreign language teaching and learning try to explain the ways through which a better reading process is achieved, and attempt to distinguish different ways of reading that help students to get involved in reading different materials in various ways.

2. Types of Reading

Reading is the process by which the reader selects a certain material to read and explore its different aspects. When students read they basically follow different processes because they seek to achieve different aims behind their readings; as a result, they can read either intensively or extensively.

2.1. Intensive Reading

Intensive reading is a classical approach to language teaching and learning, it is widely used in EFL classrooms where teachers guide their students to understand the presented materials. Intensive reading requires a careful concentrated reading with much more focus on every detail in the text with the goal of a complete understanding from the students.

Palmer was the first researcher who distinguishes between the two types of reading; extensive reading and intensive reading, where he denotes that the purpose in intensive reading is to “take a text, study it line by line, referring at every moment to our dictionary and our grammar, comparing, analysing, translating, and retaining every expression that it contains” (Palmer, 1921/1964, as cited in Day & Bamford, 1998, p. 05). Intensive reading aims to “help students obtain detailed meaning from the text” (Renandya, 2007, p.135). In this type of reading, teachers may ask their students to get a look at extracts from magazines, poems, internet websites and the like. Harmer (2007) further insists that intensive reading is commonly escorted with study activities where students are demanded to recognize text types, grammar usage and vocabulary, then use these information to move on to other learning activities.

Intensive reading refers to reading short passages carefully to obtain specific information and it needs a deep focus on the language features of the text. The process of

intensive reading is usually done under some guidance from the part of teachers where they make sure of their students' understanding, Nuttall states that:

Intensive reading involves approaching the text under the guidance of a teacher . . . or a task which forces the student to focus on the text. The aim is to arrive at an understanding, not only of what the text means, but of how the meaning is produced. (1996, p. 38)

It is worth mentioning that intensive reading -as a traditional approach to foreign language reading- provides a good opportunity for learners to be engaged in dealing with various sorts of texts to improve their reading skills, but it still has some drawbacks that cannot be denied. Pan sees that it “reflects teacher authority, which tends to make learners passive followers and take no responsibility for their own learning” (2009, p. 116). That is to say, intensive reading -by definition- is a teacher-centered approach because teachers have the full authority to decide what kind of materials should be given to learners.

Additionally, this approach does not seek primarily to help students become fluent readers and enjoy the reading process, rather it makes them dependent readers to the extent that they wait for the teacher's guidance and rely on understanding meanings of individual words at the expense of the global meaning of the text, Gilner and Morales affirm that:

Intensive approaches simple do not prepare students to use the language purposefully. Students spend too much time and energy trying to understand the individual words (that is, they have not developed a large sight vocabulary) and are unable to move beyond word-level analyses. Word-by-word processing inhibits the ability to see the connections between and across ideas, to understand how the information is organized, to grasp the intention of the author.

(2010, p. 14)

To cut it short, because of the above-listed shortcomings of intensive reading, experts call for the need of a complementary approach that helps readers read fluently, learn effectively and mainly enjoy the reading process. This approach is “extensive reading” which delineates the core interest of this research work.

2.2. Extensive Reading

Many EFL students seek to achieve a better understanding of the FL texts. Extensive reading approach helps them mostly possess the sufficient competence to progress in the FL, simply because it provides them with easy and enjoyable materials that they need to read.

Extensive reading implies that students read their selected materials independently in a bird's eye view under the condition that the materials should be accessible and captivating. Its purpose is to train students to read fluently in the FL and it tends to develop a good reading habit; furthermore, it does not only enhance students' reading fluency but also improves their receptive and productive skills.

Harold Palmer (1917) was the first to bring the light to the term "Extensive Reading". Later on, different labels have been used to refer to that concept, such as: "Supplementary Reading" [SR] (West, 1955), "Book Flood" (Elley, 1981) or "Uninterrupted Sustained Silent Reading" [USSR] (Vaughan, 1982; Krashen, 1985), "Pleasure Reading" [PR] (Mikulecky, 1990), "Sustained Silent Reading" [SSR] (Grabe, 1991), "Reading because you Want to" or "Free Voluntary Reading" [FVR] (Krashen, 2004), "Free Reading" (Mason & Krashen, 1997).

Extensive reading is an approach to reading pedagogy where students are supposed to read different kinds of materials for the sake of getting a general understanding or pleasure. Extensive reading encourages students to be involved in reading a large amount of materials that they select themselves. It may take place inside or outside the classroom. Day and Bamford define extensive reading as:

... An approach to learning to read a second language, extensive reading may be done in and out of the classroom. Outside the classroom, extensive reading is encouraged by allowing students to borrow books to take home and read. In the classroom, it requires a period of time, at least 15 minutes or so, to be set aside for

sustained silent reading, that is, for students-and perhaps the teacher as well- to read individually anything they wish to.

(1998, p. 07)

Altogether, ER entails reading various materials in an enjoyable way outside the classroom. When it is practised in the class, it needs to be a silent and individual task which is done by learners in at least for 15 minutes.

Grellet ensures that extensive reading includes “reading longer texts, usually for one’s own pleasure. This is a fluency activity, mainly involving global understanding” (1981, p. 04). Similar to this view, Richards and Schmidt (2010) state that extensive reading is usually linked with reading large amounts of texts seeking to understand the global meaning of what has been read, it is designed to develop a good reading habit in order to promote students’ overall knowledge of vocabulary and structure.

Harmer further points out that extensive reading “refers to reading which students do often (but not exclusively) away from the classroom. . . .extensive reading should involve reading for pleasure –what Richard Day calls joyful reading” (2007, p. 99). This means that the process of extensive reading is done outside and –rarely- inside the classroom, it requires reading self-selected materials for enjoyment.

Relying on The Extensive Reading Foundation (2011), extensive reading demands reading easy materials that are pleasant for learners; it helps them to improve their literacy as well as their fluency. Extensive reading seeks to aid students enhance their reading skill rather than studying the language itself. It means that students read quickly, in an enjoyable way, and with adequate comprehension their own selected materials in which there is no necessity for checking texts’ meanings, they just make use of their cognitive abilities.

Extensive reading as an approach to teaching \learning reading has been accepted to be implemented in the FL classrooms by many researchers and theorists because it truly demonstrates its impressive role in helping readers in different ways:

Second [or foreign] language students in academic preparation programs must certainly master special skills for reading challenging academic texts. But unless they are also reading with fluency and confidence in the second language, they are unlikely to read broadly and deeply enough to achieve the mass of background knowledge on which speculative thinking depends. An extensive reading approach can make such reading possible for students.

(Day & Bamford, 1998, p. 45)

Extensive reading is the appropriate approach to be used in foreign language education, because it tries to include readers of all levels and competences. In the long run, it “Takes superior materials, clever teachers who love to read themselves, time and effort to develop the reading habit” (Harris & Sipay, 1990, p.655). A successful extensive reading demands teachers who are readers themselves, because they are considered as models for their students, so they have to teach them how the process of reading is done.

3. Models of Reading

Reading is a complex cognitive process that takes place in the brain; thus, there is no straightforward way in which one can look to the procedures that happen in the brain while reading and describe the reading mechanisms by which readers comprehend the text meanings. As a result, some “metaphorical models” have been established by researchers in order to explain the reading process, in which, Goldman, Golden, & Van den Broek (2007) as cited in Grabe note that: “The term model refers specifically to a representation of the psychological processes that comprise a component or set of components involved in human

text comprehension” (2009, p. 83). These models are classified into three main types namely: The bottom-up model, the top-down model and the interactive model.

3.1. The Bottom-Up Models

This approach concentrates on the text as the starting point to understand its meaning, Alderson points out that: “Bottom-up approaches are serial models, where the reader begins with the printed word, recognises graphic stimuli, decodes them to sound, recognises words and decodes meanings”(2000, p. 16). That is to say, the Bottom-up models or the text driven approaches rely primarily on the decoding skills in which they emphasize the printed text and the ability to put it into sounds. Readers decode graphic symbols into sounds in order to construct meanings, they identify the individual parts of the language through recognizing letters, words and sentences until the whole of the text’s meaning is built- up.

In fact, this approach comes under attack and has been criticized for having some weaknesses. On the one hand, the bottom-up models give a little emphasis to the reader’s background knowledge which is neglected in the reading process when constructing meaning. In Grabe’s words: “This mechanical processing translates information in the text piece-by-piece with little interference from the reader’s background knowledge” (2009, p. 89). On the other hand, this model considers readers as passive decoders who just identify the printed symbols to their phonemic units, Alderson ensures that: “In this traditional view, readers are passive decoders of sequential graphic-phonemic-syntactic-semantic systems, in that order” (2000, p. 17). The approach also neglects the ability of the reader to make assumptions and predictions, and this might prevent him\her from acquiring new knowledge. Simply, this model moves from the simple to the complex which makes the reading rate very slow.

The failure of the bottom-up model leads researchers and educators to look for an alternative approach that is more effective and can overwhelm its shortcomings, this paves the way for another system of reading to take place.

3.2. The Top-Down Models

Unlike the bottom-up models, the top-down models focus on the readers' prior knowledge, their expectations and predictions are highly emphasized to approach the reading comprehension. In that context, Tracey and Morrow illustrate that top-down models "are built on the assumption that the reading process is primarily driven by what is in the reader's head rather than by what is on the printed page" (2017, p.204). Readers can overcome some of the difficulties in the text due to their knowledge and experience; they depend on their intelligence to get the overall meaning. Along with this, Nuttall specifies that: "A reader adopts an eagle's eye view of the text when he considers it as a whole and relates it to his own knowledge and experience. This enables him to predict the writer's purpose" (1996, p. 17). In short, readers move their eyes over the text and rely on their own expectations to find out the needed information.

Top-down models are also described as 'concept driven' which require the use of higher level processing; in other words, readers –while the process of reading- use their concepts which already exist in their minds. In addition, reading is a process of reasoning that demands the activation of the reader's mental schemes, these schemes are said to be "networks of information stored in the brain which act as filters for incoming information" (Alderson, 2000, p.17). Top-down approach highly emphasizes the salient relevance of these schemata, and the importance of the reader's active contribution to reach the text full comprehension so that the reader is considered as an active encoder of the reading process who makes use of his\her mental abilities. In simple terms, the construction of meaning is

achieved through the involvement of all the reader's cognitive processes along with his\her mental schemes.

Thereupon, the top-down models have some deficiencies that bring them to be weak and useless. The models put the reader's prior knowledge on the top as its main focus; therefore, some readers probably have little or insufficient knowledge about the topic, they may also spend much more time on guessing and generating predictions; hence, the readers' predictions and speculations may not help them in the process of reading and "it is not clear that the reader could learn from a text if she\ he must first have expectations about all the information in the text" (Grabe, 2009, p. 89).

On the whole, both of the bottom-up and top-down models have succeeded to tackle only one part that the other has failed to cover; otherwise, they did not satisfy the needs of the reading process. To this end, researchers emphasize the necessity to integrate the two previous models together to create a more sophisticated model, and this leads to the emergence of a new approach that is called "the Interactive model".

3.3. The Interactive Model

The interactive model is an alternative approach that combines both of the bottom-up and the top-down models, because the two approaches complete each other and can work together. Nuttall emphasizes on the relationship between the bottom-up and the top-down models and explains that "They are both used whenever we read; sometimes one predominates, sometimes the other, but both are needed" (1996, p. 16).

The interactive model was first introduced by Rumelhart (1977) who presented his model as an attempt to highlight how readers rely on various sources to get different information while reading to achieve comprehension. This approach focuses on the adhesion

of the bottom-up and the top-down models; that is, the reader starts with decoding and recognizing graphics symbols, then using background knowledge to build-up comprehension. In that context, Hudson suggests that “Reading is seen as bidirectional in nature, involving the application of higher order mental processes and background knowledge as well as features of the text itself” (2007, p. 34).

Altogether, the models of reading are highly important since they serve in one way or another to help readers accomplish reading comprehension. But, the interactive model remains the most used one because it integrates the practice of both the bottom-up and the top-down models interchangeably in order to make the reading process an easy task .

4. Reading Strategies

Reading strategies are specific techniques that help readers to comprehend information quickly and efficiently. L2 students use these techniques in order to look for a particular information (they scan), or in order to get the gist of a text (they skim). Thus, scanning and skimming are two main strategies that L2 learners use for the sake of achieving success in SL\ FL readings.

4.1. Scanning

Students need to acquire the ability to read more quickly and effectively in order to extract specific information, so they tend to use “scanning” through which they sweep their eyes over a text to locate a given information they are looking for in a large material. Grellet defines scan-reading as: “quickly going through a text to find particular piece of information” (1981, p. 04). Generally, readers recognize what they are searching for; consequently, they focus thoroughly on getting into the idea that fits their needs. In light of this, Nuttall (1996) stresses that scanning is a rapid glance through the text whether to look for particular

information or to ensure about the appropriateness of text for a given purpose. For example, when a student scans, he “may read through a chapter of a book as rapidly as possible in order to find out information about a particular date, such as when someone was born” (Richards & Schmidt, 2010, p.508).

4.2. Skimming

Skimming is another way of reading that students use for the sake of getting a general understanding. On her part, Nuttall (1996) defines skimming as a rapid glance through the text to figure out its gist. In other words, readers only cast their eyes over the text to get the mostly needed information. Furthermore, Grellet explains skimming as “a more thorough activity which requires an overall view of the text and implies a definite reading competence” (1981, p. 19). Students should be skilful enough to use this technique in order to reach the global understanding without reading the unnecessary ideas. In the same regard, Richards and Schmidt confirm that : “Skimming involves the use of strategies for guessing where important information might be in a text and then using basic reading comprehension skills on those parts of the text until a general idea of its meaning is reached” (2010, p. 532). This skill requires implying some of the techniques like prediction in order to locate where the needed information is situated.

Harmer emphasizes that “ whether readers scan or skim depends on what kind of text they are reading and what they want or need to go out of it” (2007, p. 101). So, despite the existing difference between scan-reading and skim-reading, it is required that students make use of these two techniques together while reading, since both strategies seem to be effective and useful.

5. Theories about Extensive Reading

Studies on extensive reading have been and still the main concern of many researchers who have supported this approach, and carried out their researches to set up well-formed theoretical frameworks to explain its nature and the ways through which it functions. In line with this, Lee declares that:

The consensus among researchers in this area [extensive reading] is that we acquire language by understanding messages, by being exposed to large quantity of print that is comprehensible and compelling, by joining a literacy club in which all the members are learning on a 'social and collaborative basis' with no risk of being evaluated and excluded. (2007, p. 152)

Indeed, two main theories have been established in order to best explain the process of extensive reading; namely the “**Input Hypothesis**” and the “**Schema Theory**”.

5.1. The Input Hypothesis

This hypothesis was first introduced by Stephen Krashen (1985). He later labels it as “The Comprehension Hypothesis” (2004) in which he acknowledges that learners should be provided with enough comprehensible input in order to better acquire the language. The input hypothesis has been defined by Richards and Schmidt as :“the idea that exposure to comprehensible input which contains structures that are slightly in advance of a learner’s current level of competencies the necessary and sufficient cause of second language acquisition” (2010, p.286). On her part, Hedge clarifies that Krashen’s input hypothesis “posits that language is picked up, or acquired, when learners receive input from ‘messages’ which contain language a little above their existing understanding and from which they can infer meaning”(2000, p. 10). Then, the more the input is comprehensible and a little above the learners’ levels, the best it is acquired and absorbed.

Extensive reading provides EFL learners with huge amounts of input that are comprehensible and necessary to process on the language and acquire a higher level of literacy. In line with this, Pan indicates that:

L2 learners can understand the input language, which contains “i+1”. “i” refers to learners’ current level of competence, and “1” refers to a bit beyond the current level. Input Hypothesis maintains that being exposed to the language environment, learners can subconsciously acquire the language from the input they comprehend. Therefore encouraging various structures in extensive reading is beneficial for learners to transfer the input into intake, thus structural awareness can be developed distinctly.

(2009, p. 115)

The likelihood of learners’ understanding depends mainly on the presented input; in other words, when learners are exposed to a comprehensible input that contains the formula “i+1” in which “i” is the learners’ current level of competence, and “1” is the new information. It is through the exposure to the environment that learners can acquire the language subconsciously from the provided input. Krashen’s hypothesis supports the idea of approaching extensive reading because it helps learners process on the input and turn it to an intake.

To this end, extensive reading is the adequate approach to EFL learners, because it offers them a high quality of input that fosters them to acquire strong language awareness and have a positive attitude to learning through sub-conscious exposure to language. Along with the input hypothesis, another theory has been cited in order to strongly support the progressive approach to reading namely the Schema Theory.

5.2. The Schema Theory

Learners are exposed to different experiences throughout their lives; these experiences are stored and organized in the brain in terms of knowledge. This knowledge does not go with winds because learners actually use it while reading in order to interpret texts and achieve comprehension. A theory that has a great impact on how this knowledge is used is the

schema theory. Many theorists have attempted to explain its nature, but the main concern here is to recognize the ways it is used to guide the potential interpretation of texts.

The schema, the schemas, the schemata or the schemes are different metaphorical labels that refer to the reader's prior knowledge. Nuttall refers to the term 'schema' as: "a mental structure" (1996, p. 07). This abstract organized system helps readers make assumptions about the text using their existing experiences to reach the full understanding. In fact, the schema theory is thoroughly related to learners' background knowledge that contributes in building up comprehension, Grabe reinforces this idea confirming that: "background knowledge is just another way to describe the information stored in our memory systems, and reading comprehension is basically a combination of text input, appropriate cognitive processes, and the information that we already know" (2009, p. 73-74). In this way, the schema theory is a link between the reader's prior knowledge and the text events.

There is a great deal of evidence that in the process of reading, readers bring some knowledge to the text that is highly important to accomplish comprehension. Alderson (2000) believes that the acquisition of knowledge and the interpretation of text rely totally on the activation of schemata; that is, readers activate their existing schemes which have to be relevant to the given context in order to make a successful reading. Similarly, Hudson adds that "Familiarity with the topic of a text is essential for readers in either first or second language to understand" (2007, p. 161). Readers have to activate appropriate schemata so that assumptions and speculations about the meanings of the text can be raised. Furthermore, Grabe asserts that "When a word or passage activates a concept, this activation also triggers schemas . . . to assist in interpreting the concept or situation and to generate inferences in support of comprehension" (2009, p. 77). That is to say, readers use their inferences that they bring from their past experiences or what is called prior knowledge and activate them to contribute in getting the targeted meaning.

Hudson (2007) in his research on reading distinguishes two different types of schema or prior knowledge: The first type is content schema, the second type is formal schema. The content schema has to do with the reader's cultural background in interpreting the text meaning; whereas, the formal schema has to do with reader's knowledge about syntax, rhetorical structures and cohesive relations of distinct text types.

The schema theory has a main influence on EFL readings since readers tend to use their mental schemes whenever they read to make sense of texts they are dealing with. However, FL readers cannot reach the appropriate meaning unless they activate the adequate schemata. To illustrate more, "The reading problems of the L2 reader are not due to the absence of attempts at fitting and providing specific schemata. . . Rather, the problem lies in projecting appropriate schemata" (Hudson, 1982 cited in Carrell & Eisterhold, 1983, p. 562). That is to say, if L2 learners fail accessing to the suitable schemata during reading, they will automatically fail to comprehend what they read. This theory has contributed in the development of extensive reading owing to its aid to learners in linking their previous knowledge to recognize the new one in order to achieve a successful comprehension; in few terms, "Schema theory provides one way of understanding how this organization of knowledge might be achieved" (Day & Bamford, 1998, p. 15).

6. Extensive Reading Programme

Extensive reading programmes are different from intensive reading programmes, because students read a large amount of simple graded texts, and enjoy reading without demonstrating comprehension to the extent of details as they do in intensive reading programmes. In this context, Davis who has been involved in developing ERPs in both Singapore and Cameron states that:

An extensive reading programme is a supplementary class library scheme, attached to an English course, in which pupils are given the time, encouragement, and materials to read pleurably, at their

own level, as many books as they can, without the pressure of testing or marks . . . and it is up to the teacher to provide the motivation and monitoring to ensure that the maximum number of books is being read in the time available. (1995, p. 329)

In extensive reading programme, the most important aspect is to give students an overview about the goals that are intended to be accomplished by the end. ERPs have managed to “develop good reading habits, to build up knowledge of vocabulary and structure, and to encourage a liking for reading” (Richards & Schmidt, 2010, p. 212). In brief, the possible extensive reading programmes, according to Day and Bamford (1998, pp.45-46), can enable students to:

- Have a positive attitude toward reading in the second language.
- Have confidence in their reading.
- Have motivation to read in the second language.
- Read without constantly stopping to look up unknown or difficult words in the dictionary.
- Have increased their word recognition ability.
- Know for what purpose they are reading when they read.
- Read at an appropriate rate for their purpose in reading.
- Know how to choose appropriate reading materials for their interests and language ability.

The success of these goals relies on the students’ involvement and the time allocation in the extensive reading programme. ERP’s procedures and purposes should be demonstrated to students at the very beginning to students, help them to overcome their fear and read long texts pleurably, and that what is called “Laying the groundwork” (Dupuy et. al, 1996, p. 10) for extensive reading. Day and Bamford (1998, p. 124) set forward a basic layout of

orientation to extensive reading programme for students that contains the following components:

- Principles and Theory
 - We learn to read by reading
 - Research results
- Goals
 - To develop a large sight vocabulary
 - To increase general vocabulary knowledge
 - To enjoy reading
- Procedure
 - Reading large quantities of self-selected, easy texts
 - Reading fluently without a dictionary
 - Class activities (e.g., sustained silent reading, oral book reports)
- Requirements
 - Specific amount to be read
 - Records and reports to be written
- Materials
 - The system of levels (grades)
 - Availability and check-out procedures

In general, any language programme that does not implement an extensive reading approach is thought to be weak and inadequate, as Davis notes:

Any ESL, EFL or L1 classroom will be the poorer for the lack of an extensive reading programme of some kind, and will be unable to promote its pupils' language development in all aspects as effectively as if such a programme were present. (1995, p. 355)

To cut it short, the worthy outcomes of an extensive reading programme cannot be attained unless its principles are completely followed and attentively applied.

7. Principles of Extensive Reading

The success of any EFL reading programme is guaranteed only when extensive reading principles are present because they are its main basis. Williams (1986) has proposed ten principles for teaching foreign language reading, these principles have been revised and expanded by Bamford and Day (2004) as follows:

- The easiness of the reading material

The likelihood of the students' success in reading extensively depends on the easiness of the materials they are exposed to. Learners should read materials that are readable and within their comfort zone. Reading seems to be an easy task when the selected materials are adapted and graded to students' levels, and it seems to be a difficult task when the materials are beyond students' levels.

- The variety of materials on a wide range of topics is available

When students read different materials that deal with a wide range of topics, they are encouraged to follow a flexible approach. This flexible approach can be just achieved when providing students with varied materials so that they read for different purposes like knowledge and pleasure.

- Learners choose what they want to read

Self-selection is considered as the basis of extensive reading approach since it gives students the opportunity to read materials that are expected to be understandable and

enjoyable. The freedom of choice provides readers with the ability to stop reading whenever they feel that the material is no longer interesting and comprehensible.

- Learners read as much as possible

The benefit of language learning is highly related to extensive reading, learners should be pushed by their teachers to read more not only in the classroom but also outside the zone of school, this incentive may encourage students to read huge number of materials that improves their tendency to read extensively.

- Reading speed is usually faster than slower

Reading easy materials brings students to a full understanding which encourages them to achieve fluency. Students' concentration can be broken due to the constant use of dictionaries, because they look up for words meanings as soon as they face unfamiliar items that hinder the speed of reading and lead them to read slowly. Therefore, students should rely on other techniques of fluent reading such as guessing the meaning from the context or just ignore the unknown items that they encounter; besides, students should be aware that they are practicing reading, not learning vocabulary.

- The purpose of reading is usually related to pleasure, information and general understanding

Extensive reading stands in opposition to intensive reading and academic reading, they require a full comprehension of the material's content; therefore, extensive reading requires only a general understanding to accomplish the reading purposes like knowledge and entertainment.

- Silent reading materials

Students should be provided with silent reading periods and read self-selected materials at their own pace during their classes. Extensive reading is usually done outside the classroom as homework in the students' own time, when and where they choose.

➤ Reading is its own reward

The aim of extensive reading is to provide students with a better experience in reading and students are not exposed to any follow-up activities in which they demonstrate their understanding. However, teachers may design some follow-up activities to reflect upon students' experience of reading in order to encourage them to read further.

➤ The teacher orients and guides the students

Teachers play a role of a guide in their classrooms, that is to say, teachers have to call their students' attention towards the extensive reading programme, through presenting it, explaining its methodology and its goals to them. Orientation is the starting point to ensure students' active involvement in the programme since teachers guide students to select the appropriate materials that are enjoyable for them so that they share their reading experience.

➤ The teacher is the role model of a reader

The teacher is an active participant in the classroom; his/her salient role is to demonstrate what is meant to be a reader. The teacher should be a reader himself/herself as "reading is caught, not taught" (Nuttall, 1996, p.229). So it is important that teachers show that they value reading since students follow the example of the teacher whom they love.

All in all, the effectiveness of the above listed principles can be reached if they are highly respected and implemented in every extensive reading programme.

8. The Benefits of Extensive Reading

Extensive reading as an instructional approach in FL reading draws the attention of many researchers due to its undeniable impact on L2 students. It plays an important role in keeping learners in touch with the FL outside the zone of school. Extensive reading benefits has been discussed and proved by many researchers during the last few decades.

Grabe as a second language reading expert discusses the benefits of extensive reading and asserts that: “Longer concentrated periods of silent reading build vocabulary and structural awareness, develop automaticity, enhance background knowledge, improve comprehension skills, and promote confidence and motivation” (1991, p. 396). Extensive reading helps students enhance their linguistic abilities, improve their fluency and proficiency, increase their self-esteem since “Independent reading contributes to vocabulary growth. Readers with a rich vocabulary understand content and appreciate the language used in well-written texts” (Cullinan, 2000, p. 07).

Extensive reading aids readers acquire more knowledge, broaden their vision and increase their cultural awareness as Krashen ensures: “those who read more also do better on various measures of cultural knowledge” (2004, p. 35). Similarly, Gilner and Morales add that: “This aspect of reading is cumulative in nature and it follows that the more one reads, the broader one’s knowledge and experiences are likely to be” (2010, p, 12-13). Thus, extensive reading provides readers with better reading experiences and knowledge of the foreign language and the world. Additionally, when students are exposed to large quantities of the L2 materials, they develop their reading skill because reading itself improves reading competencies, and “Getting students to read extensively is the easiest and most effective way of improving their reading skills” (Nuttall, 1996, p. 127).

Krashen introduces a list that illustrates the roles of extensive reading in language learning process; these roles can only be attained when readers are exposed to the L2 through extensive reading. It provides readers with practice on language structures, gain vocabulary, promote their writing skills, makes them motivated and confident to read long texts, improve their ability to decode and interpret meanings of vague expressions. Krashen's extensive reading roles (1983, as cited in Bell, 1998) are the following:

- It can provide 'comprehensible input'
- It can enhance learners' general language competence
- It increases the students' exposure to the language
- It can increase knowledge of vocabulary
- It can lead to improvement in writing
- It can motivate learners to read
- It can consolidate previously learned language
- It helps to build confidence with extended texts
- It encourages the exploitation of textual redundancy
- It facilitates the development of prediction skills

The main reason behind extensive reading effectiveness is the fact that it is a student-centred approach; in the sense that, students are the ones "who select what to learn, who decide the sequence of learning according to their individual interest and ability" (Pan, 2009, p.118). Besides, extensive reading gives priority to students and pedagogically emphasizes the student's own learning rather than teacher's own teaching (Bibby, 2017).

The benefits of extensive reading are highly reflected by the effectiveness of the extensive reading programme that is implemented in ESL\EFL classes.

Conclusion

In this chapter, the purpose is to provide a theoretical background about extensive reading, discussing its theories in SL\ FL teaching and learning. It presents the nature of extensive reading approach and how it differs from intensive reading, and reports how extensive reading can be implemented in the EFL curriculum. The chapter attempts to explore the different principles of an effective extensive reading programme, and the crucial role of extensive reading that covers a vast area in SL\ FL reading. It discusses the ways through which general language skills are developed in an enjoyable way, and how students keep contact with English as a SL\ FL outside the classroom. Therefore, the chapter tries to give a detailed theoretical framework about extensive reading that will help to set the different theoretical aspects of higher-order thinking skills in the second chapter.

Chapter Two

A shortened Overview of Higher- Order Thinking Skills

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Introduction

For decades, the bulk of educational studies in the field of FL teaching and learning have been focused on promoting students' higher-order thinking skills; hence, many researchers tend to tackle this topic painstakingly taking into consideration the necessity of its adoption in FL classes. Most teachers in the long run seek to develop this fancy skill in their students pointing out its vital role in enhancing the quality of learning.

This chapter highlights the main perspectives of higher-order thinking skills, starting with a background to Bloom's Taxonomy along with its three different domains, the cognitive, the affective and the psychomotor domain. A focus is given to the cognitive domain for being the most influential and extremely emphasized in education, brief definitions are presented to its two types; lower-order thinking skills (LOTSs) being the skills that are highly favoured in traditional classrooms which support rote learning and memorization, and higher-order thinking skills (HOTSs) being the types of thinking that most educators want to develop in their learners in order to help them overcome their learning difficulties, and enhance their academic achievements. Therefore, a great focus is given to HOTSs which represent the top three categories in Bloom's Taxonomy (Analysis, Synthesis, and Evaluation) and it portrays the main concern of this chapter. Higher-order thinking is basically introduced in terms of Bloom's Taxonomy; hereafter, a revised version is included to shed light the main differences between the two versions apropos of terminology, structure and emphasis. Besides, suggested steps are further introduced to develop HOTSs and the five types of thinking are noted. The chapter comprises three major theories that are mainly related to learning and higher-order thinking namely: Piaget's Theory, Bloom's Theory and Vygotsky's Theory and stresses the importance of higher-order thinking skills which is the concluding element in this second chapter.

1. Background to Bloom's Taxonomy

Bloom's Taxonomy is a basic model of thinking skills that is mostly used in education. Many educators and researchers have adopted this taxonomy in their studies in order to explain the process of thinking and learning. Benjamin Bloom and his colleagues have successively introduced three domains of educational objectives: The cognitive domain, the affective domain and the psychomotor domain. Pickard states that:

Bloom's Taxonomy contains three overlapping domains: the cognitive, psychomotor, and affective, also known as knowledge, skills, and attitudes (KSA). The taxonomy was a means to express qualitatively the different kinds of intellectual skills and abilities. The cognitive and affective domains provided a way to organize thinking skills . . . from the most basic to levels that are more complex. (2007, p. 46)

The cognitive domain is presented by Benjamin Bloom (1956) and represents the core element of Bloom's Taxonomy. It is a knowledge based domain that "includes those objectives which deal with the recall recognition of knowledge and the development of intellectual abilities and skills" (Bloom, et. al., 1956, p. 07). The domain integrates a hierarchy of six categories that are classified from the lower basic levels to the higher levels. Krathwohl state that: "The categories were knowledge, comprehension, application, analysis, synthesis, and evaluation" (2002, p. 212).

The affective domain is attributed to David Karthwohl (1964) and it is an attitudinal based domain that contains five hierarchal levels: Receiving, responding, valuing, organization and characterization (Isaacs, 1996). This domain "includes objectives which describe changes in interest, attitudes, and values the development of appreciations and adequate adjustment" (Bloom, et. al., 1956, p. 07). The affective domain is concerned with the manners in which students deal emotionally with different things using their attitudes, feelings and values.

The psychomotor domain is skills-based domain that consists of six levels: Reflex, fundamental movements, perceptual abilities, physical abilities, skilled movements and non-discursive communication (Isaacs, 1996). The domain is based on the work of the researcher Anita Harrow (1970's) that deals with the kinesthetic functions and the reflexive actions of students and the use of their motor skills.

On the whole, the three domains serve as a tool to help teachers set the different learning outcomes for their students but the cognitive domain remains the dominant one in the field of teaching and learning.

2. Dimensions of the Cognitive Domain

Thinking is a mental faculty by which humans understand the world around them, it is the defining feature which distinguishes humans from other living creatures. Thinking is said to be a complex process which is a fundamental aspect in the fields of teaching and learning. Therefore, teachers try to develop their students' levels of thinking using Bloom's cognitive taxonomy that clearly illustrates the ways through which thinking processes are executed. All students have the ability to think and use their thinking appropriately when learning, but they need a push to learn how to process on this skill to reach its highest levels.

As it is mentioned before, the taxonomy constitutes of six hierarchical categories that are "ordered from simple to complex and from concrete to abstract" (Krathwohl, 2002, p. 212). The taxonomy is based on a classification that moves from the lower levels which are simple and concrete to learners, to the higher levels that are complex and abstract to learners. As a result, educators have divided the taxonomy into two major stages; the first stage is referred to as Lower-Order Thinking Skills (LOTSs) and the second stage is referred to as Higher-Order Thinking Skills (HOTSs). In line with this, Tikhonova and Kudinova state that

“The first three categories from the list are traditionally associated with LOTSSs, whereas the last three are considered to be HOTSs. Thus, it makes sophistication grow from the basic skills to the highest levels” (2015, p. 03).

After all, the order of thinking capacity is truly understood through two main processes, the lower order thinking and the higher order thinking processes.

2.1. Lower-Order Thinking Skills

Lower-order thinking skills represent the three lower levels of the cognitive domain in Bloom’s Taxonomy. They are mainly concerned with that type of thinking skills which do not need a high level of thinking in order to be processed. Mainali contends that: “In Bloom’s Taxonomy, knowledge, comprehension, and application . . . are lower order thinking” (2012, p. 02).

Knowledge is considered as the first lower level of learning outcomes in the cognitive domain of Bloom’s Taxonomy. It is defined as: “those behaviours and test situations which emphasize the remembering, either by recognition or recall, of ideas, material or phenomena” (Bloom, et. al., 1956, p. 62). It explains the ways in which students are able to recognize facts and basic concepts without necessarily understanding their meanings depending on their prior knowledge.

Comprehension is the second level of lower-order thinking skills, where students have the ability to grasp the meanings of the materials to show their understanding when being assessed. Brookhart confirms that comprehension “involves basic understanding. The classical assessment to see whether students comprehend a concept or a story is to ask them to restate it in their own words” (2010, p. 40). That is to say, comprehension means that learners can restate a problem in their own words to prove their understanding.

Application is the last lower level of Bloom's Taxonomy that involves "The application of knowledge to a new situation" (Cullinane, 2009, p. 02). Students apply previously learned materials in concrete situations to solve problems that can be either familiar or new to them. Application problems support the homogeneity of answers in the sense that they "usually have one correct answer" (Brookhart, 2010, p. 40).

Students who use the lower-order thinking skills rely totally on their background knowledge in order to progress and make sense of their learning process. Onosko affirms that: "Lower-order thinking occurs when the person already knows how to proceed; that is, the task or problem requires only the accessing, inserting, or listing of information or ideas already at hand or easily acquired" (1991, p. 04). Furthermore, students at these levels are involved in rote learning that appears when they memorize and store a piece of information arbitrarily; this knowledge is not integrated in their larger cognitive structure (Ivie, 1998).

In short, lower-order thinking skills are easy to understand, easy to teach, easy to test, and easy to learn (Mainali, 2012). They "are the simple thinking processes that serve as a basis for more complex ones which will never take place without them" (Tikhonova & Kudinova, 2015, p. 02). That is, lower-order thinking skills are mounted by other three skills that are called higher-order thinking skills that play a significant role in developing students' process of learning.

2.2. Higher-Order Thinking Skills

Higher-order thinking is a complex process that requires a great effort to produce valued outcomes. Its study is highly emphasized by different theorists and educators in order to promote the teaching\ learning processes and the field of education in general. In fact, it is not an easy task to give a straightforward definition for the term HOTSs, but many

researchers and cognitive scientists have done their best and carried out their studies to illustrate at least what the term conveys and to explain its theoretical dimensions.

Higher-order thinking represents the upper three levels of Bloom's Taxonomy of the cognitive domain and they are concerned with the higher levels of the thinking process. Mainali insists that: "HOT means handling a situation that we have not encountered before. . . .It is thinking that happens in analysis, synthesis and evaluation levels of Bloom's taxonomy" (2012, p. 06). Thus, higher-order thinking is applied to solve novel problems, it requires a high level of thinking that can only be accomplished when applying the three upper levels of the taxonomy.

Analysis is the first skill of higher-order thinking that "involves breaking down information into its parts and then reasoning with that information. There are often many different acceptable responses to analysis-level tasks" (Brookhart, 2010, p. 40). Students break down the material in order to understand its organizational structure, tasks of analysis support the heterogeneity of answers; they require more than one answer in order to be solved.

Synthesis is the second skill that involves "putting together of elements and parts so as to form a whole" (Bloom, et. al., 1956, p. 40). Students have the ability to bring the parts of the materials together in order to form a new whole of patterns and structures. Synthesis tasks need setting up ideas in a novel or original way.

Evaluation is the highest level that represents the top of the hierarchy in Bloom's taxonomy, it involves "judgments about the value of material and methods for given purposes" (Cullinane, 2009, p.03). Evaluation is concerned mainly with judging the value of materials for a targeted objective, students at this level are able to use their critical thinking to

judge the materials because evaluation includes all the previous levels of the cognitive skills in Bloom's taxonomy.

On their part, King, Goodson and Rohani ensure that "Higher- order thinking involves breaking down complex material into parts, detecting relationships, combining new and familiar information creatively within limits set by the context, and combining and using all previous levels in evaluating or making judgments" (1998, p. 20). In other words, HOTSs entail learners' ability to analyze, synthesize and evaluate the material they are involved in for the sake of exploring its value. Accordingly, Tajudin et al (2017) ensure that HOTSs are the intellectual processes which require students to activate their cognitive abilities to reach the meaning of given information to analyse, acknowledge the relationship between ideas to make judgments and create new ones.

Smith and Lewis state that higher-order thinking "occurs when a person takes new information and information stored in memory and interrelates and/or rearranges and extends this information to achieve a purpose or find possible answers in perplexing situations" (1993, p. 136). That is, students at these levels are engaged in a meaningful learning which is a parcel to HOTSs that occur when learners grasp the interrelationship between old ideas and the new ones. To put it differently, HOTSs bestow students to gain understanding, solve difficult problems and discover new meanings when they manipulate information through this process. Higher-order thinking skills provide learners with the ability to look for new ways and methods to solve problems and make felicitous decisions. Learners apply various forms of knowledge and theories in new situations through activating their HOTSs, Mainali says that:

Students are engaged in HOT when they: visualize a problem by diagramming it, separate relevant from irrelevant information in a word problem, seek reasons and causes, justify solutions, see more than one side of a problem with sources of information based on

their credibility, reveal assumptions in reasoning and identify bias or logical inconsistencies. (2012, p. 06)

Higher-order thinking is mostly related to the term critical thinking since “Some researchers and scholars use the terms ‘critical thinking’ and ‘higher-order thinking’ interchangeably” (King, Goodson & Rohani, 1998, p. 17). As a consequence, the top three categories of Bloom’s Taxonomy (analysis, synthesis and evaluation) are equated with critical thinking process. Students achieve higher levels of thinking when they think critically, reason logically and solve problems on the spot. Both critical thinking and HOTSs go beyond the classical process of learning that depends mainly on facts observation and memorizing, and look for ways to make students creative, evaluative and innovative in their learning. In general, critical thinking is a very complex process that is usually higher-order thinking or cognitive processing (Vaseghi, Gholami & Barjestel, 2012); in the sense that, students are considered as critical thinkers when they are able to apply the skills and the knowledge they have learned to new situations and contexts and show how higher-order thinking is processed.

Krathwohl (2002) asserts that the mastery of each simpler category was a prerequisite to master the next more complex category, students should master the lower skills before they can pledge in higher ones. Cullinane declares that: “Bloom’s Taxonomy is hierarchical; meaning that learning at the higher levels is dependent on having attained prerequisite knowledge and skills at the lower levels” (2009, p. 02). That is, lower-order skills are the bridge that leads learners to reach higher-order thinking skills.

3. The Original Version versus the Revised Version

3.1. The Original Version of Bloom

Different taxonomies have been set forth in order to classify learning objectives into various levels of complexity that ascend from the simplest to the most complex objectives.

Benjamin Bloom (1956) has spearheaded a committee along with his colleagues in order to classify the educational objectives for institutions. Therefore, Bloom's Taxonomy is the mostly used in EFL classes and it is a useful tool for both teachers and students, it helps teachers in their teaching because they use it as a reference to write learning objectives, and it helps students to promote their higher levels of thinking in order to achieve a better learning.

The original taxonomy belongs to Benjamin Bloom who attempts to distinguish between lower-order thinking skills and higher-order thinking skills. He classifies six categories of knowledge in the cognitive domain and introduces a careful definition for each category. The six categories are ordered from the most simple to the more complex hierarchically in a shape of a pyramid and each category is further divided into subcategories except application.

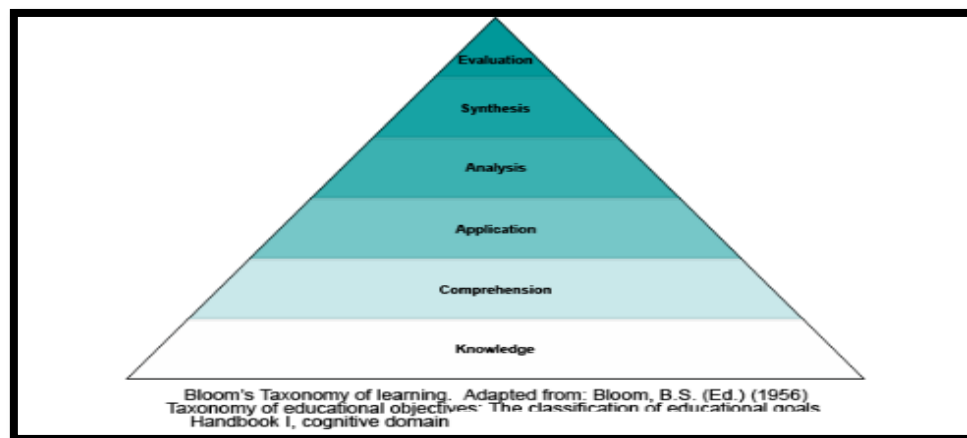


Figure 1: The Cognitive Domain of Bloom's Taxonomy (Cullinane, 2009).

The first level of thinking and the core element in Bloom's Taxonomy is Knowledge that "involves the recall of facts and concepts" (Brookhart, 2010, p. 40). That is, it stresses rote memory skills because students are expected to store in their minds certain information and remember it later. Bloom and his colleagues (1956) divide the Knowledge category into three subcategories and provide a definition for each subcategory: First, they define

Knowledge of Specifics as types of information or knowledge that can be isolated and remembered separately. The recall of these specific information occurs separately and they are important elements that students must recognize in order to solve problems. Knowledge of Specifics is concrete and distinguished from those complex knowledge classes through its characteristics of specificity. Second, they illustrate that Knowledge of Ways and Means of Dealing with Specifics represents the knowledge of the ways of organizing, studying, judging, and criticizing ideas. It refers to ways and means through which students organize, study, judge and criticize the information, it tends to be abstract rather than concrete because learners move from what is specific to what is general; therefore, they face some sort of difficulty in learning this type of knowledge. Third, They state that Knowledge of Universals and Abstractions in a Field encompasses knowledge of the major ideas, schemes, and patterns by which ideas are organized. It includes large structures, generalizations and theories that are used to study phenomena or solve problems and considered to be at the highest level of abstraction.

The second level of the taxonomy is Comprehension that deals with “the translation, interpretation or extrapolation of knowledge” (Cullinane, 2009, p, 02). Comprehension has been frequently linked to reading; for instance, reading comprehension is used to indicate an understanding of a literal message. Bloom et al (1956) classify three types of behaviour in that category and give an explanation for each type: They affirm that “Translation” means that an individual can put a communication into other language. Also, they state that “Interpretation” implies dealing with a communication as a configuration of ideas whose comprehension may require a reordering of ideas into a new configuration in the mind of an individual. Again, they indicate that “Extrapolation” involves the making of estimates or predictions based on understanding of the trends, tendencies, or conditions described in the communication. In general, translation is an important step that takes place before interpretation, translation

involves the ability of students to translate the communication into another language; further, the interpretation means that students translate first then they draw interpretations about the communication to achieve comprehension. Besides, extrapolation comprises both translation and interpretation since an accurate extrapolation needs that the reader be able to translate as well as interpret the document.

Application is the third category of the cognitive domain in Bloom's Taxonomy which refers to "the capacity to transfer knowledge from one setting to another" (Chen, 2016, p. 218). It includes tasks which provide students with new problem, and then they apply the suitable abstraction without showing its use in that situation. Application is the only category that is not divided into any subcategory.

Analysis is the fourth category which emphasizes "breakdown knowledge into parts and show relationships among the parts" (Cullinane, 2009, p. 03). It is a bit developed level than the previous ones because it focuses on the ability of students to analyze the given material into its structural parts, and to discover the relationships among them that result in recognizing the ways through which they are arranged. At this level, learners begin to understand the underlying structures of knowledge and use their own judgments to analyze them; in addition, it is the stage in which the use of inferring is supported and has relevance to reading (Staynchi, 2018). Bloom with his colleagues (1956) split up this category into three subcategories and explain them accurately: First, Analysis of Elements involves the ability of students to recognize unstated assumptions and their skill in distinguishing facts from hypotheses. Second, Analysis of Relationships requires students' ability of determining some of the major relationships among the elements, as well as the relationships among the different parts of communication. Third, Analysis of Organizational Principles emphasizes the ability of learners to select and organize ideas and experiences with reference to socially

desirable purposes of communication. In general, the students (the readers) analyze the document or the material through detecting and breaking down the different parts of it; then, they figure out the interrelationships among the different elements and their relevance to the central theme, so the readers are able to analyze the structure and points out the organization of the communication.

Synthesis is the fifth category in the taxonomy that “involves putting parts together to form a new whole” (Brookhart, 2010, p.40). The reader brings the elements together to form a whole and construct relationships in new situations. Aviles contends that: “Synthesis may be taught of as creativity because it involves the production of things that are new or unique” (1999, p. 14), through synthesis students can be creative in their way of thinking in which they can produce something new. Bloom and his colleagues (1956) say that synthesis is of three types: First, Production of a Unique Communication stresses communication as a major type of synthesis rather than the others because the result of the synthesis can be considered as unique in at least two respects. One, it does not represent a proposed set of operations. Two, it does not ordinary represent a contribution to the fund of tested knowledge. Second, Production of a Plan or Proposed Set of Operation which is the products of synthesis that are considered to be a plan or a proposed set of objectives that have to satisfy the requirement of the task. Third, Derivation of a Set of Abstract Relations that may encompasses objectives that require the students to produce or derive a set of abstract relations, it includes two kinds of tasks, the first requires students to classify certain phenomena and study it in order to create a scheme that is related to existing phenomena and the second kind includes abstract symbols in which the students process of their thinking quite far.

Evaluation is the last and the highest level in the cognitive domain of Bloom’s Taxonomy that somewhat requires the previous categories of behaviours to be processed. It

involves “The ability to judge the value or use of information by using a set of standards” (Chen, 2016, p.219). At this point, students reach their pinnacle of thinking where they are independent learners who are able to make judgments about the value of ideas and materials because they gather mentally all what they have learned before and evaluate the material perfectly. Staynchi clarifies that: “Learners at this level are able to obtain a level of autonomy because of their ability to make judgments and defend them” (2018, p. 119). This category is divided into internal evidence and external criteria that are the base for students to make judgments. Evaluation based on internal evidence “involves students using personal perspectives or value systems to evaluate situations” (Aviles, 1999, p. 16). Evaluation based on external criteria means “ends to be satisfied; the techniques, rules or standards by which such works are generally judged” (Bloom, et. al., 1956, p. 190).

With the passage of time, different theorists try to innovate the original taxonomy to be accurate and compatible with the modern ways of teaching. Anderson and his colleagues attempt to make slight modifications on the taxonomy and come up with their own version.

3.2. The Revised Version of Anderson and Krathwohl

During the 1990’s, Lorin Anderson along with David Krathwohl and a group of colleagues led a new committee for the sake of updating Bloom’s Taxonomy. They spent six years to finalize the research that made sharp changes in the taxonomy. In 2001, the revised version for the cognitive domain was finally created and published. The changes that happen at the level of the revised taxonomy occur in three main categories: Changes of terminology, changes of structure and changes of emphasis.

3.2.1. Changes of Terminology

Basically, the first thing that can be recognized is the change of terminology between the two versions. The six levels of the revised version are slightly different from those levels in the original one, the names of the six categories of Bloom's Taxonomy were changed from noun forms into verb forms in order to fit the ways through which they are used in setting objectives. The different levels of Bloom's Taxonomy reflect the different forms of thinking, and thinking is said to be an active process that implies active engagements; yet, the nouns were changed to verb forms because they indicate action. The first and the second categories of the original taxonomy (Knowledge and Comprehension) are altered to: Remember and Understand; whereas, Application, Analysis, and Evaluation were kept but in their verb forms as Apply, Analyze, Evaluate. Also, Synthesis changes places with Evaluation and takes the name Create (Krathwohl, 2002).

3.2.2. Changes of Structure

The change touches the dimensions upon which the taxonomy is built; the original taxonomy was a one dimensional form but another dimension is added to the revised version along with the addition of thinking products. As a result, the revised taxonomy consists of two dimensions: The first represents the Knowledge Dimension which identifies the kinds of knowledge to learn that higher-order thinking skills can be viewed through its dimensions (Pratama & Retnawati, 2018). The second represents the Cognitive Process Dimension that illustrates the processes used in learning (Forehand, 2011). The products of thinking means the various forms of the knowledge dimension that Anderson and Krathwohl distinguish, they are listed respectively as Factual, Conceptual, Procedural and Metacognitive Knowledge.

The previously mentioned forms of the knowledge dimension are defined according to Krathwohl (2002) as follow: First, factual knowledge refers to the basic elements that learners must know to be acquainted with a discipline or solve problems in it. It includes two elements: Knowledge of terminology, and knowledge of specific details and elements. It has to do with that bit of information like vocabulary definition. Second, conceptual knowledge, he says that this form of knowledge means the interrelationships among the basic elements within a large structure that enables them to function together. It contains three elements: Knowledge of classifications and categories, knowledge of principles and generalizations, and knowledge of theories, models and structures. Third, He says that procedural knowledge is concerned with ways to do something; methods of inquiry, and criteria for using skills, algorithms, techniques, and methods. It is consisted of three elements: Knowledge of subject-specific skills and algorithms, knowledge of subject-specific techniques and methods, and knowledge of criteria for determining when to use appropriate procedures. Fourth, metacognitive knowledge is knowledge of cognition in general as well as awareness and knowledge of one's own cognition. It constitutes three elements: Strategic knowledge, knowledge about cognitive tasks, including appropriate contextual and conditional knowledge, and self-knowledge.

The cognitive process represents the second dimension in the revised taxonomy, it contains six categories that differ in their complexity; remember is less complex than understand, that is less complex than apply, that is less complex than analyze and so on. In addition, each category is described by verb forms and is linked to two or more specific cognitive processes that take the form of gerunds in order to be distinguished from the six major categories, and further indicates that there is an action.

Remember is the first and the lowest category in the cognitive process of the revised Bloom's Taxonomy. Krathwohl stresses that: "Remembering involves retrieving relevant knowledge from long-term memory" (2002, p. 215). It demonstrates students' ability of remembering previously learned information through tasks similar to those they encounter before that require recalling or recognition. The category is associated with two cognitive processes; recognizing and recalling that both of them deal with retrieving relevant knowledge from long-term memory, but recognizing compares it with existing information and recalling uses it whenever a prompt is given (Anderson, et. al., 2001).

Understand is the second category that exhibits "Determining the meaning of instructional messages, including oral, written, and graphic communication" (Krathwohl, 2002, p. 215). In other words, students make connections between incoming information and their previously knowledge to reach understanding. Anderson et al (2001) split up the category into seven cognitive processes and define them precisely: Interpreting requires students to convert information from one form to another like paraphrasing. They state that Exemplifying is giving instances in order to illustrate concepts or principles; whereas, Classifying deals with recognizing a certain category of something. Then, Summarizing refers to representing the general theme of given information; but, Inferring has to do with drawing conclusions from existing information. Again, Comparing is detecting the similarities and differences among ideas, concepts and so on; therefore, Explaining refers to students' ability to utilize a cause and effect model of system.

Apply is the third category which implies "carrying out or using a procedure in a given situation" (Krathwohl, 2002, p. 215). That is to say; students apply their acquired knowledge in different ways in order to solve problems, the category is made up of two cognitive processes: executing and implementing. In executing, the student carries out a procedure

when facing a familiar task. Whereas, in implementing, the student make use of a technique to solve an unfamiliar task (Anderson, et. al., 2001).

Analyze is the fourth category that is defined as “[Breaking] information into its parts, determining how the parts are related to each another and to the overall whole” (Brookhart, 2010, p. 41). Anderson et al (2001) identify three types within this category: Differentiating refers to distinguishing the relevance and the importance of materials’ elements. Organizing means figuring out how elements fit together within a structure. Attributing has to do with setting opinions, neutrality and the like towards an existing material.

Evaluate is the fifth category is described as “making judgments based on criteria and standards” (Krathwohl, 2002, p.215). Quality, effectiveness, efficiency, and consistency are the most used criteria in this category, and the standards may be quantitative or qualitative. The category consists of two cognitive processes: checking which means examining the internal consistency of a process or a product, and critiquing which means determining the external criteria of a product (Anderson, et. al., 2001).

Create is the last category in the cognitive process dimension which means: “putting disparate elements together to form a new whole, or reorganizing existing elements to form a new structure” (Brookhart, 2010, p.41). That is to say, at this high level students have the ability to create an original product using all what they have acquired in the previous categories; they put different elements together in order to form a coherent whole. The category is broken into three subcategories that are illustrated by Anderson et al (2001) as follow: Generating deals with the ability of students to arrive to an alternative hypothesis which fits a given criteria. Planning refers to formulating a procedure for the sake of achieving a task. Producing means creating a product in which students have the ability to solve problems.

3.2.3. Changes of Emphasis

Emphasis is the last category of changes that happen at the level of the taxonomy. The revised version focuses primarily on the use of the taxonomy in planning curriculum, instruction and alignment; that is to say, the emphasis “is a major shift from the original focus on assessment, providing extensive examples of text items for each of the six categories” (Anderson, et.al., 2001, p. 263). In addition, the aim of the revision is to plan the taxonomy in order to be used by a broader audience that includes teachers in different educational levels; in line with this, Forehand confirms that “The revised version of the taxonomy is intended for a much broader audience” (2011, p. 04). Besides, the revision extends to be used not only at a higher education as it is in the original version, but to be applied at elementary and secondary levels too. Furthermore, the revised version focuses on the description and illustration of the subcategories rather than the categories as Anderson et al state that: “The Revision Emphasizes the Subcategories” (2001, p. 264).

All in all, the two taxonomies merely share one thing in common; when thinking becomes more complex “students need to deal with increasingly more pieces of information and increasingly more complicated relationships among them” (Brookhart, 2010, p. 42). Thus, the new taxonomy reflects an active form of thinking that demonstrates learners’ thinking as a process rather than a set of behaviours, and it is considered as one way to assess student’s ability to use HOTSs.

4. Developing Higher-Order Thinking Skills

Higher-order thinking is considered as an important skill that many teachers want to develop in their students, for the sake of achieving an effective learning process where all students have the opportunity to reach more sophisticated levels of thinking. Limbach and

Waugh (2009, pp. 3-7) introduce five steps to develop higher levels of thinking that can be implemented in any teaching\learning situation:

Step One: Determine Learning Objectives

When teachers consider the importance of a course and its basic role in providing students with the necessary knowledge, they clearly set the learning objectives that will be achieved by the end of that course. These objectives should successfully demonstrate the desired behaviours that require a high level of thinking from the part of students. Thus, a well-stated objectives result in developing students' higher level thinking skills.

The revised version of Bloom's Taxonomy of the cognitive objectives is a useful tool that provides teachers with a beneficial plan to integrate low and high level thinking activities that lead students access the higher levels, so that students of all levels use their thinking to incorporate in the learning process.

Step Two: Teach Through Questioning

In the process of teaching and learning, questioning is considered as a vital technique that is used by teachers to enhance their students' thinking abilities. There are different ways to categorize questions; the simplest method is to use convergent and divergent questions. Convergent questions are applied to Bloom's lower levels taxonomy which are remembering, understanding and applying, they need one or more direct correct answers; whereas, divergent questions are applied to Bloom's higher levels of analyzing, evaluating and creating, they need a variety of correct answers. Questioning techniques remain the most successful and efficient way to inspire higher level thinking in the classroom.

Step Three: Practice before Assessment

Teachers have shifted towards a new approach of teaching that is based on experiential learning, they involve students in classroom activities in order to push them to practice more using their higher levels of thinking that will be evaluated later. This type of practice makes students aware of the learning process and leads them to acquire knowledge actively rather than passively. Teachers who adopt that approach seek to help their students reach their highest levels of thinking through exposing them to activities which require giving opinions, posing arguments, looking for evidence and criticizing them.

Step Four: Review, Refine, and Improve

Teachers should refine their courses to make sure that their instructional methods lead effectively students to develop their higher levels thinking skills; thus, students become autonomous and responsible for their own learning. In addition, teachers can create a healthy environment for their students through monitoring the classroom activities which brings them to be active participants in the learning process. Students' feedback is considered as an important tool to improve the quality of courses, it helps teachers to gather the needed information about their students learning, whether they have or have not learned in order to offer an opportunity for re-learning to take place and touch upon the missed points that they did not absorb.

Step Five: Provide Feedback and Assessment of Learning

Feedback is an important technique that teachers use to assess their students' performance. Its purpose is to foster the quality of students' learning and help them to assess their performance in the future on their own. Teachers should provide students with a

constructive and relevant feedback that helps them to enhance their learning levels, students can also be feedback providers for each other (peers' feedback).

Thereupon, the development of higher-order thinking skills requires the effective application of these five steps in a mainly student-centred classroom.

5. Types of Thinking

Thinking is a natural cognitive process that exists in every human and develops from birth. It is the ability to use our minds to solve problems, make decisions, and understand facts. Thinking is a mental ability that involves using different levels that arranges from lower levels to higher levels of thinking skills. King, Goodson and Rohani state that: "Higher order thinking skills include critical, logical, reflective, metacognitive, and creative thinking. They are activated when individuals encounter unfamiliar problems, uncertainties, questions, or dilemmas" (1998, p. 01). This means that higher-order thinking skills are composed of five types of thinking that are illustrated as follow:

5.1. Critical Thinking

Critical thinking involves the ability to think rationally and decide what to do or believe. It is defined as: "The process of determining the authenticity, accuracy, or value of something; characterized by the ability to seek reasons and alternatives, perceiving the total situation, and change one's view based on evidence"(Cotton, 1991, p. 03). That is to say, critical thinking refers to that process of investigating the truthfulness and reliability of something based on facts and rational judgments, and it is a complex process of deliberation that includes a wide range of skills and attitudes (Cottrell, 2005).

5.2. Logical Thinking

Logical thinking or logical reasoning deals with the ability of students to use reasoning and background knowledge in order to draw conclusions, it is defined as: “a complex weave of abilities that help you get someone’s point, generate reasons given by others . . . explain a complicated idea, apply conscious quality control as you think” (Dowden, 2011, p. 01). That is to say, students can defend their opinions and their points of view using that type of thinking in which they give pros and cons about others’ ideas.

5.3. Reflective Thinking

Reflective thinking or reflection refers to learners’ ability to make judgments and analyses about what has happened. Gelter defines that concept as: “a conscious, active process of focused and structured thinking which is distinct from free floating thoughts” (2003, p. 338). It provides students with the chance to select relevant information in order to generate new ideas.

5.4. Metacognitive Thinking

Metacognitive thinking or metacognition is usually defined as thinking about one’s thinking or “The process of planning, assessing, and monitoring one’s own thinking; the pinnacle of mental thinking” (Cotton. 1991, p. 02). That is, the ability of students to be aware of their own thinking process, their ability to understand their memory capabilities and their ability to monitor their own learning. It is usually linked to higher-order thinking skills since students use their highest level of thinking in order to enhance their learning process through asking higher order questions.

5.5. Creative Thinking

Creative thinking is defined as: “A novel way of seeing or doing things that is characterized by four components: Fluency (generating many ideas), flexibility (shifting perspective easily), originality (conceiving of something new) and elaboration (building on other ideas)” (Cotton, 1991, p. 02). In other words, it refers to the ability of students to look at things in a new way and their ability to create or invent something new, it pushes them to use different methods and techniques to solve problems. It also drives them to develop their learning process to achieve innovation and progress in their educational career.

Altogether, these five types of thinking help students to see things from different angles and explore their hidden capabilities to use them in relevant situations, these types aid learners to attain the highest levels of thinking.

6. Theories related to Learning and Higher-Order Thinking Skills

Different educational theorists and psychologists attempt to explain the thinking and learning processes to provide teachers with various frameworks to adopt when teaching, Piaget, Bloom and Vygotsky are the most famous scholars in the field who bring reliable theories that can be used by teachers.

6.1. Piaget’s Theory

The Swiss psychologist Jean Piaget tries to explore the hidden side of children’s minds in order to investigate their cognitive development. He proposes that children are not less intelligent than adults but they merely think in a different way. Therefore, he studies the ways through which children progress intellectually throughout their childhood period. As a result, he introduced his theory of Cognitive Development which implies changes in abilities and

cognitive processes of children, it also stresses that children pass through four stages of mental development. King, Goodson and Rohani declare that: “the developmental stages are the key to cognitive development” (1998, p. 19). Accordingly, intelligence develops through these four series of stages: Sensorimotor Stage which lasts from (birth to 02 years), Preoperational Stage (ages 02 to 07), Concrete Operational Stage (ages 07 to 11) and Formal Operational Stage (ages 12 and up). These four stages of development offer an opportunity for kids to play an active role in the learning process.

6.2. Bloom’s Theory

The American educational psychologist Benjamin Bloom proposes taxonomy to classify learning objectives that are used in schools. The taxonomy is known as Bloom’s Taxonomy which is a system that categorizes six levels of thinking, the first three categories are referred to as lower-order thinking skills (knowledge, comprehension, application), whereas the last three categories are referred to as higher-order thinking skills (analysis, synthesis, evaluation). In addition, lower-order skills are a base for higher-order levels to take place where students apply different forms of knowledge in new situations since “Comprehension and application form linkages to higher-order skills; here, the learner uses meaningful information such as abstractions, formulas, equations, or algorithms in new applications in new situations” (King, Goodson & Rohani, 1998, p. 20). The taxonomy is very beneficial because it can be used as a teaching tool that aids teachers when assessing and evaluating students to make sure that the different orders of thinking are applied when learning.

6.3. Vygotsky's Theory

The Soviet psychologist Lev Vygotsky attempts to understand the human mind and its genesis. As a consequence, he comes up with the theory of Social Development which affirms that social interaction and social culture play fundamental roles in the cognitive development and learning. The development of individuals is understood only with reference to the social and cultural contexts in which it is embedded; hence, the development is preceded by social interaction or social learning and the final products are cognition and conscious. Vygotsky also gives a major consideration to private speech and imitative learning in which he stresses that when children interact with the social environment they make use of their private speech to overcome difficulties and understand different situations (Reynolds & Miller, 2003).

In addition to private speech, Vygotsky highlights the notion of 'imitative learning' and extends its meaning, he considers learning through imitation as one method of learning within the Zone of Proximal Development (Langford, 2005). Vygotsky proposes that children's learning should be related to their levels of development; that is, learning only takes place within a Zone of Proximal Development which refers to "the difference in what a child can accomplish on its own and what it might be able to perform with the help of competent others. With such help the child can reach a higher level of development" (Hamers & Csapo, 1999, p. 15). In other words, the zone is the difference between what a student can achieve without any help and what s/he can't do without assistance. The Zone of Proximal Development makes learning possible through giving students the suitable instructions, when students face difficult tasks they may receive assistance from those who are higher than them, or at least at their current level in order that students scaffold their knowledge to reach higher order levels of learning (Reynolds & Miller, 2003).

In short, the above mentioned theories participate in one way or another in developing

the quality of teaching and learning. These theories help teachers take into consideration the different abilities of students and look for various ways to teach them.

7. The Importance of Higher-Order Thinking Skills

Higher-order thinking is highly required in the process of learning due to its usefulness for students; consequently, different theorists attempt to set certain benefits of HOTSs in the field of education. Mainali stresses that: “HOT emphasizes students’ real learning achievement and practical implications of education which is vital. Thus, HOT is beneficial for all stakeholders of education in society” (2012, p. 07). That is to say, Higher-order thinking is an example of a learner-centred approach since students are engaged in an active learning process that makes courses pleasant, and leads them to think at higher levels in which they are capable to solve problems in new situations. In line with this, Abdullah et al posits that: “problem solving is an activity that can generate HOTS among students” (2015, p. 133).

Thomas and Thorne (2009, as cited in Retnawati, et. al., 2018, p. 216) report that: “HOTS also plays an important role in applying, connecting, or manipulating the prior knowledge in order to effectively solve new problems”. To put it differently, students make use of their higher levels of thinking clearly when they apply what they previously learn and connect it to the new knowledge in order to overcome current problems.

HOTSs provide students with the opportunity to learn how to evaluate information and how to be innovative in their thinking when solving problems because “Students are not only required to apply what they have learned, but also to analyze, evaluate, and synthesize the knowledge they have gained to solve problems in everyday life” (Pratama & Ritnawati, 2018, p. 07).

HOTSs should be an integral part in the FL teaching\ learning processes since students need these skills to enhance their learning and foster their academic achievements. Learning needs thinking and thinking is the core of learning that does not only increase students' higher level skills but also their overall performance.

8. The relationship between Extensive Reading (ER) and Higher-Order Thinking Skills (HOTSs)

Over the last decades, higher-order thinking has been the centre of many studies that look for effective ways to develop this vital skill in learners. Therefore, the researches result in finding one method that is said to be very essential and has a positive impact in improving students' higher levels of thinking and enhancing their learning. Extensive reading as an approach to language teaching and learning is an important vessel that involves students to practice all higher levels of cognitive skills that are the bases of an efficient learning process.

Extensive reading implies higher-order thinking that “is much more complex than merely decoding specific words. Teaching children how to derive meaning as well as analyze and synthesize [and evaluate] what they have read is an essential part of the reading process” (Linse, 2005, p.71). Moreover, when students are engaged in reading various kinds of materials, their higher levels of thinking will be ameliorated because:

Higher-order thinking occurs when students look beyond the surface of the text they are reading to figure out an answer or to attain comprehension. Making predictions, drawing conclusions and making inferences are examples of reading strategies that are typically elicit higher-order thinking.

(Veeravagu, et.al., 2010, p. 211)

Tankersley emphasizes that: “The reader is able to apply the levels of Benjamin Bloom’s taxonomy (1956) and make meaning at more sophisticated levels. This thread is reading at the evaluation, synthesis, analysis . . . levels” (2003, p. 116). In other words,

students who read extensively are able to process a text at higher levels of thinking and reach the deepest levels of understanding because they are able to apply the upper three levels of Bloom's Taxonomy (analysis, synthesis, evaluation) when reading a text. Students analyze the text in order to look for the clues that the author stresses throughout the whole text, they synthesize the text through using the knowledge that they learn from the text and use it in a new situation to create something new, and they evaluate by giving claims and making judgments about the text with supportive evidence and valid reasons.

From the points that are mentioned above, it is clear that extensive reading helps in one way or another in developing students' higher-order thinking skills and also their ability to think critically in the sense that they become good learners, thinkers, and achievers in the process of learning.

Conclusion

This chapter gives a clear image about the nature higher-order thinking skills and how students make use of their cognitive abilities clearly and activate their minds cogently with the assistance of teachers. Students can reach higher levels of thinking when they employ Bloom's layers of thinking; in this way, they move from lower levels of thinking that include recalling facts and memorization to attain higher levels which embody the ability to make judgments. The chapter also emphasizes the importance of HOTSs that foster students' productivity and creativity based on their capability to analyze, generate new ideas and combine them with previously learned knowledge. It further stresses that only through higher-order thinking that students can think creatively and critically at higher levels to make decisions, plan, refine, solve problems in new situations and judge ones' own perceptions and thoughts when reading. Briefly, the chapter attempts to introduce a detailed description of the theoretical aspects that are involved in higher-order thinking along with its different theories, types and the ways through which it develops.

Chapter Three

Field Work Investigation

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Introduction

The third chapter is a précis of the empirical phase which contends to give an answer about the role of extensive reading in raising L2 students' awareness in developing their higher-order thinking. The current chapter provides a detailed description of the methodology opted for in the work. This research relies on quantitative and qualitative methods as the most appropriate tools for data collection to achieve the research desirable aims. Thus, a questionnaire is designed and distributed to third year ELF students at the department of English in Mila University Centre, in addition to a structured interview that is conducted with some teachers of English language at the same department.

On the one hand, the students' questionnaire is administered in order to find out to what extent students are aware of the importance of extensive reading in improving their higher-order thinking skills. On the other hand, the teachers' interview is addressed to examine teachers' points of view about the relationship between extensive reading and the improvement of their students' higher-order thinking skills, and to what extent they assume that their students use higher-order thinking skills (analysis, synthesis, evaluation), as well as the efforts that can be done in order to raise learners' awareness towards extensive reading and higher-order thinking skills relationship.

Besides, a detailed description, analysis and discussion of the gathered data from both the questionnaire and the interview are also provided in this empirical part of the research. Based on the main findings that are obtained from this study, some recommendations and suggestions to teachers and students are presented.

1. The Student's Questionnaire

1.1. Description of the Student's Questionnaire

The students' questionnaire comprises 19 questions that are carefully selected and simplified according to the students' levels. It is composed of three sections in which it encompasses both closed-ended questions, that involve yes/no answers or ticking (√) the appropriate answers from series of options, and open-ended ones that require explanations or further suggestions from participants. The first section includes 04 questions which aim at gathering general information about students like gender, type of baccalaureate, reason behind studying English and whether they like it or no. The second section is composed of 09 questions that deal with extensive reading tending to explore students' perceptions about its importance. The last section is made up of 07 questions which focus on higher-order thinking skills aiming at assessing the role of extensive reading in developing students' higher levels of thinking. The questionnaire is designed to 85 third year EFL students at Mila University Centre.

1.2. The Aim of the Students' Questionnaire

The students' questionnaire is concerned with the role of extensive reading in developing L2 students' higher-order thinking skills. It is addressed to third year EFL students at Mila University Centre, it tends to reveal the ways learners consider reading in general and extensive reading in particular and its role in developing their higher-order thinking skills.

1.2. Analysis of the Student's Questionnaire

Section One: General Information.

Question1: Gender

	Participants	Percentage
Male	15	17.65%
Female	70	82.35%
Total	85	100%

Table 1: Gender.

17.65% of the participants are males; whereas, 82.35% are females, this indicates that females are more likely to study in literary classes than males. They deem that learning English is easy and much more important than learning other languages, Lasekan concludes that: "Female learners' capacity to learn a second language successfully is higher than male learners" (2018, p. 29), that is why females mark a great tendency in this research work.

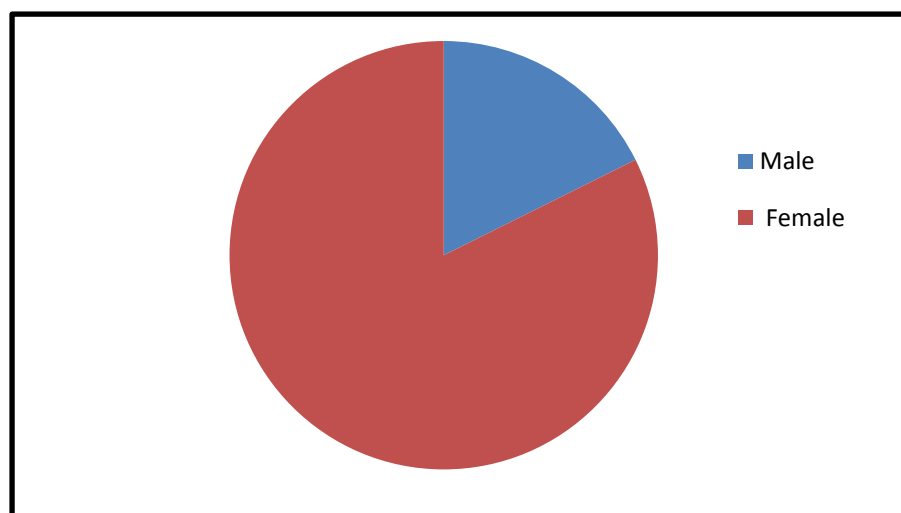


Figure 2: Representation of the Percentage of Female and Male in Studying English

Question 2: What was your baccalaureate stream?

	Participants	Percentage
Literary	55	64.71%
Scientific	23	27.06%
Technical	2	2.35%
Scientific and Technical	1	1.17%
Literary and Scientific	4	4.71%
Total	85	100%

Table 2: Statistical Representation of Students' Baccalaureate Stream.

64.71% of the participants hold literary baccalaureate and 27.06% of them hold scientific baccalaureate. 2.35% of the participants have come from technical and 1.17% of them have come from scientific and technical streams. However, 4.71% of them hold both literary and scientific baccalaureate. This shows that students who study English language are of different levels. There is a total range of heterogeneity in students' levels which indicates that students hold varying thinking levels that are stemmed from their previous teaching styles and syllabi content.

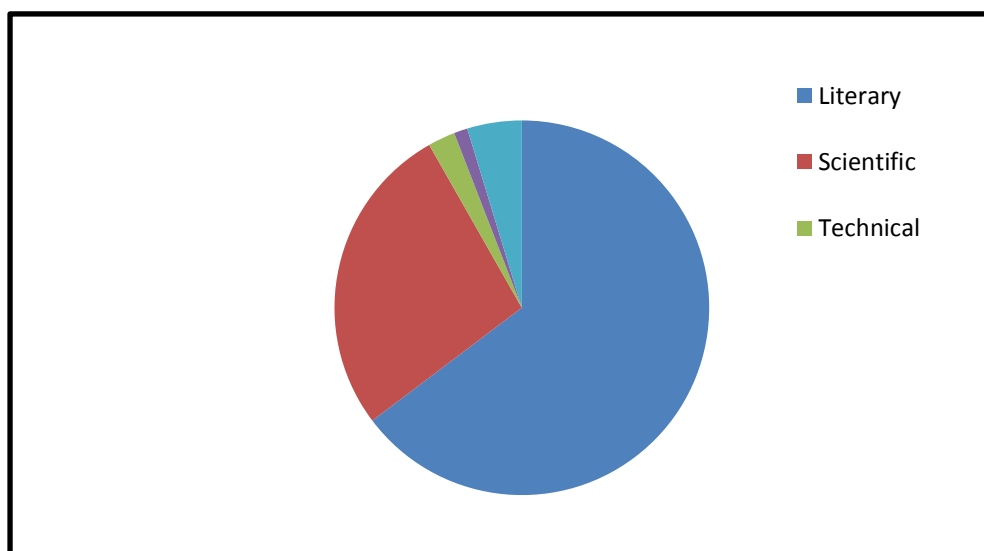


Figure 3: Statistical Representation of Students' Secondary School Stream.

Question 3: Is learning English your:

	Participants	Percentage
Personal choice	58	68.24%
Parent's choice	7	8.23%
Imposed by the Ministry	20	23.53%
Total	85	100%

Table 03: Students' Choice of Studying English.

68.24% of participants choose English as their personal choice, 8.23% of them say that it is their parent's choice. Whereas, 23.35% of the participants declare that it is imposed by the Ministry. The results indicate that the majority of learners choose to study English by their own.

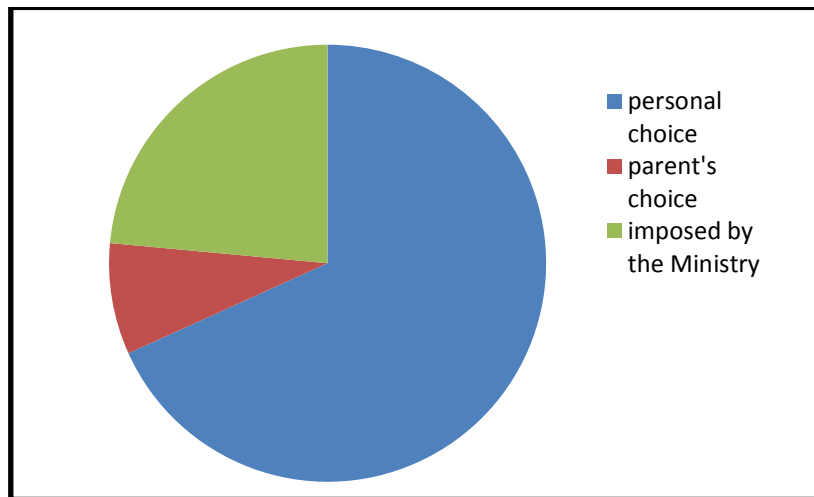


Figure 4: Representation of the Origin of Students' Willingness to Study English

Question 4: Do you like learning English?

	Participants	Percentage
Yes	77	90.59%
No	8	9.41%
Total	85	100%

Table 4: Students' Enjoyment of Learning English.

90.59% of the participants say that they like learning English, only 9.41% respond that they do not like learning English. So the majority of participants keen on studying English language. This goes in harmony with what Jimenez confirms: “many participants were aware of the benefits of learning English and valued the importance of being involved in the process to succeed” (2018, p. 84).

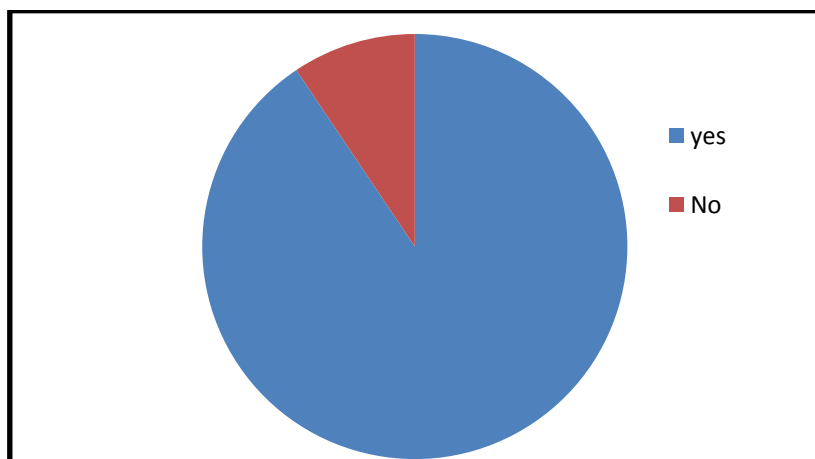


Figure 5: Students' Enjoyment of Learning English.

Section Two: Extensive Reading.

Question 5: How do you consider your reading skill?

	Participants	Percentage
Weak	7	8.24%
Average	40	47.06%
Good	31	36.47%
Very good	7	8.23%
Total	85	100%

Table 5: Students' Perceptions about their Mastery of the Reading Skill.

8.24% of participants say that they are weak at reading, 47.06% believe they are average. Whereas, 36.47% of them are good and 8.23% have a very good reading skill. The results prove that 40 respondents are average in reading.

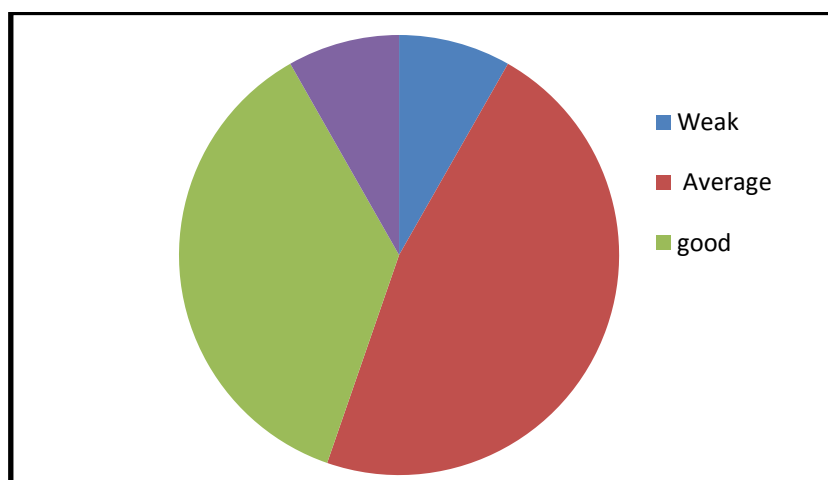


Figure 6: Students' Perceptions about their Mastery of the Reading Skill.

Question 6: How often do you read in English?

	Participants	Percentage
Always	14	16.47%
Sometimes	54	63.53%
Rarely	17	20%
Total	85	100%

Table 6: Students' Frequency of Reading in English.

16.47% of participants read always in English and 63.53% of them practice reading sometimes. However, 20 % rarely read in English. The results indicate that the majority of participants read in English from time to time but not always, and the lowest percentage comes to those participants who read always in English. So reading is of little practice because students have some deficiencies in their learning, “their weaknesses are related to

their study skills and study methods . . . and interests during the process [of learning]” (Jimenez, 2018, p. 84).

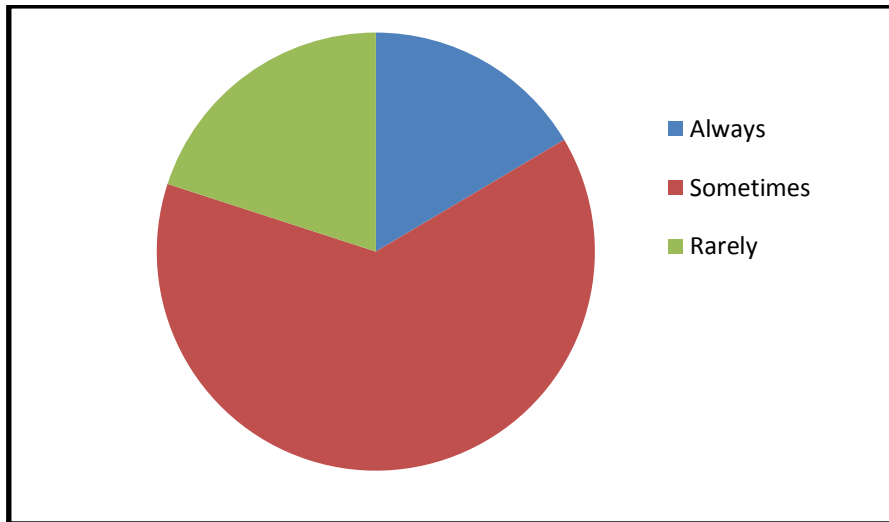


Figure 7: Students' Frequency of reading in English.

Question 7: Do you like reading extensively in English? Why?

	Participants	Percentage
Yes	57	67.06%
No	28	32.94%
Total	85	100%

Table 7: Students' Preferences of Reading Extensively.

67.06% of the participants say that they like reading extensively in English. But, 32.94% of them react negatively towards it. The majority of participants who enjoy free reading reply that it is interesting for them since it develops their vocabulary knowledge, writing and even their speaking skills, they say that extensive reading is the best way that makes their levels more developed.

Some participants ensure that they just like reading in English because it is their favourite language maintaining that extensive reading is a free and pleasurable task which

does not require practice; it helps them to discover new things in the language like syntax, lexis, recognizing some aspects of culture and the like. Others state that reading extensively makes them escape from reality to the safe world of reading. According to them, extensive reading is the key to success in the foreign language, the more they read the higher their levels will be. In the sense that reading extensively enhances their thinking abilities, they come to have good skills, learn how to develop motives and how to think critically about others opinions.

Most of participants who say that they do not like extensive reading assert that they find difficulty in reading; they consider it as a heavy task since when they read they face difficult words that they feel obliged to check the meaning of every single word in the dictionary, that is why they lose the pleasure of reading. Other participants respond that they do not like reading in English, they consider reading extensively as boring and not interesting as well as they do not have time to devote to reading. Depending on the results, the majority of participants like reading extensively in English and enjoy doing it for its infinite benefits.

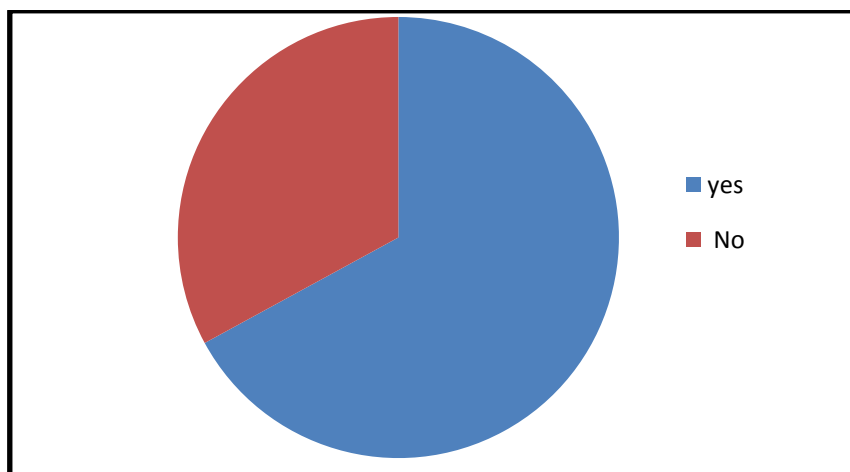


Figure 8: Students' Preferences of Reading Extensively.

Question 8: Is reading extensively beneficial to develop your levels in learning English?

If yes, explain how?

	Participants	Percentage
Yes	78	91.76%
No	7	8.24%
Total	85	100%

Table 8: Extensive Reading Benefits in Developing Students' Levels of Learning English.

91.76% of the participants ensure that reading extensively is beneficial to develop their levels in learning English. Those participants who are aware of the importance of ER point out that it helps them to avoid spelling mistakes since they learn new vocabulary through which they enhance their writings. This is what Archer ensures: “reading improves students’ vocabulary knowledge in their spelling and writing, reading texts show examples of models for students own writing” (2012, p. 173). They say that it enriches their knowledge and makes them more motivated to recognize and memorize plenty of words that they have never seen or heard about them before, thus their abilities in English improve.

According to other participants, extensive reading is absolutely beneficial because it is the thread of success in any language, it provides them with basic knowledge of how natives use their language in different situations like grammar, idiomatic expressions and so on. Through reading various books, novels, short stories and even articles they come to know new concepts, expressions, discover new styles of writings, learn how to think about certain ideas and theories, how to defend or contradict them (critical thinking) and how to posit their own opinions.

Other participants maintain that through extensive reading they face many different cases of speech, it gives them the opportunity to recognize several uses of the language, and

they also add it develops their levels of thinking. That is to say, extensive readers have different ways of thinking since they learn how to analyze and interpret the information they encounter. In addition, ER exposes them to different aspects of the language especially culture; they discover how natives embody the cultural values in their writings. Most of the participants who do not recognize the benefits of ER, they do not provide justifications to their answers, only two participants say that they do not read extensively because they think that it is of no importance; this means that they ignore the benefits of extensive reading. Mainly, the results show that the majority of participants are aware of the importance of ER in developing their levels in learning English.

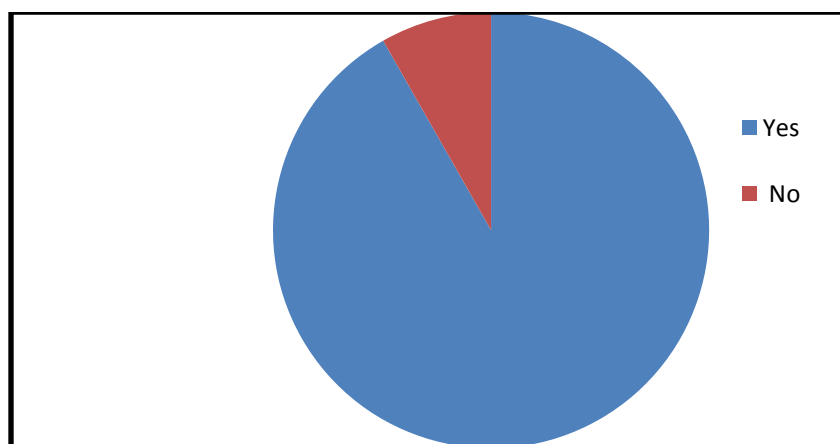


Figure 9: Extensive Reading Benefits in Developing Students' Levels of Learning English.

Question 9: Do your teachers encourage you to read?

	Participants	Percentage
By providing you with titles to read	40	47.06%
By giving you the freedom to chose what you want	45	52.94%
Total	85	100%

Table 9: Ways that Teachers Use to Encourage their Learners to Read.

47.06% of the participants say that their teachers encourage them to read by providing them with titles. However, 52.94% of them respond that their teachers give them the freedom to choose what they like to read. From the above results, it can be deduced that the majority of teachers support free reading since they let their students select what interests them to read.

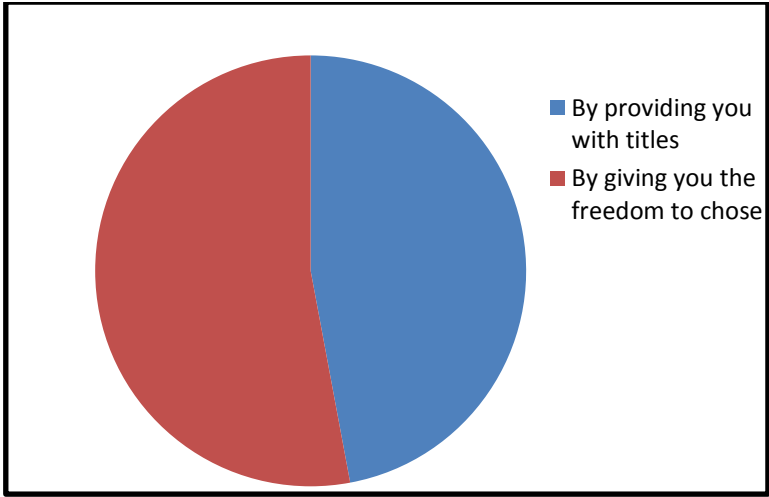


Figure 10: Ways that Teachers Use to Encourage their Learners to Read.

Question 10: Does the title of the book give you an idea about its content before you start reading?

	Participants	Percentage
Yes	62	72.94%
No	23	27.06%
Total	85	100%

Table 10: Students’ Attitudes about the Title of the Book.

72.94% of the participants say that the title of the book gives them an idea about its content before they start reading it. Whereas, 27.06% of them reply that the title of the book does not give them an idea about its content. This means that the majority of participants use the skimming strategy rather than the scanning strategy when reading books.

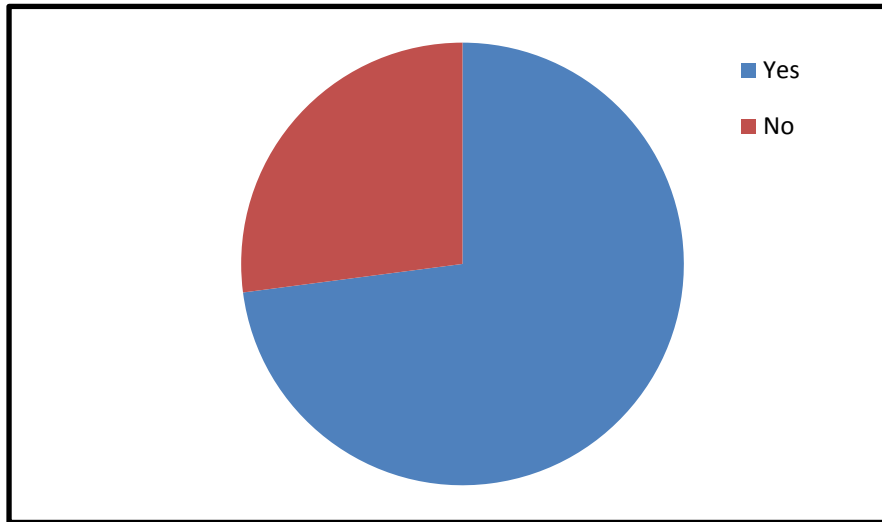


Figure 11: Students' Attitudes about the Title of the Book.

Question 11: When you face a difficult term while reading you:

	Participants	Percentage
Try to guess its meaning from the context	40	47.06%
Look up in the dictionary	13	15, 29%
Leave it and continue reading	20	23.53%
Try to guess its meaning and look up in the dictionary	12	14.12%
Total	85	100%

Table 11: Students' Attitudes towards Difficult Terms.

47, 06 % of the participants say that while reading they try to guess the meaning of difficult terms from the context, 15, 29 % of them state that they look for them in the dictionary. Whereas, 23.53% of the participants leave difficult terms and continue reading and 14.12% reply that they both guess the meaning of words then look for them in the dictionary. The results show that most of the participants prefer to read extensively rather than intensively because they do not appreciate using dictionaries while reading; they like to read in a pleasurable way and without any interruption.

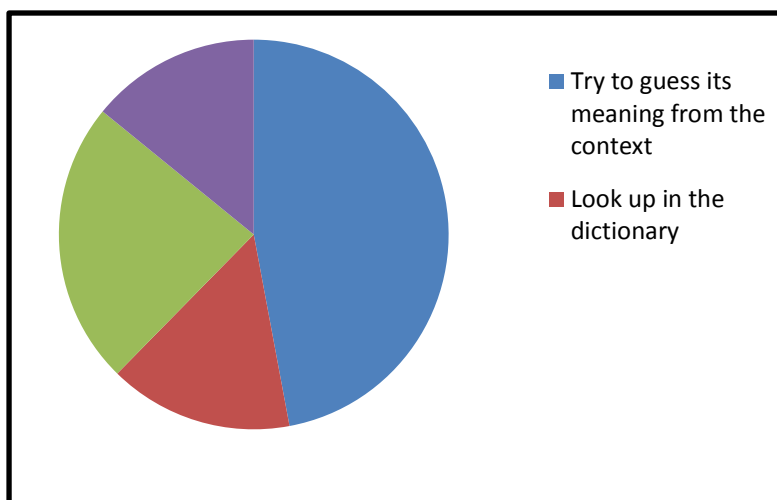


Figure 12: Students' Attitudes towards Difficult Terms.

Question 12: Why do you think that extensive reading is important?

	Participants	Percentage
Because it is pleasurable activity	0	0%
Because it helps you acquiring knowledge	17	20%
Because it develops your thinking abilities	10	11.76%
Because it is pleasurable and helps you acquiring knowledge	3	3.53%
Because it helps you acquiring knowledge and develops your thinking	36	42.36%
All of them	19	22.35%
Total	85	100%

Table 12: The Reasons behind the Importance of Extensive Reading.

No participant says that extensive reading is important because it is pleasurable only, but 3.53% of them reply that it pleasurable and helps them acquiring knowledge. 20% of the participants say that ER helps them acquiring knowledge, 11.76% of them respond that it develops their thinking abilities and 42.36% asserts that ER aids them acquiring knowledge as well as developing their thinking abilities. However, 22.35% of the participants opt for all the

options. That is, extensive reading is important because it is pleasurable, it helps to acquire knowledge and develops the thinking abilities. This is what Archer confirms: “ER may be a suitable option in EFL contexts to make learning more meaningful to students” (2012, p. 182). The results show that the majority of participants are aware of that importance of extensive reading since it fosters them to learn effectively and develops their levels of learning.

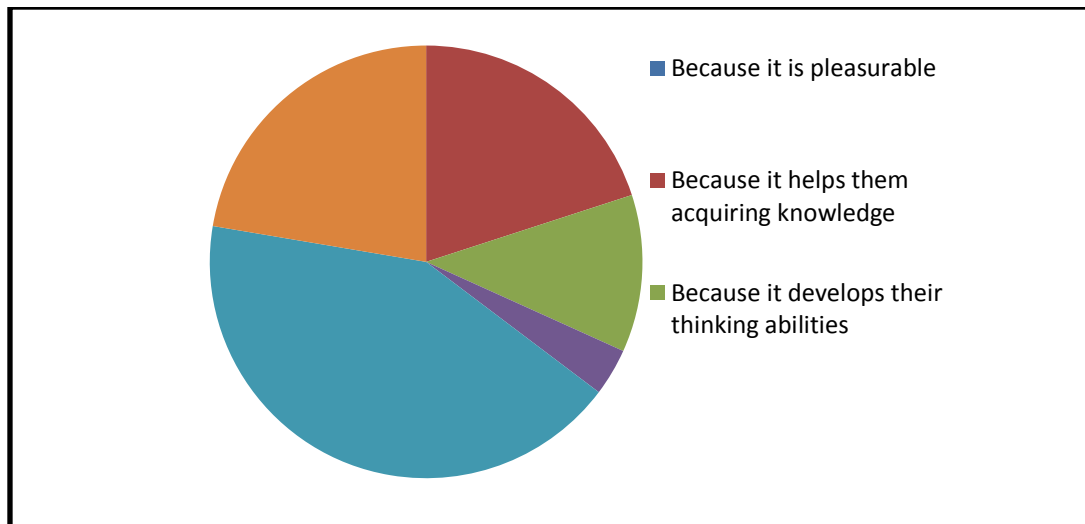


Figure 13: The Reasons behind the Importance of Extensive Reading.

Section Three: Higher-Order Thinking Skills.

Question 13: Do you estimate that critical thinking skills are necessary to develop?

Please explain.

	Participants	Percentage
Yes	77	90.59%
No	8	9.41%
Total	85	100%

Table 13: Students’ Estimations about the Necessity to Develop Critical Thinking Skills.

90.59% of the participants estimate that critical thinking skills are necessary to develop. Whereas, 9.41% of them do not estimate that they are necessary. The majority of participants who recognize the importance of these skills answer that they are extremely

beneficial to them as learners of the foreign language because only through such skills they can see what other people cannot see; they help them to analyze, confront all the problems that they encounter, survive in the tricky world and observe things from different angles. Eftekhary & Kalayeh affirm that: “Critical thinking skills are essential to every aspect of learning. . . . The earlier these skills are introduced, the greater a learner’s chance for academic success” (2014, p. 624). Other participants say that critical thinking skills are important since when they think critically, they develop their learning and make their brain more active in which they generate ideas and use their thinking progressively.

They also mention that through critical thinking they stop seeing things superficially because they analyze and interpret everything they read or hear (reading between the lines). Critical thinking helps them to solve problems, make decisions and leads them to be good researchers and autonomous learners since they do not accept everything they receive, they should state their own positions in order to arrive at a constructive criticism and this encourages them to be better learners.

Most of the participants who say that critical thinking skills are not necessary to develop do not provide illustrations to their answers. Few of them assume that it is not necessary to be critical thinkers since they can succeed in their learning without developing this faculty just by following their lessons. According to the results, it can be said that the majority of participants recognize that critical thinking skills are necessary because they are the biting heart of their creativity, so learners are required to be critical thinkers to enhance the quality of their learning.

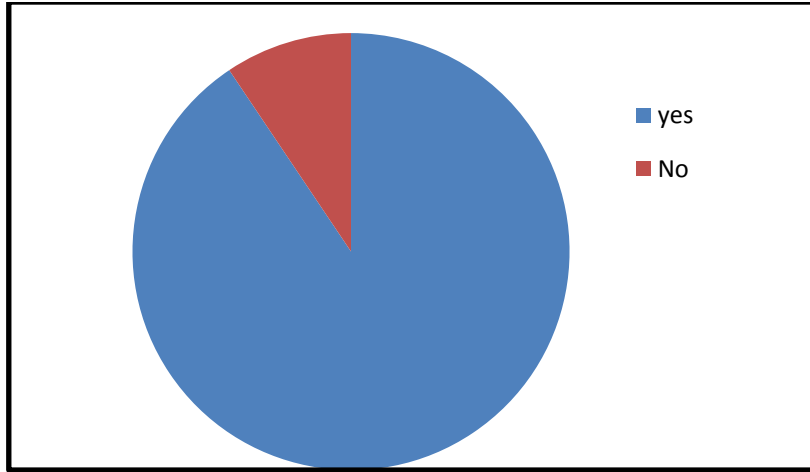


Figure 14: Students' Estimations about the Necessity to Develop Critical Thinking Skills.

Question 14: How would you evaluate the extension of your higher-order thinking?

	Participants	Percentage
Very good	5	5.88%
Good	33	38.83%
Average	44	51.76%
Weak	3	3.53%
Total	85	100%

Table 14: Students' Extension of Higher-Order Thinking Skills.

5.88% of the participants assume that their higher-order thinking skills are very good, 38.83% of them say that they are good. Whereas, 51.76% reply that their HOTSs are average and a percentage of 3.53% comes to those who respond that their higher-order thinking skills are weak. The results indicate that the majority of the participants' HOTSs are average.

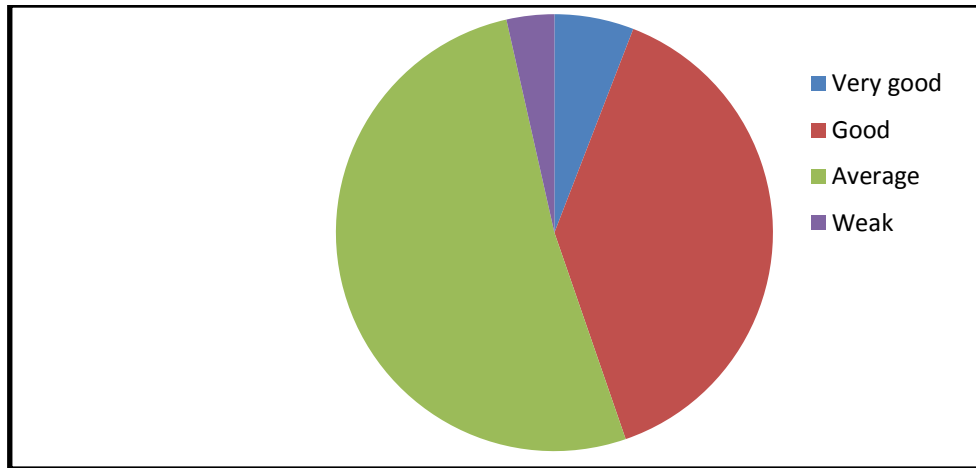


Figure 15: Students' Extension of Higher-Order Thinking Skills.

Question 15: A well -structured way of thinking entails:

	Participants	Percentage
Problem solving	4	4.71%
Decision making	3	3.53%
Good learning	15	17.65%
Critical thinking	5	5.88%
Problem solving and decision making	7	8.23%
All of them	51	60%
Total	85	100%

Table 15: The Entailment of a Well- Structured Way of Thinking.

4.71% of the participants believe that a well-structured way of thinking entails problem solving, 3.53% of them say that a well-structured way of thinking implies decision making. 8.23% of participants say that problem solving and decision making are results of a well-structured way of thinking, 17.65% of them reply that a structured thinking entails good learning. Whereas, 5.88% opt for critical thinking while 60% maintain that all the previous options are results of a well-structured way of thinking. Mainly these various answers prove

that thinking is of a great importance that is why the majority of the participants choose all the options to refer to its effectiveness. That is, when learners have a structured way of thinking, they can solve problems, make decisions, do good learning and also be able to think critically.

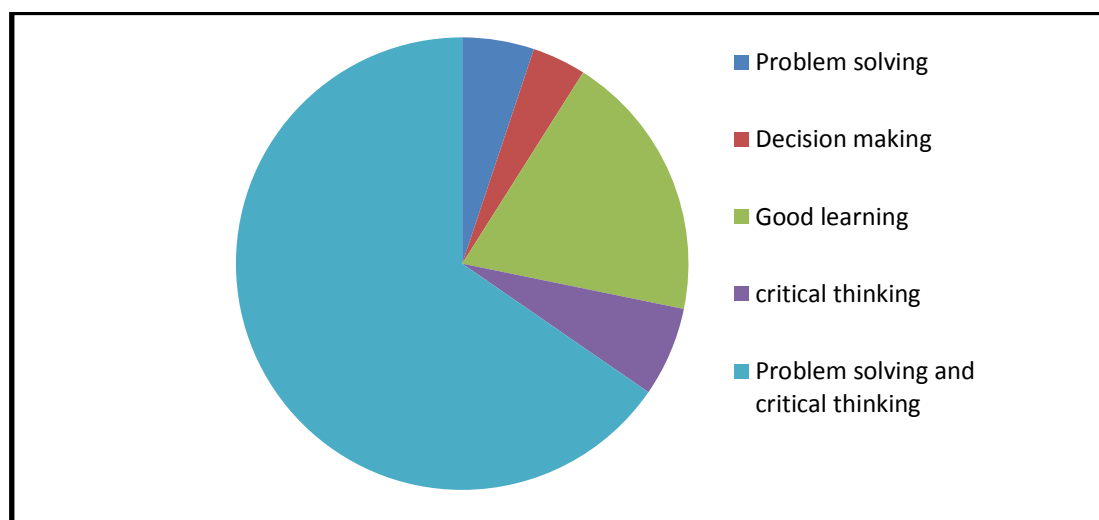


Figure 16: The Entailment of a Well-Structured Way of Thinking.

Question16: Do you think that you are able to analyze, synthesize and evaluate the information that you have encountered before?

	Participants	Percentage
Yes	30	35.29%
No	55	64.71%
Total	85	100%

Table 16: Students' Ability to Analyze, Synthesize and Evaluate the Information they Encounter before.

35.29% of the participants say that they can analyze, synthesize and evaluate the information they have encountered before. However, 64.71% of them reply that they are not able to use these three basic categories of Bloom's Taxonomy. The results show that the majority of the participants ensure that they are not able to use the three taxonomic levels. This may be due to the lack of reading extensively since students themselves confirm in their

previously-mentioned illustrations that through extensive reading, they may be able to use the upper three levels of Bloom’s Taxonomy and reach the point of critical thinking.

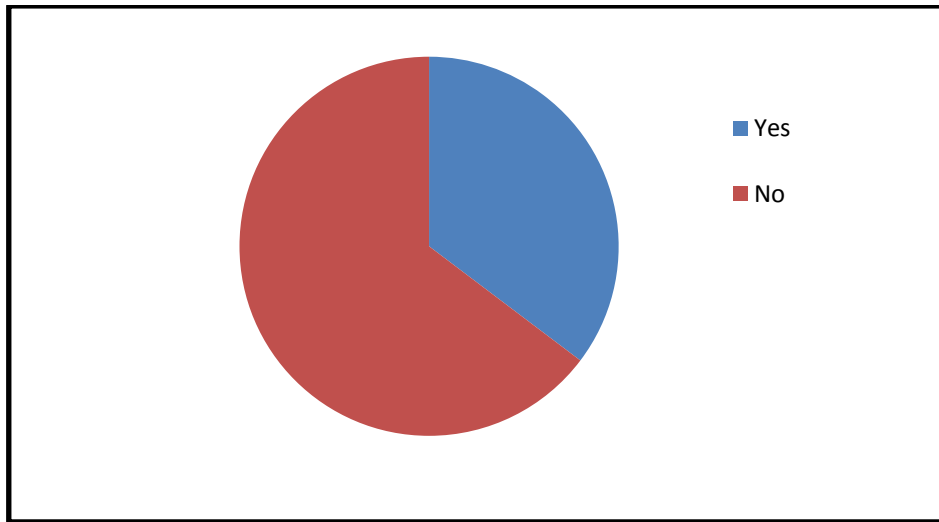


Figure 17: Students’ Ability to Analyze, Synthesize and Evaluate the Information they Encounter before.

Question 17: Does your teachers motivate you to read extensively in order to develop your thinking skills? If yes, how?

	Participants	Percentage
Yes	70	82.35%
No	15	17.65%
Total	85	100%

Table 17: Teachers’ Rate of Motivating Students to Read Extensively.

82.35% of the participants say that their teachers motivate them to read extensively in order to develop their thinking skills. Whereas, 17.65% of them reply that their teachers do not motivate them to read at all. Those who are in the first position reply that their teachers always give them titles of books, novels, short stories and even articles , they ask them to bring summaries and responses to those writings.

Others say that their teachers always refer to the importance of extensive reading saying that it is beneficial for them as learners since it develops their skills, some teachers

usually tell them about their experiences in reading to make them excited to read. Some participants also state that their teachers devote more time to talk about free reading, they complain about their poor writing styles in order to stimulate them to improve their skill of writing by reading extensively. So they advice them to read anything they like for the sake of developing their levels of learning.

Most of the participants who say that they do not receive motivation from their teachers reply that teachers focus on their professional programme rather than building students' levels. Others say that their teachers give them titles of their own choice so they feel bored as what interests teachers does not necessarily interest students, that is why they lose the pleasure of reading. The results seem very positive because teachers do their bests to sensitize their learners towards the importance of extensive reading in developing their higher levels of thinking.

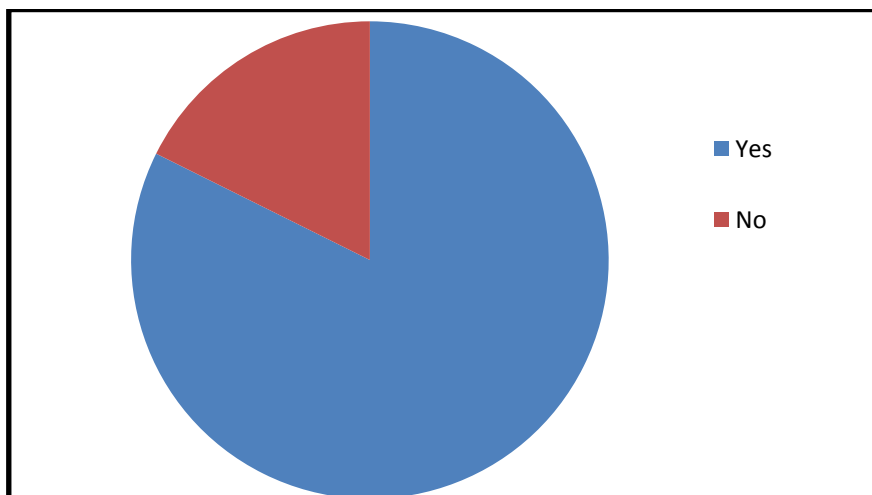


Figure18: Teachers' Rate of Motivating Students to Read Extensively.

Question 18: As a foreign language student, to what extent does extensive reading help you to enhance your ability of thinking? How?

	Participants	Percentage
So much	63	74.12%
Little	22	25.88%
No help	0	0%
Total	85	100%

Table 18: The Contribution of Extensive Reading in Improving Students’ Abilities of Thinking.

74.12% of the participants say that extensive reading help them so much in enhancing their ability of thinking; however, 25.88% of them state that ER is of a little help. The majority of participants reply that the more they read, the more they gain knowledge and develop their critical thinking in which they think in a creative way, as well as express their opinions from different perspectives. In the same context, Linse (2005) stresses that when students read, they follow complex processes of decoding, analyzing, synthesizing and evaluating what they read.

Other participants say that ER gives them the opportunity to discover new ideas, thoughts and experiences. It makes them involved in higher processes of thinking; that is to say, analyzing, synthesizing and evaluating pieces of information as Tankersley state: “a reader is able to process texts at higher levels of the thinking process. The reader is able to apply the levels of Benjamin Bloom’s taxonomy (1956)” (2003, p. 116). Also, they can learn how to set arguments and how to think in different ways to improve their higher levels of thinking. Extensive reading feeds learners brain; they can see the structures of the language, how they are made up and how words are used in different context, through free reading learners cover the gaps they have in the language; it helps them to overcome their weaknesses and improve their overall competence.

Those participants who say that extensive reading has a little help in developing their ability of thinking respond that it does not play a major role because for them good learning entails understanding what teachers lecture only, others say that they cannot have higher levels of thinking in the foreign language since they are not natives so they cannot reach highest levels as natives. The results indicate that extensive reading has a major role in enhancing student's higher ability of thinking.

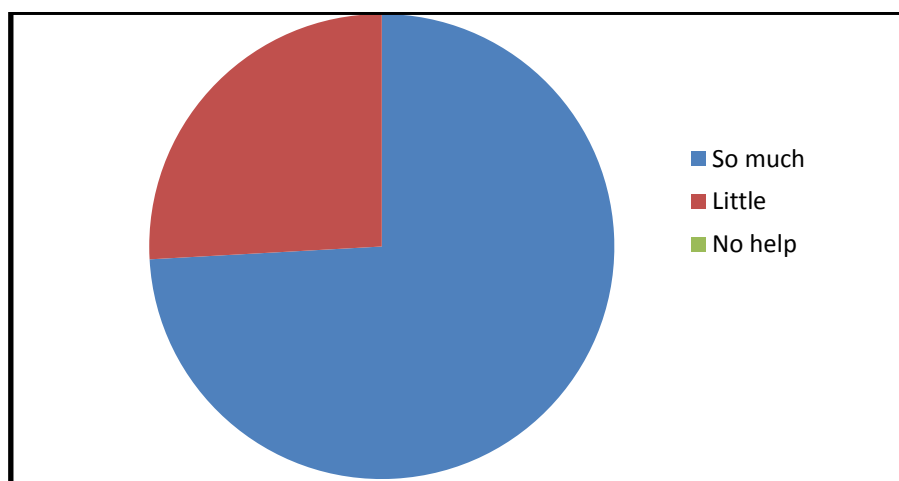


Figure 19: The Contribution of Extensive Reading in Improving Students' Abilities of Thinking.

Question 19: Please, add any further comments about the role of extensive reading in developing higher-order thinking skills.

In fact, this question is so important since it covers all learners comments, and mainly all the suggestions are very positive and helpful. They make it clear that extensive reading develops their higher-order thinking skills through sharing their own points of view towards this topic.

- They say that when they read extensively, their thinking will not be limited and their vocabulary knowledge will be enriched.

- They affirm that ER provides them with ways to criticize others' opinions rather than accepting them directly, since good readers are good thinkers who examine everything they receive, and they think critically before making decisions or stating opinions.
- They confirm that through extensive reading they can think at higher levels and broaden their scope of thinking in which they can analyze, synthesize and evaluate things creatively.
- They ensure that extensive reading makes them autonomous learners; they decide when, where, what and how to read.

So extensive reading is the best way to improve students' higher levels of thinking, it is worth mentioning that ER reading provides students with ways to enhance their HOTSs.

2. The Teachers' Interview

2.1. Description of Teachers' Interview

Basically, the teachers' interview is a set of 10 questions that are carefully set and organized. It is used in order to find out if extensive reading influences the students' higher-order thinking skills. It tackles 10 points that reveal a compilation of data that are analyzed and interpreted qualitatively. Eight respondents are concerned with this interview to give their attitudes and points of view concerning the development of HOTSs through reading extensively. The teachers' answers are documented through note taking, recording, and face to face interaction.

The interview is held with eight teachers at the Department of English at Mila University Centre, they were selected randomly in order to obtain information about the role of extensive reading in developing L2 students' higher-order thinking skills.

2.2. The Aim of the Teachers' Interview

The teachers' interview aims at collecting some data concerning the role of extensive reading in improving learners' higher levels of thinking, and to investigate to what extent teachers support their learners to read extensively to develop their higher levels of thinking.

2.3. The Analysis of the Teachers' Interview

Question 1: How long have you been teaching English at university?

Two teachers have been teaching English at university for 05 years, while one teacher has been taught for 07 years. In addition, two teachers have taught for 08 years, whereas one teacher has been teaching for 11 years. The two remaining teachers are divided; one teacher has taught for 13 years, the other teacher has taught for 20 years. The data gathered from this question would help to know if being a novice or an expertise teacher has an impact on teaching reading.

Question 2: How much do you consider reading as an important skill for EFL students?

Responding to this question, all teachers believe that reading is a basic skill that has a great importance for EFL learners. They stress that student cannot learn starting by producing the language, but they need some reception first at the level of the reading skill. Therefore, reading is a receptive skill without which students cannot develop other language skills.

Question 3: Do you encourage your students to read in English extensively inside and outside the classroom?

In this regard, all teachers do encourage their students to read extensively in English. Teachers say that inside the classroom it is something nearly impossible because of time limitations and they are restricted to a programme they have to finish. But whenever there is time, they open brackets to remind their students about the benefits of extensive reading they

might gain. They affirm that they try to push their students to read extensively outside the classroom indirectly through giving them some presentations to do just for the sake of making them read. Teachers believe that students who read extensively, whether in the L1 or the L2, are successful learners especially those ones who want to quench the thirst about reading, they allow to a better learning to be used in their career.

Question 4: Do you provide your students with titles to read or you just let them choose on their own?

Three teachers declare that they do provide their students with titles of materials they read themselves. These teachers believe that sharing their own reading experiences with their students might be of a great help for them, especially for those learners who are curious to read different kinds of materials for the sake of improving their learning. Whereas, five teachers say that they do not provide their students with any titles, unless they ask them to do so. These teachers confirm that they do not impose titles on their students, they just let them free to choose on their own what better suits and interests them. They believe that what is interesting to them might not be interesting to others since people share different tastes and interests of the materials they want to read.

Question 5: Do you think that reading as a skill is neglected in English teaching classes in comparison to other skills?

All teachers do agree on the fact that reading is mostly ignored in the EFL classes. The respondents believe that there is no attention given to reading as it is given to the other three skills; listening, speaking and writing. There is no such module in the LMD system which teaches reading along side with the strategies that make students read and learn better. The teachers say that the module of writing which is called “written expression and comprehension” has to do with both writing and reading; unfortunately, “comprehension”

which is the part that deals with reading is totally neglected despite the fact that reading and writing are highly interrelated to each other. That is to say, the other part “expression” that includes writing teaches students techniques and strategies of writing, but in order for learners to write better they have to read what others write to develop their writing skills. The teachers affirm that when a module of reading is included in the EFL curriculum within the LMD system, students will learn how to read and what to read, they will learn those specific techniques and strategies of reading because when they read, they will develop their higher levels of thinking and may reach the point of critical thinking in the sense that they analyze, synthesize and evaluate what they are reading.

Question 6: If you are teaching a module of reading, would you give your students a chance to read?

All the respondents answer positively, if they are teaching a module of reading, they will definitely give their students the chance to read inside and outside the classroom. The teachers merely share the same ideas; in other words, some of them say that they would ask their students to read some stuff at home, the students choose a book on their own and read it, then they analyze and summarize it then they come to the classroom and present it in front of their teacher and classmates. The other teachers say that they would choose a short story or a novella together with their students, they prepare themselves and then come to the classroom where they shape a round circle and each learner reads a part and they discuss all together. In this way, all the students get the chance to read, even those who do not like reading will be motivated to start reading. The teachers believe that it would not be a reading class if the teacher does the reading instead of the students, but students should read themselves and should make reading a habit that is part of their daily lives.

Question 7: To what extent do you assume that students use HOTSs (analysis, synthesis, evaluation)?

Responding to this question, teachers declare that students are of two types; there are those brilliant students who are very competent and hard workers, and there are those who are easy going that we cannot just put them in the same part. They believe that higher levels of thinking are highly linked to who the students are, who the teachers are, and the content of the syllabus. In fact, most students do not use this kind of skills; they just use what is called as lower-order thinking skills because teachers are still lecturing in a traditional way. They state that the type of questions that are asked in tests and exams, and even the kind of activities that students are involved in requires only recalling information and not analyzing them. As a result, students achieve only the two lower skills of knowledge and comprehension and could not pass to the higher ones because they are not prepared to do so. They stress that teachers play a role in involving students in activities that require higher levels of thinking like problem solving activities, in addition that learners themselves should make efforts to develop these skills to reach its highest levels.

Question 8: Do you think that students are able to reach the last category of Bloom's Taxonomy? I mean evaluation.

All the respondents share the view that students have the ability to reach their higher levels of thinking, where they can evaluate the information they receive. But there are some procedures to be followed since these skills cannot be developed by themselves. Teachers ensure that if students are in the right environment, with the right guide and they have the potential to learn, they can reach their highest-order thinking skills. All what students need are a good syllabus, good teachers and some interest in order to come to the point to build their own attitudes, beliefs and points of view. Teachers confirm that all students have the ability to

reach this point of thinking; they just have to stop minimizing their abilities and increase their self-esteem towards learning.

Question 9: Do you think that reading extensively aids L2 students increase their higher-order thinking skills? Why?

The whole informants profess that extensive reading is of a great aid for developing EFL students' higher-order thinking skills. They do believe that the ability to analyze, synthesize and evaluate is the local objective of learning which can be developed through reading extensively. Furthermore, they affirm that if extensive reading is guided by teachers, learners will not only develop their HOTSs but will also develop all the other skills. Students only need some attention and consciousness to better improve such skills because without an action, nothing is going to be developed.

Question 10: What further suggestions would you propose to develop students' HOTSs? If any of course.

Teachers propose some suggestions that can be taken into account in order to develop students' higher-order thinking skills:

- They assert that extensive reading really plays a major role in developing learners' HOTSs since students are exposed to large amounts of reading materials which they choose by themselves.
- They confirm that they have to opt for tasks relying on analysis, synthesis and evaluation.
- They stress that some awareness should be raised by teachers in order to sensitize students towards the importance of reading extensively and the importance of trying to develop HOTSs all along with the reading experience.

- They state that the role of the teachers inside the classroom and the kind of lectures they give, along with the kind of questions that are asked in exams and tests should be all enhanced in order to improve HOTSs for students.
- They all agree that a reading module should be integrated in the EFL classrooms within the LMD system.

3. Discussion of the Main Findings

After the analysis of the questionnaire's results, the idea about the role of extensive reading in developing L2 students' higher-order thinking skills was established. It was apparent from the students' answers that they really recognize the importance of extensive reading in enhancing their higher levels of thinking; in the sense that, 74.12% of learners reply that extensive reading is of great importance and 91.76% of them say that it is extremely beneficial; whereas, 67.05% of learners respond that they like free reading. The questionnaire also proves that most teachers do their best to motivate their learners to read extensively in English, the majority of students representing 82.35% state that their teachers always sensitize them towards the major role that extensive reading plays in developing their highest levels of thinking.

The analysis of the interview helps in setting a clear picture about the role of extensive reading in the development of L2 students' higher-order thinking skills. The results reveal that there is a consensus among teachers about the reading-thinking relationship. That is to say, in the first question, teachers' experience plays a major role in teaching reading because there is such a difference between being a novice and an expertise teacher. Questions from 2 to 6, results of these questions clarify that teachers recognize the importance of extensive reading; they encourage their students to read extensively and try to motivate them to read through sharing some of their experiences in reading or even provide them with titles whenever they ask. Teachers' answers confirm that the reading skill is ignored in the EFL classes despite its

importance, and that they would absolutely provide their learners with the opportunity to read inside the classroom if a reading module is integrated. Questions from 7 to 9, teachers believe that higher-order thinking skills are totally absent in the sense that students never show such skills when learning. But it is not impossible to develop these skills to reach its highest levels through extensive reading. Question 10, teachers have coincided on the importance of integrating a reading module within the LMD system in the coming reforms. Extensive reading after all remains the salient approach of reading that trains readers to read skilfully and think analytically, and it is the suitable approach to improve students' higher-order thinking skills.

4. Recommendations and Suggestions

The main aim of this work is to investigate the role of extensive reading in developing L2 students' higher order thinking skills. In light of what has been presented in the first chapter "The Extensive Reading Approach", and in the second chapter "A Shortened Overview to Higher-Order Thinking Skills" and the results obtained in the third chapter "Field Investigation", the following suggestions and recommendations are proposed to both learners and teachers.

Learners should:

- Be aware of the importance of extensive reading.
- Read extensively.
- Set goals behind their reading.
- Train themselves to read critically in order to develop their thinking abilities.
- Teachers should:
- Motivate their students to expend their comfort zone to read extensively.

- Guide their students to read and teach them the different strategies that are used when reading, and show them the ways to apply these strategies appropriately in order to make reading an easy task for them.
- Encourage students to read materials that are adapted to their levels because difficult materials make students lose the joy of reading.
- Do not impose students to read materials of their interests and let them choose freely what they want to read.
- Devote more time to practice reading inside the classroom.
- Ask for integrating reading as a separate module since the other three skills; writing, speaking and listening are part of the curriculum.
- Urge students to read and activate their minds to promote their thinking skills.
- Set activities that raise students' higher-levels of thinking like problem solving activities.
- Support the reading-thinking relationship in order to develop learners' higher-order thinking skills.

5. Limitations of the study

The most significant limitations that this study has encountered are the collection of the students' questionnaire. Although we have addressed 100 questionnaires, only 85 questionnaires were given back. The other limitation is that reading is not taught at EFL classrooms; therefore, it was very difficult to investigate the opinions of both students and teachers about reading since it is not implemented in the LMD system.

Conclusion

Primarily, the current chapter has dealt with the aim of this research work, the participants involved, the research tools and the methodology applied as a research layout. It presents an analysis and discussion-in depth- of both students' questionnaire and teachers' interview. The results that are reported in this chapter reveal that students are roughly aware of the importance of ER and its vital role in developing their HOTSs, they also prove that teachers- from their part- highly encourage their students to read extensively since they recognize that ER is an effective way to develop their learners' HOTSs. Thus, the obtained results strongly confirm the stated hypothesis. The chapter also provides some recommendations for both students and teachers for the sake of increasing their awareness about the advantages of extensive reading and its great impact on the development of learners' higher levels of thinking.

General Conclusion

Higher-order thinking is one of the essential skills that play a crucial role for students to achieve success in all domains of life. In EFL classes, thinking has been an important skill that needs a careful attention in order to be developed. This necessity urges us to think about an effective solution which best manipulates this issue that ESL\EFL classes witness. This work seeks to elicit the teachers' and learners' awareness of the reading-thinking relationship and to what extent teachers motivate their students to read extensively in order to develop their thinking skills.

The main purpose of this study is to highlight the importance of extensive reading in developing L2 learners' higher-order thinking skills. It attempts to introduce extensive reading and explore its nature, its basic principles and its benefits. In the last years, extensive reading has been growing in popularity especially in SL\FL settings where it is strongly believed that extensive reading is one of the key factors to achieve success in learning and teaching, and it is an adequate method to improve students' thinking abilities.

The first chapter comprises a theoretical background about the reading skill and the notion of extensive reading. It begins by identifying reading along with its two types; intensive and extensive reading in order to extract their different principles. Then, it illustrates the models of reading: bottom-up, top-down and interactive models. In addition, it introduces reading strategies: scanning and skimming. It further deals with some theories about extensive reading: the input hypothesis and the schema theory. It also accounts for an extensive reading programme and its basic principles in order to present further clarifications for this approach. The chapter concludes with the benefits of extensive reading for EFL students.

The second chapter deals with an overview about higher-order thinking skills along with the dimensions of the cognitive domain of Bloom's Taxonomy. Then, it moves to define

lower-order thinking skills, and higher-order thinking skills being the main concern of this second chapter. The chapter also explains the main differences between the original Bloom's Taxonomy and its revised version. In addition, it proposes five steps to develop HOTSs as well as its importance for students. The chapter ends up with the relationship between extensive reading and higher-order thinking skills since they are said to be skills that "mirror each other".

The third chapter is devoted to analyze and explain the data gathered. It investigates the role of extensive reading in developing L2 students' higher-order thinking skills through analyzing and interpreting students' questionnaire which has been administered to third year EFL students, and teachers' interview that has been conducted with EFL teachers in the department of English at Mila University Centre. The results of this study reveal that extensive reading really plays a major role in the development of students' higher-order thinking skills as it brings evidence about its success and efficiency in EFL teaching and learning. Therefore, the obtained results have confirmed the stated hypothesis since HOTSs are improved through reading extensively in the foreign language.

As a concluding remark and with reference to the obtained outcomes, significant enhancements are thought to be accomplished through the application of extensive reading strategy to ameliorate students' higher levels of thinking. This work does not pretend to be exhaustive; it remains a trial to examine the prominent role of extensive reading in improving L2 learners' higher-order thinking skills which needs a more elaboration and more research since many questions are still open to debate concerning this educational issue.

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Appendices

Appendix one

Students' Questionnaire

Dear students,

This questionnaire is part of a research designed as a data collection tool for the accomplishment of a master dissertation in Didactics. It aims at finding out the students' opinions concerning the role of extensive reading in developing L2students' Higher Order Thinking skill.

We would be very grateful if you accept to fill in the following questionnaire. Please, tick (√) the appropriate answer or give a full statement whenever it is necessary.

Thank you for your collaboration

Section One: General Information

1. Gender

a. Male

b. Female

2. What was your baccalaureate stream?

a. Literary

b. Scientific

c. Technical

3. Is learning English:

a. Your personal choice

b. Your parents' choice

c. Imposed by the ministry

4. Do you like learning English?

- a. Yes
- b. No

Section Two: Extensive Reading

5. How do you consider your reading skill?

- a. Weak
- b. Average
- c. Good
- d. Very Good

6. How often do you read in English?

- a. Always
- b. Sometimes
- c. Rarely

7. Do you like reading extensively in English? Why?

- a. Yes
- b. NO

.....

.....

8. Is reading extensively beneficial to develop your levels in learning English?

- a. Yes
- b. No

▪ **If yes, explain how?**

.....

.....

.....
.....
9. Do your teachers encourage you to read:

- a. By providing you titles to read from their own choice
- b. By giving you the freedom to choose what interests you

10. Does the title of the book give you an idea about its content before you start reading?

- a. Yes
- b. No

11. When you face a difficult term while reading, you:

- a. Try to guess its meaning from the context
- b. Look up its meaning in the dictionary
- c. You leave it and continue reading

12. Why do you think that extensive reading is important? (multiple choices are possible)

- a. Because it is a pleasurable activity
- b. Because it helps you acquire knowledge
- c. Because it develops your thinking abilities

Section Three: Higher Order Thinking Skills

13. Do you estimate that critical thinking skills are necessary to develop?

- a. Yes
- b. No

- **Please explain**

.....
.....
.....

14. How would you evaluate the extension of your higher order thinking skills?

- a. Very good
- b. Good
- c. Average
- d. Weak

15. A well structured way of thinking entails:

- a. Problem solving
- b. Decision making
- c. Good learning
- d. Critical thinking
- e. All of them

16. Do you think that you are able to analyze, synthesize, and evaluate the information that you have encountered before?

- a. Yes
- b. No

17. Does your teacher motivate you to read extensively in order to develop your thinking skills?

- a. Yes
- b. No

▪ **If yes, how?**

.....
.....

.....
.....

18. As a foreign language student, to what extent does extensive reading help you to enhance your ability of thinking?

- a. So much
- b. A little
- c. No help

▪ **How?**

.....
.....
.....
.....

19. Please, add any further comments about the role of extensive reading in developing higher-order thinking skills.

.....
.....
.....
.....

Thank you so much for your collaboration

Appendix two

Teachers' Interview

You are kindly requested to spare some of your time to respond to this interview that aims to collect information about the role of extensive reading in developing L2 students' higher order thinking skills.

1. How long have you been teaching English at university?
2. How much do you consider reading as an important skill for EFL students?
3. Do you encourage your students to read extensively in English inside and outside the classroom?
4. Do you provide your students with titles to read or you just let them choose on their own?
5. Do you think that reading as a skill is neglected in English teaching classes in comparison to other skills?
6. If you are teaching a module of reading, would you give your students a chance to read?
7. To what extent do you assume that students use HOTSs (analysis, synthesis, evaluation)?
8. Do you think that students are able to reach the pinnacle of Bloom's Taxonomy? I mean evaluation.
9. Do you think that reading extensively aids L2 students increase their higher-order thinking skills? Why?
10. What further suggestions would you propose to develop students' HOTSs? If any of course.

Thank you so much for your collaboration

الملخص

يقوم هذا البحث بتسليط الضوء على قضية تعتبر من أكثر القضايا البيداغوجية تواجدا في المؤسسات التربوية ألا وهي دور القراءة الموسعة في تطوير مهارات التفكير العليا لدى الطلبة. لاختبار هذه الفرضية تم توزيع استبيان على طلبة السنة الثالثة في قسم اللغة الانجليزية بالمركز الجامعي ميله بغرض معرفة مدى وعيهم بأهمية القراءة الموسعة و دورها في تطوير مهارات التفكير العليا لديهم. كما تم برمجة حوار مع بعض أساتذة اللغة الانجليزية بنفس القسم لمعرفة آرائهم حول العلاقة بين القراءة الموسعة و مهارات التفكير العليا و إلى أي مدى يشجعون طلبتهم على القراءة بشكل موسع في أوقات فراغهم. بينت النتائج أن طلبة اللغة الانجليزية بالمركز الجامعي ميله يمتلكون نظرة ايجابية حول القراءة الموسعة ويؤمنون بدورها الفعال في تطوير مهارات التفكير العليا لديهم. كما أكد الأساتذة أنهم يقومون بدورهم على أكمل وجه في تحسيس الطلاب بمدى أهمية القراءة بشكل عام و القراءة الموسعة بشكل خاص. في ختام هذا البحث اقترحنا توصيات عديدة خصصت لكل من الأساتذة و الطلاب بهدف تشجيع القراءة و اضمناها في مناهج أقسام اللغة الانجليزية كمادة منفصلة. نأمل أن نكون قد وفقنا في الوصول إلى الهدف المسطر و أن نكون قد ساهمنا و لو بالشيء القليل في هذا المجال و أن تعتبر انطلاقة لأبحاث أخرى في المستقبل أن شاء الله.

Résumé:

Cette recherche met en évidence la question pédagogique la plus existante dans les établissements de d'enseignements, dont le rôle de la lecture étendue pour développer et améliorer les compétences de réflexion supérieures des étudiants. Pour tester cette hypothèse, un questionnaire a été distribué aux étudiants du 3eme année du département de la langue d'anglais du Centre Universitaire de Mila, à fin de déterminer leurs connaissance de l'importance de la lecture étendue et sa rôle dans le développement de leur capacités de réflexion supérieures, un dialogue avec des professeurs était également prévu dans la même département pour connaitre leur point de vue concernant la relation entre la lecture approfondie et les capacités de réflexion supérieures, et dans quelle mesure ils encouragent leurs étudiants à lire approfondissement dans leurs temps libres. Les résultats ont montré que les étudiants de la langue d'anglais du Centre Universitaire de Mila avaient une vision positive à propos la lecture approfondie, ils assurent en sa rôle active dans le développement de leurs

capacités de réflexion. Dans ce contexte, les professeurs ont affirmé qu'ils faisaient de leurs mieux pour sensibiliser les étudiants à l'importance de la lecture en général et la lecture étendue en particulier. A la fin de cette recherche, nous avons proposé plusieurs recommandations destinées aux enseignants et beaucoup plus aux étudiants dans le but d'encourager la lecture étendue et l'inclusion au programme d'enseignement de la langue anglaise comme une matière distincte. Nous espérons que nous pouvons atteindre l'objectif fixé, que nous avons même contribué un peu à ce domaine, et que notre travail sera considéré comme le début de futures recherches.

Summary

This present research work highlights one of the most important pedagogical issues that educational institutions witness, which is the role of extensive reading in developing L2 students' higher-order thinking skills. To test this hypothesis, a questionnaire has been administered to third year EFL students at Mila University Centre in order to investigate to what extent they are aware of the importance of extensive reading in developing their higher-order thinking skills. In addition to an interview that has been conducted with some teachers of English at the same university to recognize their attitudes towards the relationship between ER and HOTSs, and to what extent they support their learners to read extensively in their leisure time. The obtained results show that EFL students at Mila University Centre react positively towards ER and believe that it has a vital role in improving their higher levels of thinking. In this context, the interview confirms that teachers are doing their best to sensitize their students towards the significance role of reading in general, and extensive reading in particular. At the end of this research, some recommendations have been directed to both teachers and students aiming at encouraging ER and integrating it within the EFL curriculum as a separated module. We hope that we reached the targeted goal and contributed in this domain, aiming that this work will be a start for other researches in the future.