

REPUBLIQUE ALGERIENNE DEMOCRATIQUE ET POPULAIRE

MINISTERE DE L'ENSEIGNEMENT SUPERIEUR ET DE LA RECHERCHE SCIENTIFIQUE

UNIVERSITE MOULOUD MAMMERI TIZI OUZOU

FACULTE DES LETTRES ET DES LANGUES

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جامعة مولود معمري – تيزي وزو

كلية الآداب و اللغات

Domaine : Langue et Littérature Etrangères

Filière : Langue Anglaise

Spécialité: Langage et Communication

Dissertation Submitted in Partial Fulfillment of the Requirements

for the Degree of Master in English

Title:

Conception and Implementation of Critical Thinking

in the Discussion-of-the Findings Section of Master

Dissertations

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Dedication

To my dear and beloved parents

Acknowledgments

The present work would not have reached a completion without the precious help and constant encouragement of a great deal of people to whom I owe a special acknowledgment.

First and foremost, I owe a special debt of gratitude to my teacher and supervisor Dr. Mohammed Sadek Fodil for his invaluable contribution to my intellectual and academic upbringing. I am tremendously grateful to him for his humility, patience, guidance, insightful and constructive feedback for the betterment of this humble work. Despite his busy schedule, he has always made himself available whenever I sought his help.

I wish to immensely thank the panel of examiners for having kindly accepted to read and evaluate this modest work. Additionally, my appreciation goes to the participants, whether teachers or students, for their considerable cooperation and willingness to take part in my research.

Sincere thanks go to Prof. Adrian Holliday and Prof. Helen Basturkmen for having provided me with valuable documents I needed to strengthen my research work.

Though I do not provide their names owing to space limits, I am very thankful to my mates and my friends for their support and persistent encouragements throughout the process of writing this research paper.

I would like also to seize this opportunity to express my gratitude to all my teachers in the Department of English and the librarians for their precious assistance.

Last but not least, I am extremely indebted to my family for providing me with endless care, affection, concern and moral support all along the writing of this dissertation.

Abstract

The present research revolves around Master students' conception and implementation of critical thinking skills in the discussion-of-the findings chapter of Master dissertations. It endeavours to glean some insight into students' understanding of critical thinking and the extent to which they take a critical approach in their writing of the discussion section. The study goes further to unearth the factors that either foster or impede students from exhibiting traits of criticality in this chapter. To reach this end, Master Students enrolled in the field of Language & Communication have been taken as a case study. It thus relies on Quellmalz's Framework of Higher-Order Thinking Skills (1988) as a theoretical plinth. For the sake of empirically investigating the issue, a mixed-methods approach is adopted. It combines between quantitative and qualitative procedures for data collection and data analysis. The study relies on a textual corpus made up of ten Master dissertations. Apart from the textual corpus, the study relies on a questionnaire administered to twenty-five graduate Master students as well as semi-structured interviews conducted with five supervisors. The data gathered from these instruments are analysed through the Statistical Package for Social Sciences (SPSS) software and Qualitative Content Analysis (QCA). The findings of this research reveal that the participants have a fairly comprehensive understanding of critical thinking. Most students are cognisant of the importance of critical thinking in the discussion section and this is clearly mirrored in their works. The results also suggest that students' motivation and supervisors' guidance act as incentive factors towards students' showing critical thinking in the chapter. However, the study reports the existence of objective factors that arise as hindrances to other students' integration of critical thinking skills in the discussion chapter.

Keywords: Critical thinking, Critical thinking skills, Master students, Quellmalz's framework.

List of Abbreviations

- CT : Critical Thinking
- CTS : Critical Thinking Skills
- DF : Disussion of the Findings
- MMUTO : Mouloud Mammeri University of Tizi-Ouzou
- QCA: Qualitative Content Analysis
- SPSS : Statistical Package for Social Sciences

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General Introduction

General Introduction

- **Statement of the Problem**

Critical Thinking (CT henceforth) is at the forefront of the 21st century skills known as the “*Four Cs*” namely, *Critical Thinking*, *Communication*, *Collaboration* and *Creativity* deemed as the preponderant goals of higher education. The Four Cs substantially CT are the basic skills that need to be ingrained in University students alongside the teaching of core academic subjects so as to prepare such students to meet the demands of the highly technological and globalized world. In fact, CT is bestowed a remarkable emphasis worldwide for it is reckoned as an essential trait of intellectual maturity crucial for both societal and professional life ahead of them but before that in their academic career.

Halpern (2010) and Kong (2007) maintain that, once graduated, University students would be able to think critically in order to effectively and adequately cope with various situations related to the socio-professional life. That is, to transfer and remobilize thoughtful skills learnt in class like reasoning, evaluation, analysis when solving problems, making decisions, managing and so on.

In the academic context, CT contributes to career achievement and success. As a matter of fact, after five years of effective and valuable academic teaching and active involvement in studies, Master students are required to prove their intellectual outgrowth by designing and delivering an academically rigorous piece of research tackling a specific topic within the scope of their academic specializations. By writing a research paper, they mark their transition from the status of students to that of scholars or researchers (Paltridge, 1997).

Hence, they are expected to nurture a set of valuable research and writing skills like discerning relevant information from a wide range of sources (Giraldo-Garcia et al.,2015), synthesizing data, writing in an academic style, managing time and most importantly thinking critically. Also, to demonstrate that they are autonomous writers able to generate a dissertation

reflecting their command of the knowledge of the field of inquiry, logical reasoning, original ideas and authorial voices (Barnawi, 2011; Evans et al., 2014; Widodo, 2012). In so doing, Master students are likely to bring a substantial contribution to their fields of study, get their Master's degrees hence excel in their academic careers.

More precisely, it is in the Discussion of the Findings (DF hereafter) section of a Master dissertation that students are mostly expected to exhibit their ability to reason soundly and to think critically (Evans et al., 2014). In this regard, Paltridge and Starfield (2007) assert that in the Discussion chapter students are required to go beyond the descriptive level towards explaining, interpreting as well as justifying the findings in the light of the theoretical plinth underpinning the research work and the previous studies reviewed in the Review of the Literature section. Put differently, writing this chapter requires developing a set of critical thinking skills (CTS henceforward) like comparison and contrast, analysis, drawing inferences, evaluation, making judgments backed by a cogent evidence, and so on.

The literature reviewed so far revealed that *CT* and the *DF* section have been the concern of various studies from different perspectives both at national and international levels. While studies (Van Glader, 2005; Mebarkia, 2013; Bounoua & Mehaddi, 2015) explored the teaching of CT in different academic contexts, Willingham (2007) and Fani (2011) enumerated the difficulties that arise as barriers in front of the implementation of CT in such contexts including its vague conceptualization and lack of teacher training.

Yet, feeling the urgent need of CT in higher education, researchers (Duron et al., 2006; Rezaei et al., 2011; Halpern, 2013) suggested pedagogical implications ;namely, frameworks, practical stratagems and techniques to implement in class so as to enhance students' CT abilities. Vyncke (2012) and Shaheen (2012) on the other hand stressed the importance of CT in academic writing in Western universities and international students' compulsion to meet the requirement.

As for the Discussion chapter, it has been dealt with from the perspective of genre analysis. A number of scholars (Hopkins & Dudley-Evans, 1988; Swales & Feak, 1994; Samraj, 2005) explored the rhetorical patterns to follow when writing the Discussion section in theses and dissertations. Bitchener and Basturkmen (2006) on their part conducted a study in New-Zealand on the perceptions of supervisors and L2 postgraduate students regarding the difficulties faced in the writing of this particular section. The study reported a consent between them on the lack of understanding of the requirements of the DF section in terms of functions and content as one of the difficulties. However, it reported a mismatch over the limited English language proficiency as a reason of students' difficulties. Likewise, Deng (2009) investigated the challenges of the Discussion and Conclusion section writing experienced by L2 Chinese doctoral students. Similarly, the students in this research encountered problems owing to their limited understanding of the requirements of this section.

From this overview of the literature, it becomes noticeable that no study endeavored to tackle the issue of incorporation of CT in the DF section of dissertations both at national and international levels. This is the reason why the present study seeks to fill this research void by exploring Master students implementation of CTS in the Discussion chapter of dissertations in the Department of English at Mouloud Mammeri University of Tizi-Ouzou (MMUTO).

- **Research Questions and Hypotheses**

To investigate such an issue, the following research questions are raised:

Q1-How do Master students interpret CT and the skills it entails?

Q2-To what extent do students adopt a critical dimension in their writing of the Discussion section?

Q3-What factors foster or impede students' implementation of CTS in their writing?

In an attempt to answer the aforementioned research questions, the following hypotheses are advanced:

Hp1-Master students view critical thinking as a high-order thinking that is beyond their reach.

Hp2-Students have integrated critical thinking skills in their Discussion sections.

Hp3-The inclusion of critical thinking in this chapter is challenged by various factors.

- **Aims and Significance of the Study**

Following increasing interest in research on CT in higher education, the present study seeks to supplement current research by conducting a small-scale research in the Department of English at MMUTO on Master students' interpretation of CT and their ability to adopt a critical approach in the DF chapter. The study goes further to explore the factors that either enhance or hinder students to write this chapter in a critical way. By so doing, the study would be a première attempt to tackle this issue at the level of the aforementioned Department as well as at the national level.

The research study strives to attain two major objectives. It purports to shed light on an essential element congruent with University standards and expectations that is "*critical thinking*". Given that Master students are novice to the field of research paper writing as it is their first attempt to conduct such an academically rigorous piece of research in their academic career. Accordingly, the study envisages to raise the awareness of prospective Master students towards the importance of taking a critical stance towards their writing of the DF section so as to meet the requirements of writing this specific chapter.

The second objective targeted by the study is to incite University teachers to nurture CT in Master students who are in this particular case EFL learners. In fact, as John Dewey (1997 cited in Heijltjes, 2008:9) maintained, learning to think is not "*a gift of nature*" rather acquired and "*cultivated*" by education.

It is worth mentioning that Algeria has adopted a learner-centered approach as a new teaching-learning paradigm by inserting Constructivism and Competency-Based Approach into

the educational system (Chelli, 2010). This implies that students are no longer seen as “*empty vessels waiting to be filled with knowledge*” (Harris et al., 2012:109) from the teacher rather active participants in the learning process. Most importantly future researchers able to excogitate, reason, inquire, generate research papers and so on. Consequently, the role of the teacher is to equip students with skillful, finely tuned competencies like CT and to groom them to conduct large-scale researches “*in the broader academic and/or scientific communities of which many of them might ultimately wish to become part*” (Paltridge, 1997:68).

Another focal reason for insisting on the development of CT in EFL students is related to the status of English that has taken the role of a “*global language*” (Crystal, 2003: 2). English is used in various fields and spoken by a great deal of non-native speakers all around the world; hence, “*CT in English would be a very pivotal element that has to be mastered by EFL learners*” (Ubaidillah, 2014). In the same vein, due to the increasing mobility of students to foreign countries, CT proves necessary for intercultural communication, exhibiting open-mindedness and tolerance towards foreigners (Vdovina, 2013).

- **Research Techniques and Methodology**

The present study intends to investigate Master students’ awareness and implementation of CT and the skills it entails in the DF section as well as the factors influencing their incorporation in writing this specific chapter of the dissertation. For this end, it adopts Quellmalz’s (1988) *Framework of High-Order Thinking Skills* as a theoretical plinth.

Besides, it opts for a mixed-methods approach combining between quantitative and qualitative methods for data collection and data analysis. The corpus of the study consists of ten (10) Master dissertations submitted in 2015 by Algerian students enrolled in the field of “*Language and Communication*” in the Department of English at MMUTO. The choice of this specific corpus is essentially related to the discipline the dissertations pertain to. Being a student in this same specialisation and well acquainted with it would increase the understanding of the

content of the corpus thus facilitate its analysis. In this regard, it is envisaged that the dissertations will be subjected to an in-depth analysis through Qualitative Content Analysis to detect the incorporation of CTS in the DF chapter.

Apart from the textual corpus, the research work relies on data gathered by means of a questionnaire administered to twenty-five (25) Master students plus semi-structured interviews conducted with five (5) supervisors in charge of overseeing Master researches in the above-mentioned speciality. The analysis of the text corpus supplemented by the views of the informants towards CTS and the factors affecting their implementation will provide an exhaustive picture on the issue under investigation.

- **Structure of the Dissertation**

In terms of organization, this dissertation is structured following the traditional-complex model that consists of a general introduction, four chapters and a general conclusion. The general introduction has been dedicated to setting the groundwork for the present study. It has stated its issue, its research questions and hypotheses, its objectives and its methodological design. The first chapter is entitled “*Review of the Literature*”. As its name suggests, this chapter consists in reviewing the main theoretical concepts related to the topic as well as the theoretical framework underlying the research study. The second chapter called “*Research Methodology*” presents the procedures of data collection and data analysis. The third chapter coined “*Presentation of the Findings*” provides a detailed account of the results of the gathered data and the analyzed textual corpus. As regards the fourth chapter, it is labeled “*Discussion of the Findings*”. It endeavors to interpret the results thus brings answers to the research questions set out at the onset of the investigation. Finally, the general conclusion provides a summary of the main points dealt with throughout the study. Additionally, it proposes a number of suggestions for further research.

Chapter One

Introduction

This chapter is meant to review the literature that revolves around the topic investigated in this research: the conceptualisation and implementation of CTS in the discussion chapter. It is divided into two major parts. The first part deals with CT and offers a historical insight into the emergence of the idea of critical thinking and broaches the enduring debate over the meaning of the concept. It explains the correlation between CT and Social Constructivism. Then, it tackles the role of motivation in developing students' CT ability. Moreover, it explores critical reading and critical writing both of which are deemed significant at university level as well as Freire's notion of critical pedagogy. Lastly, it presents Quellmalz's framework that will serve as a theoretical plinth for the present study. The second part is devoted to the explanation of the requirements of writing a DF section.

1. Critical Thinking

1.1 Historical Overview on CT

Thinking is Man's peculiar trait that distinguishes him from the rest of living species. Being aware of this privilege, he started to use it to investigate the world around him. This gave birth to CT that can be traced back to 2,500 years ago to the era of the Greek philosopher Socrates because, as Heidegger (1976:5) put it, "philosophers are the thinkers par excellence". His method of inquiry known as "*Socratic Questioning*" or "*Maieutics*" is seen as the threshold of a systematic and rational mode of thinking that developed to become what we now call CT. Etymologically speaking, the term "*critical*" derives from two Greek roots; "*kriticos*" meaning "discerning judgment" and "*kriterion*" meaning "standards". That is to say, the term "*critical*" does not bear the negative connotation of "criticism". Then, according to the Foundation for Critical Thinking, the word implies the development of "a discerning judgment based on standards". As for "*thinking*", it is defined as "the mental activity of cognition" (Robbins, 2014: 18).

Later, Socrates's disciples developed the Greek tradition emphasizing the use of systematic thinking to go beyond the surface appearances of things in an attempt to understand deeper realities. In the same vein, Aristotle elaborated rules of "*reasoning*"; the "structured ways" which enable the "communication of ideas" (Bak, 2003:35), which are, "*inductive reasoning*" and "*deductive reasoning*", notably "*Syllogisms*". Mention should be made that these two modes of reasoning will be discussed in a subsequent point. Hence, the Greek tradition of thinking constitutes the starting point towards the quest for the truth, which resulted in profound social, religious, and artistic changes throughout the world. Besides, it led scholars like Archimedes, Avicenna, Galilei, Copernicus, Newton, and many others to elaborate theories and paradigms, to pave the way to diverse disciplines, and to invent technological devices. In this way, centuries of incessant thought have resulted in a body of ready-made knowledge that we access in one click on Google. However, human beings' inquisitiveness knows no bounds, as they are constantly eager to demystify the secrets of the universe. Though used by many authors and reckoned as a significant skill in the 21st century, the precise definition of CT remains a moot point.

1.2. Definition of Critical Thinking

Despite their attempts to define CT, scholars have not heretofore reached a consensus on the meaning the concept refers to. This resulted in a myriad of definitions in the fields of Philosophy, Psychology, and Education letting people newly interested in the field very confused. In fact, these three academic disciplines approached CT from their own perspectives and defined it in accordance with their respective concerns (Lai, 2011a). The three approaches are discussed below.

1.2.1. Philosophical Approach

Traditionally, the writings of the Greek philosophers Socrates, Plato and Aristotle are viewed as the epitomes of the Philosophical approach. In modern times, for instance, the works of Robert Ennis, Matthew Lipman, Richard Paul, and the American Philosophical Association have contributed on their parts in shaping this trend (Lai, 2011a).

This tradition approaches CT as “the norm of good thinking” (Ten Dam & Volman, 2004:361) and focuses on the ideal critical thinker by itemizing the virtues or characteristics that this person should display, and stresses the way people should think under optimal circumstances (Lai, 2011a). This led Sternberg (1986) to criticize the approach arguing that its conceptualization of CT is far from being linked to reality.

Some of the definitions of CT reflecting the philosophical approach are offered by Ennis, Facione, Lipman, and Paul. On the one hand, Ennis (1985) and Facione (2000) maintain that CT is a prerequisite for any subsequent action one undertakes or any belief s/he adheres to. They define CT as a “*reflective and reasonable thinking that is focused on deciding what to believe or do*” (Ennis, 1985:45) and as “*judging in a reflective way what to do or what to believe*” (Facione, 2000:61).

On the other hand, Lipman (1988:39) explains that CT is a “*skillful, responsible thinking that facilitates good judgment because it 1) relies upon criteria, 2) is self-correcting, and 3) is sensitive to context*”. In other words, he highlights sound judgments as outcomes of CT reached through a thinking process founded upon three main characteristics; namely, *criteria*, *self-correction*, and *context-sensitivity*. That is, CT rests upon firm footings as it is based on criteria like norms, laws, uniformities and standards. Self-correction consists in the thinker being able to diagnose weaknesses in his/her thinking and regulating it. Besides, CT is context-sensitive in that it considers the specificities of the situation or context in which it takes place. As regards Paul (1992:9), he conceives CT as a “*disciplined, self-directed thinking that exemplifies the perfections of thinking appropriate to a particular mode or domain of thought*”. In this

definition, he contends that CT embodies the standards of ideal thinking necessary within a given subject.

The American Philosophical Association's consensus of CT experts known as "*The Delphi Report*" portrayed the ideal critical thinker as someone who is

habitually inquisitive, well-informed, trustful of reason, open-minded, flexible, fair-minded in evaluation, honest in facing personal biases, prudent in making judgments, willing to reconsider, clear about issues, orderly in complex matters, diligent in seeking relevant information, reasonable in the selection of criteria, focused in inquiry, and persistent in seeking results which are as precise as the subject and the circumstances of inquiry permit. Thus, educating good critical thinkers means toward this ideal. (Facione, 1990:2)

It becomes noticeable from this excerpt taken from the report that the philosophical approach is much concerned with the ideal critical thinker and the qualities s/he should display such as "*inquisitiveness*", "*open-mindedness*", "*flexibility*", "*fair-mindedness*", and so on.

1.2.2. Cognitive Psychological Approach

Unlike the philosophical approach that emphasizes the standards of good thinking and the traits of an ideal critical thinker, the psychological approach stresses the psychological dimension of CT. Put differently, cognitive psychologists focus their attention on the actual process of thought (Sternberg, 1986) and the "behaviours or overt skills" resulting from such thought and which the critical thinker can do, such as "analysis, interpretation, formulating good questions" (Lai, 2011a:7).

Though they differ in their wordings, scholars representing this school conceive CT as the cognitive processes the thinker deploys advisedly to achieve good outcomes like solving problems, making decisions, drawing conclusions and so on. Sternberg (1986:3) defines CT as "*the mental processes, strategies, and representations people use to solve problems, make decisions, and learn new concepts*". For Halpern (1998:450), CT is "*the use of those cognitive skills or strategies that increase the probability of a desirable outcome. It is used to describe thinking that is purposeful, reasoned, and goal directed*". Finally, Willingham (2007:8) equates

CT with the act of “*seeing both sides of an issue, being open to new evidence that disconfirms your ideas, reasoning dispassionately, demanding that claims be backed by evidence, deducing and inferring conclusions from available facts, solving problems and so forth*”.

1.2.3. Educational Approach

The American educational psychologist Benjamin S. Bloom (1913-1999) best exemplifies this approach. In 1956, he spearheaded a group of educators to elaborate a hierarchical classification of instructional objectives known as “*Bloom’s Taxonomy of the Cognitive Domain*” and which became a worldwide reference in the field of Education ever since. Put differently, this taxonomy is “a multi-tiered model of classifying thinking according to six cognitive levels of complexity” (Forehand, 2005:2). These levels range from the simplest level which is *Knowledge* to the most complex level which is *Evaluation*. As it is shown in Figure 1 below, the three lowest levels (*Knowledge*, *Comprehension*, and *Application*) are Lower-Order Thinking skills whereas the three highest levels (*Analysis*, *Synthesis*, and *Evaluation*) are Higher-Order Thinking skills that represent CT (Kennedy *et al.*, 1991 cited in Lai, 2011a; Ten Dam & Volman, 2004). All of these levels are interrelated in such a way that they are “understood to be successive, so that one level must be mastered before the next level can be reached” (Huitt, 2011).

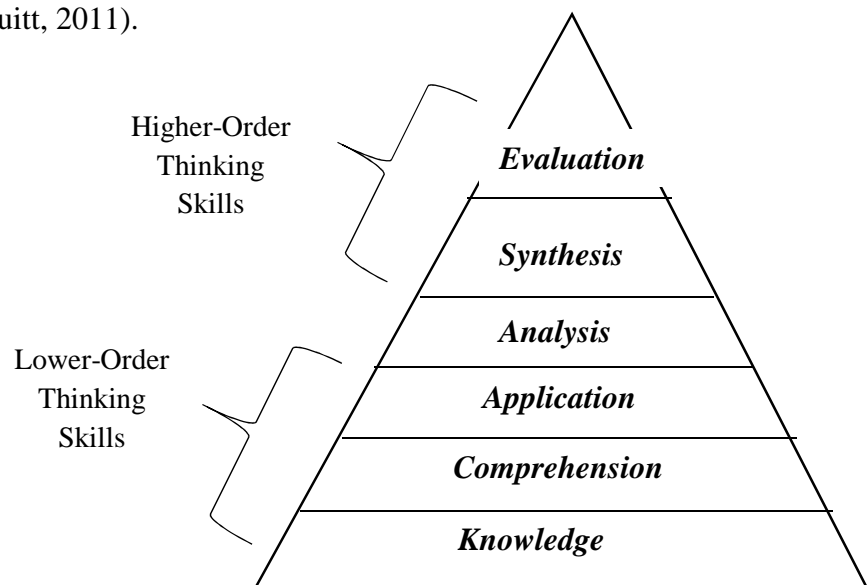


Figure 1: Bloom's Taxonomy (1956)

(Munzenmaier & Rubin, 2013: 18)

It would be of interest to provide a concise definition of the six levels that make up Bloom's Taxonomy. They are conceived as follows:

Knowledge: Bloom (1958) conceives Knowledge as the act of "remembering, either by recognition or recall, of ideas, material or phenomena" (1958:62 quoted in Aouine, 2011: 57). That is, it consists in recalling or retrieving from one's memory information learnt in class.

Comprehension: According to Huitt (2011), Comprehension refers to the situation where the student "translates, comprehends, or interprets" new information s/he receives relying on "prior learning". At this level, the student can explain and rephrase knowledge in his/her own wording to show his/her understanding.

Application: Huitt (2011) contends that at the Application level the student "selects, transfers, and uses" previously acquired knowledge like concepts, rules and theories in new and concrete situations or use them "to complete a problem or task with a minimum of direction" in the classroom.

Analysis: It consists in breaking down knowledge into its constituents then determining the relationships between them and discovering their organizational structure (Krathwohl, 2002).

Synthesis: It refers to the ability to put parts together to form a new whole. This involves production and creativity.

Evaluation: For Krathwohl (2002) Evaluation means making judgments following a set of criteria and standards, and using prior knowledge.

1.3. Critical Thinking and Social Constructivism

One of the pivotal shifts witnessed in the field of Education is the adoption of Constructivism as an approach to teaching and learning which is held as leading to the development of CT (Kibui, 2012; Gray, 1997). Unlike the traditional teaching/learning approaches which emphasised the role of the teacher as being the main agent in class, the holder

of knowledge , and learners as passive receptacles devoid of any thinking or intellectual abilities waiting to assimilate whatever the teacher presents to them. Constructivism, on the other hand, is based on the premise that “learning occurs when learners are actively involved in a process of meaning and knowledge construction” (Kibui, 2012: 3-4) either individually or collectively (Lunenburg, 2011). In fact, while Cognitive constructivism focuses on the individual dimension of knowledge construction, Social Constructivism stresses on its social dimension. This second branch of constructivism initiated by the works of the seminal thinker Lev Vygotsky who recognises the crucial role of society in knowledge construction. That is, knowledge is socially constructed through social experiences and interactions with others. (Gray, 1997). In such an approach, learners are active constructors of knowledge as they learn with and from others, collaborate with and negotiate meaning with their peers and friends. All these social processes help students develop effective thinking that contribute to the development of CT.

1.4. Critical Thinking and Motivation

Researchers (Halonen, 1995; Lai, 2011a; Bhushan, 2014) have come to the conclusion that motivation is inextricably linked to CT for they view motivation as a key factor that stimulates CT ability among students. The term “*motivation*” stems from the Latin verb “*movere*” meaning “*to move*”. Thus, motivation can be defined as “what moves a person to make certain choices, to engage in action, to expend effort and persist in action” (Dörnyei & Ushioda, 2011: 3). Put another way, motivation is “an internal state of arousal that guides and sustains behaviour” (Fahim & Hajimaghsoodi, 2014: 607). It is this inner energy or driving force that leads individuals to “a conscious decision to act” and in this case to think critically because “unmotivated individuals are unlikely to exhibit CT” (ibid: 608).

For this reason, Riggs and Hellyer-Riggs (2014: 1) urge teachers “to persuade students that they can and should think critically” and “move them toward the motivation of doing so”.

In other words, it is the role of teachers to make students mindful that CT would play a significant role in their success in their academic career and in life ahead of them. As Guendouzi and Ameziane (2012:50) maintain, “Critical thinking pertains to an academic tradition of reflective scepticism”. That is, students are seen as those who reflect and question matters. Hence, students should be encouraged to protract and enhance such a tradition. Recently, the Partnership for 21st Century Skills has identified CT as one of the learning outcomes that students should exhibit to adequately cope with the manifold changes the world is witnessing.

Instances of these changes include globalization and intercultural exchanges that require open-mindedness and departing from both egocentric thinking and sociocentric thinking (Bhushan, 2014). Egocentric thinking means holding that one’s thinking is flawless and showing intolerance of others’ opinions. Sociocentric thinking is a thinking that involves prejudices and stigmatization towards others for centring one’s culture and society (Bhushan, 2014.). These two modes of thinking can be eradicated by motivating students to think critically.

In sum, motivation is acknowledged as playing a significant role in the development of students’ CT ability. It is by raising their awareness towards the importance of CT in their lives that students will become motivated. Thus, they will not only willingly engage in CT but also engage in critical reading which is equally important at this level.

1.5. Critical Reading

With current use of Information and Communication Technologies (ICTs) in the dissemination of knowledge and information, everyone has a free access to a wide range of information sources. Yet, in such a situation of information flux, students and research paper writers in particular need “to discern the useful information from the irrelevant” and “to make meaningful sense out of it” (Giraldo-Garcia *et al.*, 2015:32). To do so, they need to take a critical stance towards what they carefully select to read. In fact, critical reading is perceived as “a careful, active, reflective, analytic reading” (Kurland, 2000) and deemed as “a high-level

reading common in academic context” (Haromi, 2014:129). Critical reading differs from literal reading in that the latter is the stepping-stone towards the former. That is to say, literal or surface understanding of words, sentences and paragraphs of a reading material (Banton Smith, 1963) is not the end itself rather the starting point towards a thorough analysis and interpretation of the underlying meanings implied in the text.

As a matter of fact, writers view language as a powerful means for the fulfilment of their intentions (Haromi, 2014). They generally use it manipulatively to convey their ideas (*ibid.*), to wrap their covert intents, implicit views and positions, all of which need to be decoded by critical readers. Being as such, critical reading is based on the premise that when reading a text a student should not passively absorb its content and take it as being a set of unquestionable facts. Instead, s/he should actively immerse him/herself in the text by critically reading “between the lines in an attempt to find out about the writer’s stance, the strategic organisation of the text, the nature of the writer’s argument, etc.” (Haromi, 2014: 128).

Differently said, critical reading ability consists in identifying the author’s purpose (Koupae Dar *et al.*, 2010), drawing inferences as well as conclusions from the content (Duran & Yalçintaş, 2015; Karadağ, 2014), detecting the tone, bias and persuasive elements (Kurland, 2000), distinguishing facts from opinions, considering different interpretations of the same issue, evaluating the evidence and argument the author provides to back his/her claims and assumptions (Wallace & Wray, 2011).

CT plays a major role in such a process since every reading activity entails a thinking process. Actually, Kurland (2000) holds that critical reading cannot be dissociated from CT. Critical readers read and think simultaneously as they actively process in their brains the information they read at the same time they read it (Akin *et al.*, 2015) striving to comprehend the surface meaning of the reading material and getting deeper into its underlying meanings afterwards. As part of this cognitive process that supplements/enhances critical reading activity

is the reader referring back to his/her intellectual as well as sociocultural backgrounds (Duran & Yalçintaş, 2015). Indeed, the critical reader relies on background knowledge as well as his/her purpose(s) to serve as criteria helping him/her to pick out the useful information and select what to accept and what to exclude.

In sum, for students to become critical readers they should not take everything they read at face value rather read the text with a questioning mind to discover what lies beneath it because as Jacques Derrida put it “language conceals as much as it reveals” (cited in Cernuschi, 2012:188). It should be mentioned that his critical ability holds true for both printed and electronic sources readers select to read. Besides exhibiting CT ability and critical reading ability, students need to steer their critical stances towards their own writings.

1.6. Critical Writing

Critical writing refers to the students’ ability to display their individual academic voices or imprints within their fields of research (Aksu Ataç, 2015) and to distinguish themselves from the rest of writers both in terms of style and content (Yamchi, 2015). In addition, to demonstrate their capacity to take part in the academic discussion by delivering a rigorous piece of research that represents their own original contribution to the body of existing knowledge (Evans *et al.*, 2014). In other words, research communities in every academic discipline prize and expect research paper writers to go a step further from mere report and restatement of previous literature in the field (Taylor, 2009) to a more analytical and critical writing on the basis of this background. Thus, it becomes apparent that critical writing ability is built upon critical reading and CT; both of which are indispensable for such a task.

In this respect, Knott (2012) notes that critical writing depends heavily on critical reading. Likewise, Wallace and Wray (2011:43) support this idea by asserting that “critical reading is the foundation of one’s critical writing”. To put it simply, it is after having critically read previous literature revolving around their topic of investigation that students express their

own standpoints and assumptions towards the topic (Barnawi, 2011). Students integrate ideas and arguments of scholars, whose works they read, purposely and critically by giving supremacy to their own authorial presence throughout the work. That is, as an evidence to substantiate their viewpoints, to draw relationships between their ideas and other academics' (Ryder, 1994), to establish their stances towards the topic hence showing consent or disagreement with other writers' and to display their cognisance of the literature in the field (Aksu Ataç, 2015).

Additionally, critical writing is a kind of writing that reflects students' thoughts as they resort to their CT abilities to clearly articulate their ideas (Widodo, 2012) and organize them in the form of a logical reasoning that will result in a convincing argument on the subject in question. In this way, students who have once been critical readers of others' works shift to the position of critical writers. They bring their own authorial imprints to their areas of research by submitting a piece of research meant to be critically read and evaluated by supervisors and examiners (Wallace & Wray, 2011). The latter will be more interested in what students will bring as new knowledge to the field than in the mere description of the previous literature. In this regard, Evans et al. (2014:1) provide a concise summary of the points discussed above arguing that a research paper "must demonstrate a logical, structured and defensible reasoning based on credible and verifiable evidence presented in such a way that it makes an original contribution to knowledge, as judged by experts in the field".

However, such an ability to make one's authorial touch visible within a body of literature is not commonplace. It requires a strong hold of knowledge of the field, a high level of expertise and language proficiency to express one's ideas; all of which need to be forged by instruction and training.

In brief, critical ability in writing represents the third stage of the cyclical chain; CT, critical reading and critical writing that students should display in the hope of ensuring an

optimal success in their academic careers. As a matter of fact, critical ability is significant in a type of pedagogy that seeks to open learners' eyes towards their social context.

1.7. Freire's Critical Pedagogy

Critical pedagogy is an approach to education that stems from the works of the Brazilian educator Paulo Freire (1921-1997) and later developed by figures like Henry Giroux, Peter McLaren, Ira Shor and others. The main concern of critical pedagogy, as noted by Rahimi and Asadi Sajed (2014:44), is "empowering learners" coming from "marginalized and oppressed backgrounds" (Mendoza, 2010: 39) through a type of education founded on CT. An education that incites them to become aware of social inequities in their societies and to take part in the transformation of such a reality. By doing so, they would create an equitable society where all people are active citizens working for the welfare of their countries.

The emergence of this approach was triggered by Freire's initiative to teach adult peasants in Recife, his natal village, "the centre of one of the most extreme situations of poverty and underdevelopment" (Freire, 2000:30). Amidst the situation of oppression, corruption, social injustice, and power relations that prevailed in the Brazilian society, Freire found it necessary to develop basic literacy skills in adult illiterates. By developing their capacity "to read the word", he wanted to lead them "to read the world" (Freire & Macedo, 1987). He sought to raise their critical awareness towards the social context around them, which they until then accepted as being natural or as part of "their predestined fate" (Mendoza, 2010: 40). In this regard, Freire (2000:20) himself declared, "I must intervene in teaching the peasants that their hunger is socially constructed and work with them to help identify those responsible for this social construction, which is in my view, a crime against humanity".

In view of his previous experience, he focused all his attention to the field of education. In his influential book "*Pedagogy of the Oppressed*" (1970), Freire rejected the dominant educational approach in Brazil that he termed "*banking model of education*". He criticized it

on the grounds that it reduces learners to passive “depositories” or “receptacles” (Freire, 2000:72) into which teachers “pour prescribed knowledge” (Freire, 2001:4) that has no relation with their lives nor experiences . In fact, the banking education turns learners into objects devoid of any intellectual or creative capacity to think about their world or about any ways to improve it (Micheletti, 2010). Learners assume that the teacher is the supreme authority in class and the only one who holds knowledge; hence, they wait for him/her to fill their minds with this knowledge, credulously absorb it, store it and mechanically restate it whenever required.

He, instead, proposed a “*problem-posing education*” having as its core elements CT and reflection. In this type of pedagogy, learners are “posed with problems relating to themselves in the world and with the world” (Freire, 2000:81). Indeed, he considered it as a “pedagogy where students and their life experiences are the curriculum in constant interaction with teachers who can help them question and explore who they are and what has gone before” (Freire, 1993:11). That is, a pedagogy where the curriculum is directly related to the students’ lives and experiences. This helps learners develop their CT potential as they become critically aware about their past history, critically reflect upon the betterment of their present, and move forward to construct their future. Besides, knowledge is no longer viewed as a gift to be bestowed by the teacher rather mutually negotiated and constructed with the teacher through exchange and dialogues in class (Micheletti, 2010).

Bearing in mind the significance of CT to learners, scholars endeavoured to guide students to exploit their CT potential by suggesting frameworks to be put into practice in class, and which will meet this end. One of these academics is Edys Quellmalz.

1.8. Quellmalz’s Framework of Thinking Skills

As every research work should rest on theoretical bases, the present study relies on a theoretical framework proposed in 1988 by the educational psychologist Edys Quellmalz jointly

with Richard Stiggins and Evelyn Rubel. This framework became known as *Quellmalz's Framework of Higher-Order Thinking Skills* meant to be implemented in class to develop CT in learners. It comprises five thinking skills; one is a lower-order thinking skill called "*Recall*", the four others are higher-order thinking skills, which are "*Analysis*", "*Comparison*", "*Inference*", and "*Evaluation*" respectively. The four mentioned cognitive processes are

This framework is "an integrated thinking skills framework" (Moseley *et al.*, 2005:90) in the sense that it evolved out of taxonomies of thinking skills produced by scholars across various disciplines, namely, Ennis (1962) in Philosophy, Guilford (1983) and Sternberg (2000) in Psychology, and Bloom in Education. Unlike Bloom's Taxonomy (1956) in which all of thinking skills -whether lower-order or higher-order- are classified in terms of complexity, Quellmalz's framework is hierarchical only in that it distinguishes between lower-order thinking and higher-order thinking skills (Stiggins *et al.*, 1988). In more clear terms, the four higher-order thinking skills are not ranked following a level of cognitive difficulty; instead, they are equally complex.

The thinking skills that make up Quellmalz's framework can be defined as follows:

- ❖ **Recall:** It is a lower-order thinking skill as it is the less engaging skill of the whole framework (Kang, 1999). It consists in merely remembering, "repeating verbatim or paraphrasing" (Stiggins *et al.*, 1988) previously acquired knowledge. It is said to be a combination of Bloom's *Knowledge* and *Comprehension*.
- ❖ **Analysis:** Quellmalz holds that analysis is a higher-order thinking skill for learners move beyond "rote repetition" towards "reflectively structuring knowledge in new ways" (Stiggins *et al.*, 1988). Therefore, analysis includes cognitive processes like getting information from "abstract visual representations" (Moseley *et al.*, 2005:91) such as charts, graphs, and diagrams, sorting and categorizing items following certain characteristics ,

dissecting things and understanding whole/parts or cause/effect relationships (Stiggins *et al.*, 1988). This cognitive skill corresponds to Bloom's *Analysis*.

- ❖ **Comparison:** It involves “explaining how things are similar and how they are different” (Stiggins *et al.*, 1988) This implies that this skill comprises two sub-processes; “*compare*” to find similarities and “*contrast*” to find differences. Quellmalz further distinguishes between “*simple*” and “*complex*” comparisons. She argues that while simple comparisons are “based on a small number of very obvious attributes”, complex comparisons “require an examination of a more extensive set of attributes” (ibid.). This thinking skill also corresponds to Bloom's *Analysis*.
- ❖ **Inference:** The Oxford Dictionary defines an inference as “a conclusion reached on the basis of evidence and reasoning”. That is to say, it is based on a reasoning that can be either “*inductive*” or “*deductive*”. Inductive reasoning involves using particular evidence or details to come up with generalisations (Stiggins *et al.*, 1988). Conversely, deductive reasoning starts with a general fact, rule or principle called a “*premise*” (Bak, 2003:35) that require an “accurate interpretation” (Stiggins *et al.*, 2004:65) and ends with a specific conclusion drawn logically from the premise. In simple terms, induction means moving from specific to general, whereas deduction starts with the generalities and ends with specificities. This skill is equivalent to Bloom's *Application* and *Synthesis*.
- ❖ **Evaluation:** Stiggins *et al.* (2004:68) conceive evaluation as the act of “expressing and defending an opinion, a point of view, a judgment or a decision”. They further point out that for an evaluation to be plausible it should encompass three essential elements: an *assertion*, *criteria* upon which the assertion is based and *evidence* that substantiates the assertion. In other words, any claim that is advanced should be founded upon certain criteria and backed by evidence that matches these criteria thus supports the assumption. This process is equated with Bloom's *Synthesis* and *Evaluation*.

The rationale of Quellmalz's framework is the teaching of CTS to students. Yet, the driving motive behind its adoption as an analytical framework to underlie the present research study is that the higher-order thinking skills proposed by this theory, and which have been discussed above are congruent with the requirements of writing the DF chapter.

2.1. Writing an Effective Discussion Section

After an extensive presentation and description of the results yielded from the empirical investigation of the research problem, the researcher embarks on a thorough discussion of these findings in a chapter that bears this name. The DF section is viewed as the kernel of the dissertation for it is the chapter where the researcher strives to bring answers to the research questions raised at the outset of the research thus settle the issue. In fact, Annesley (2010) qualifies this chapter as the researcher's "closing argument" as s/he goes beyond the mere reiteration of the results towards the explanation and interpretation of their meaning to the reader.

The researcher is hence expected to emanate his/her capacity as a critical thinker able to engage in a profound analysis of the findings by referring to the theoretical framework underpinning the research work and the previous studies reviewed in the review of the literature chapter. In this regard, Marchant (2012:13) maintains that the researcher in this chapter "develops analytic and critical thinking on primary results and analysis with reference to theoretical arguments grounded in the literature review". Put differently, the researcher refers back to theoretical notions and scholars' arguments in the analysis of the results and uses them as evidence to back or confirm his/her claims. Because no study is entirely novel that it has no relationship with previous works (Hess, 2004), the student strengthens the importance of his/her results by comparing the findings of his/her study with the results of these similar studies or contrasting between them or using those results as a support for his/her own findings.

A further point stressed by scholars is that the researcher should draw conclusions from the findings and should “try to convince the reader of the merits of the study results” (Hess, 2004). Put differently, the researcher should discuss the implications of these findings and argue for the potential concrete contribution of his/her work in the field of research (Buckler & Walliman, 2016). Additionally, students need to acknowledge the limitations of their study and which would impact on the conclusions to be derived and show how findings would have been otherwise.

In short, writing the DF chapter requires the researcher to go a step forward from description and repetition of the outcomes into the analysis, interpretation of the results in light of the analytical framework and theoretical notions. The researcher compares, contrasts, draws inferences and conclusions from the findings and develops arguments based on evidence.

Conclusion

This chapter has provided a theoretical overview on the literature that revolves around CT and the discussion section of dissertations. It was divided into two main parts. The first part has traced back the emergence of the notion of CT and has tackled the lack of agreement among scholars with regard to the meaning of the concept. It has explored the relationship between CT and Social Constructivism then explained the link between students’ motivation and their CT ability, has explained students’ critical ability in reading and writing. In addition, it has dealt with Freire’s conception of critical pedagogy and the theoretical framework that underlies the present research work. As concerns the second part, it has presented the requirements of writing the discussion chapter.

Chapter Two

Introduction

As its name denotes, this chapter deals with the research design of the present research study that seeks to explore the conception of CT and its implementation in the DF section of Master dissertations at the level of the Department of English at MMUTO. In order to have a fuller understanding of this issue, the adoption of a mixed-methods approach appears to be suitable. The latter combines between qualitative and quantitative procedures for both data collection and data analysis. Therefore, this methodological chapter consists of two main parts detailing the procedures used to empirically investigate this particular topic.

The first part provides a descriptive account of the corpus of the study as well as the instruments used to garner other data; namely, a questionnaire and an interview. The second part explains the procedures of data analysis. While numerical data are subjected to a statistical analysis using the Statistical Package for Social Sciences (SPSS), the textual corpus as well as the qualitative data elicited from open-ended questions of the questionnaire and the interviews are analysed through Qualitative Content Analysis (QCA).

2. Corpus of the Study

The research study relies on the analysis of a text corpus made up of ten (10) sets of DF sections retrieved from ten (10) Master dissertations submitted in 2015 by Master students enrolled in the field of “Language and Communication” in the Department of English at MMUTO. The dissertations have been chosen on the basis of their itemisation in the catalogue of the library of the Department.

2.1. Criteria of Selection

2.1.1. Discipline

The choice of this particular discipline is done advisedly for the sake of maximizing the comprehension of the topics of the dissertations since I am a student in this same discipline and

well acquainted with it. In this regard, Amara (2009:39) maintains that “the researcher chooses an area of research s/he is most familiar with”. These dissertations are meant to be analysed using appropriate tools so as to track students’ use of CTS, namely, “*analysis*”, “*comparison*”, “*inference*” and “*evaluation*” as cited by Edys Quellmalz in her framework.

It should be mentioned that due to time constraints, the present research work is a case study that is confined to the exploration of one Master option and that takes into account ten dissertation samples solely.

Table 1 below enumerates the ten Master dissertations. It presents the title of each dissertation and the length of the DF chapter in each of them.

Dissertation N°	Title	Number of Pages
		Discussion Chapter
1	Multimodal Communication Apparatus and its Role in Facilitation the Process of Mutual Intelligibility via Facebook Platform: The Case of Mater II Language and Communication Students at MMUTO.	12
2	Investigating the Use of Group Work in the Oral Expression Module. Case Study: First Year BMD Students in the Department of English at Mouloud Mammeri University of Tizi-Ouzou.	14
3	A Comparative Study of Students’ Writing Errors. A Case Study of First and Third Year Students of the Department of English at Mouloud Mammeri University of Tizi-Ouzou.	21
4	The Cultural Component in EFL Textbooks: An Investigation of its Presentation in <u>Spotlight on English One</u> and <u>On the Move</u> .	20
5	Students’ Interactivity in Online Discussion Forums: The Case of Language and Communication Master II Students at MMUTO.	15
6	The Influence of Culture on EFL Students’ Learning Strategies. The Case of Master II Students Language and Communication, Department of English, UMMTO.	15

7	Attitude and Motivation towards ESP Courses: The Case of Bachelor Students in the English Department at Mouloud Mammeri University of Tizi-Ouzou.	15
8	Developing the Speaking skill through Classroom Interaction: The Case of Third Year Students at UMMTO.	20
9	Intercultural Communicative Competence in the Algerian Middle School: An Investigation of Its Teaching in <u>Spotlight on English Book Two</u> .	20
10	The Effect of Language Proficiency on Learners' Use of Communication Strategies when Speaking English as a Foreign Language. A Case Study: First and Third Year English Language Students at MMUTO.	20
		Total Number of Pages: 172

Table 1: Titles of Master Dissertations and the Number of Pages of Each Discussion Chapter.

2.2. Procedures of Data Collection

2.2.1. Students' Questionnaire

The present study does not rely only on the textual corpus. It includes another type of data gathered by means of a questionnaire. Brown (2001:6) defines questionnaires as “any written instruments that present respondents with a series of questions or statements to which they are to react either by writing out their answers or selecting among existing answers”. Most researchers resort to the questionnaire as an instrument for collecting data because it can yield a great deal of information from a large number of respondents within limits of time. In this regard, Dörnyei (2003:9) maintains that a questionnaire is practical and efficient “in terms of (a) researcher time, (b) researcher effort, and (c) financial resources”.

The designed questionnaire comprises twenty-one (21) items, which are classified into two kinds: ‘*closed-ended*’ questions which require the informants to choose from a range of pre-determined alternative responses, and ‘*open-ended*’ questions where respondents answer

freely using their own wording. The survey is made up of three main sections. The first part is related to the students' perceptions towards the writing of the discussion section. The second part deals with the students' conceptualisation and interpretation of CT and the skills it entails. Regarding the third part, it is concerned with the students' motivation towards the writing of the dissertation and the discussion chapter in particular.

Following researchers' (Sapsford & Jupp, 2006; Bell, 2010) advice that all data collection instruments should be piloted to reinforce their reliability and their validity, the questionnaire was piloted on a sample group of thirteen (13) Master students. The survey was then refined according to their feedback. It was self-administered on May 2016 to twenty-five (25) Master students who were available in the Department. It was mainly intended to gather information that will help answering the research questions more precisely students' conception of CT and the factors that influenced the implementation of CTS in the DF chapter. It is worth noting that no specific criteria of selection were taken into account as regards the choice of informants except their availability and willingness to take part in the research.

2.2.2. Teachers' Interview

Apart from the questionnaire, the present study uses an interview to deepen the understanding of the issue under investigation. Indeed, an interview is "a data collection method in which a researcher and a participant engage in a conversation focused on questions related to a research study. These questions usually ask participants for their thoughts, opinions, perspectives, or descriptions of specific experiences" (Tavakoli, 2012: 294).

Hence, five (5) face-to-face interviews are conducted with five (5) supervisors in charge of directing Master researches in the previously mentioned speciality. They are meant to elicit in-depth qualitative data from supervisors as regards students' perceptions of the discussion section writing and the potential factors that prevent students from writing this chapter in a critical way. The designed interview, used with the five supervisors, consists exclusively of

open-ended questions and is purposely semi-structured. In fact, according to Dörnyei (2007:136) the '*structured*' part of the interview is where the interviewer prepares an interview schedule containing a set of questions that guide and prompt the interviewee(s) to answer. The '*semi*' part is the part where the interviewer can ask follow-up questions and where the participant (s) is/are free to elaborate further on the discussed topic.

The interviews lasted between fifteen (15) minutes and thirty-five (35) minutes and all of them were tape-recorded owing to the efficiency of this technique when it comes to the transcription of the verbal interview. In fact, it serves "to check the accurate wording of any statement the researcher may wish to quote" (Bell, 2010:167).

2.3. Procedures of Data Analysis

2.3.1. Descriptive Statistical Analysis

The numerical data arising from the closed-ended questions of the questionnaire are converted into percentages by means of a widely used statistical analysis procedure in the social sciences. It is a computer software called the Statistical Package for Social Sciences (SPSS). It is known for its capacity to process large amounts of data and to transform them with great precision into statistics. In addition, it allows the tabulation of the results and their presentation in the form of diverse types of diagrams, charts, and so on (Landau & Everitt, 2004).

2.3.2. Qualitative Content Analysis

The study opts for Qualitative Content Analysis (QCA) as a qualitative data analysis procedure befitting the analysis of the textual corpus and the qualitative data generated by open-ended questions of both the questionnaire and the interview. Hsieh and Shannon (2005) reckon QCA as one of the most important and widely used qualitative data analysis methods in the social sciences. QCA was mainly shaped by the works of Philip Mayring, who conceives it as "a mixed method approach: assignment of categories to text as qualitative step, working through many text passages and analysis of frequencies of categories as quantitative step" (2014:10).

For Hsieh and Shannon (2005:1278), QCA deals with “the subjective interpretation of the content of text data through the systematic classification process of coding and identifying themes or patterns”. This implies that QCA concerns “the interpretive analysis of the underlying deeper meaning of the data” (Dörnyei, 2007:246).

To do so, Hsieh and Shannon (2005) identified three major approaches to QCA, namely, “*conventional*”, “*directed*” or “*summative*”. The study opts for the conventional approach for the analysis of the data derived from the open-ended questions of the questionnaire and the interview. A researcher using “conventional content analysis” infers themes that emerge from the content of the text, and then classifies them into categories also called “coding categories”. The positive point about this approach is “gaining direct information from study participants without imposing preconceived categories” (ibid: 1279). Unlike “conventional content analysis”, the researcher using “directed content analysis” is guided by initial coding categories that are provided by a theoretical framework or a previous research work on the topic. Accordingly, the researcher identifies the predetermined categories in the text and groups together all instances or occurrences that represent any of the coding categories.

This second approach seems appropriate for the analysis of the textual corpus since the present study seeks to identify the use of CTS in the DF chapter of Master dissertations. The CTS provided in Quellmalz’s framework will serve as predetermined categories to be looked for in the corpus. As far as the third approach is concerned, it deals with the identification and the quantification of the frequency of presence of specific words in an attempt to “understand their contextual use” rather than to “infer meaning” (Hsieh and Shannon, 2005: 1283).

Conclusion

This chapter has described the research methodology adopted to investigate the implementation of CT in the DF section. It has presented the textual corpus selected for the

study as well as the means employed to collect other data; namely, a questionnaire handed to students and interviews conducted with four supervisors. Besides, it has offered an insight on the procedures intended for the analysis of the corpus and the gathered data. On the one hand, SPSS has been used to convert the closed-ended questions included in the questionnaire into statistics. On the other, Qualitative Content Analysis, as a qualitative data analysis tool, has dealt with the analysis of the corpus, plus the open-ended questions of both the questionnaire and the interview.

Chapter Three

Introduction

This chapter is empirical. It presents the outcomes that have been partly yielded from the analysis of the textual corpus made up of ten (10) Master dissertations. Additionally, the results that emerged from the data elicited by means of methodological procedures notably a questionnaire administered to twenty-five (25) Language and Communication Master students and semi- structured interviews conducted with five (5) supervisors in the cited specialisation. For the sake of clarity and readability, the results are converted into statistics, tabulated and displayed through various histograms and pie charts. Regarding its organisation, this chapter is divided into three major sections. The first part deals with the results obtained from the analysis of the dissertations relying on Qualitative Content Analysis (QCA) and Quellmalz's framework. Section two is devoted to the presentation of the findings of the questionnaire processed through the SPSS software and QCA. The third section presents the results of the interviews, which have been analysed using QCA.

3. Presentation of the Results of the Dissertations

The ten (10) dissertations which have been selected for the study have been analysed through QCA and Quellmalz's Framework. The skills that make up the latter have been detected and quantified in each dissertation as displayed in the table below.

Dissertation / Skill	Analysis	Comparison/ Contrast	Inference	Evaluation
Dissertation 1	14	8	1	0
Dissertation 2	7	8	2	0
Dissertation 3	15	16	1	0
Dissertation 4	15	6	7	1
Dissertation 5	14	15	2	0

Dissertation 6	15	15	2	0
Dissertation 7	14	7	2	0
Dissertation 8	15	17	1	0
Dissertation 9	25	2	2	0
Dissertation 10	5	12	1	0
Total:	139	106	21	1

Table 2: The Number of Occurrences of Critical Thinking Skills in the Dissertations

The table above illustrates the number of occurrences of the higher-order thinking skills that constitute Quellmalz’s framework, namely, “*Analysis*”, “*Comparison and Contrast*”, “*Inference*” as well as “*Evaluation*” in the ten dissertations. As shown in the table, “*Analysis*” ranks first with one-hundred and thirty-nine (139) occurrences. It is followed by “*Comparison and Contrast*” with one-hundred and six (106) occurrences. It is then clear that the number of occurrences of “*Analysis*” and “*Comparison and Contrast*” are much higher than the number of occurrences of both “*Inference*” and “*Evaluation*”.

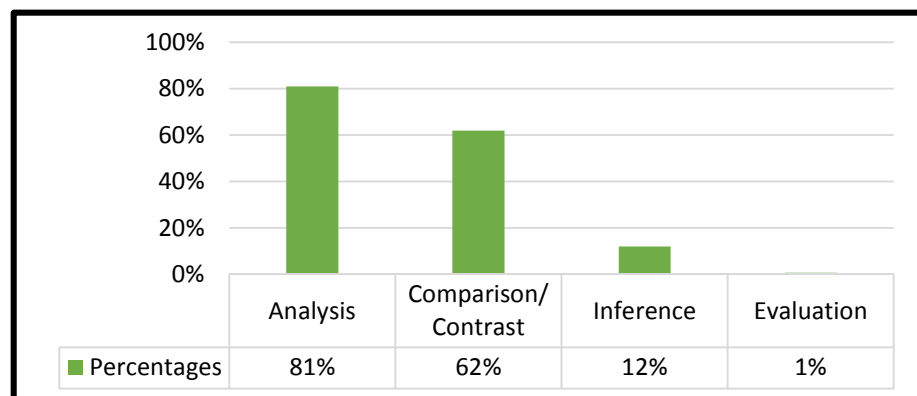


Diagram 1: The Presence of Critical Thinking Skills in the Dissertations

The diagram presents the results relating to the occurrences of CTS, which have been detected in the dissertations. It indicates that the percentage of “*Analysis*” exceeds the rest of the skills with eighty- one percent (81%). Analysis is then followed by “*Comparison/Contrast*”

with sixty-two percent (62%). In contrast, “*Inference*” and “*Evaluation*” rank third and fourth with twelve percent (12%) and one percent (1%) respectively.

3.1. Presentations of the Results of the Questionnaire

This second part deals with the presentation of the findings, which have been obtained from the analysis of the questions included in the questionnaire. While closed-ended questions have been processed through the SPSS software, open-ended questions have been analysed through QCA.

Section 1: Students’ Writing of the Discussion Section

Q1- “How much time did you spend writing the discussion section of your dissertation?”

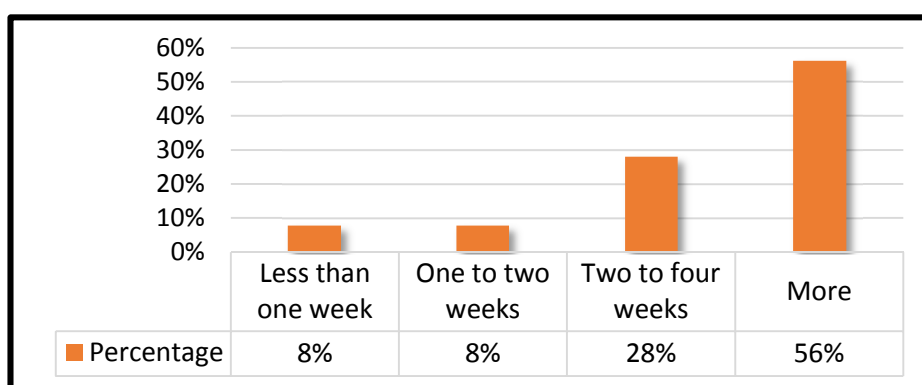


Diagram 2: The Amount of Time Spent Writing the Discussion Section

Diagram 2 clearly displays that more than half of the respondents that is fifty-six percent (56%) which represent fourteen (14) students assert having spent more than four weeks writing the discussion section. Twenty-eight percent (28%) of the participants answered that they spent “*two to four weeks*”. The remaining sixteen percent (16%) are equally divided between four respondents; two (8%) who noted that they spent “*one to two weeks*” and two others (8%) who responded by saying that they spent “*less than one week*” writing the chapter.

Q2-“How can you describe the discussion section of dissertations in terms of function and content?”

Categories	Number of Answers	Percentage
Most important part of the dissertation	13	16.25%
To answer the research questions and to confirm or refute the hypotheses	10	12.5%
To relate the results to the review of the literature chapter (i.e. theoretical framework (s) and previous studies)	10	12.5%
Interpretation, discussion, evaluation, commenting, and analysis of the findings	23	28.75%
A reflection of the student’s intellectual and critical abilities as a researcher	15	18.75%
To show the importance of the research work undertaken	2	2.5%
Other	7	8.75%
Total	80	100%

Table 3: Students’ Views on the Functions of the Discussion Section

The table illustrates the participants’ various viewpoints as regards the functions of the discussion section. Twenty-eight point seventy-five percent (28.75%) of them assert that the main function of the discussion section is the “*interpretation, discussion, evaluation, commenting, and analysis of the findings*”. Others (16.25%) hold that it is the “*most important part of the dissertation*” for it “*reflects the student’s intellectual and critical abilities as a researcher*” who has conducted a research work and because it “*shows the importance of the research work undertaken*”. The rest of the respondents (12.5%) argued that this chapter serves to “*answer the research questions and confirm or refute the hypotheses*” that have been put forward at the onset of the research. Besides, another number of students, twelve point five

percent (12.5%), affirmed that the discussion section “*relates the results to the review of the literature chapter*”.

Q3- “How did you proceed in writing (content and organisation) the discussion chapter?”

- **Content**

Categories	Number of Answers	Percentage
The results obtained from the research tools used (e.g. questionnaire, interview, etc.)	2	6.9%
Analysis, discussion, interpretation, comparison and contrast of the results with relation to the review of the literature chapter (i.e. theoretical framework, views, previous studies)	18	62.1%
Answers to the research questions, confirmation or refutation of the hypotheses.	5	17.2%
Other	4	13.8%
Total	29	100%

Table 4: Students’ Answers on the Content of their Discussion Sections

The results highlighted in the table above show that the majority of the respondents, that is sixty-two point one percent (62.1%), point out that the content of their discussion sections consists of an “*analysis, discussion, interpretation, comparison and contrast of the results with relation to the review of the literature chapter*”. Other participants (17.2%) stated that the content of this chapter is a kind of “*answers to the research questions*” and serves for either “*confirmation or refutation of the hypotheses*”.

- **Organisation**

Categories	Number of Answers	Percentage
To divide the chapter into parts and devote each part to the interpretation and discussion of the results obtained from each data collection tool (e.g. questionnaire, interview, etc.)	6	46.2%
To sort out and select specific points to be discussed according to the order of the research questions and hypotheses	4	30.7%
To organise it according to the objectives of the research	1	7.7%
To present and discuss the results in one same chapter	1	7.7%
Other	1	7.7%
Total	13	100%

Table 5: Students' Answers on the Organisation of their Discussion Sections

The findings related to the organisation of the discussion section indicate that the participants organised it in divergent ways. In fact, most of them (46.2%) said that they divided the chapter into different parts in which they interpreted the results of every research tool that they used in their work be it a questionnaire, an interview, a classroom observation, etc. Another significant number of respondents (30.7%) noted that they discussed specific points according to the research questions and hypotheses. However, a minority of them (7.7%) affirmed that they “*organised it according to the objectives of the research*” and another small number (7.7%) mentioned that they “*presented and discussed the results in one same chapter*”.

Q4-“Did you get any guidelines about the way to write this chapter?”

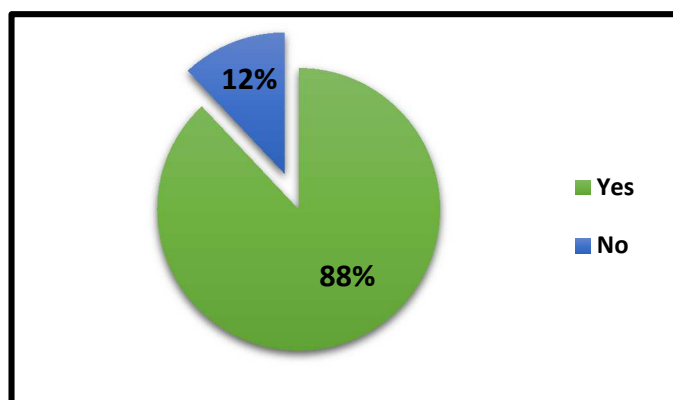


Diagram 3: Students' Reception of Guidelines about the Writing of the Discussion
Chapter

As illustrated in the diagram above, the majority of the respondents that is eighty-eight percent (88%) which stand for twenty-two (22) students affirmed that they received guidelines as regards the writing of the discussion section. Only twelve percent (12%) which represent three (3) students claimed that they did not get any guidelines.

Q5-“If yes, from whom or where did you get them?”

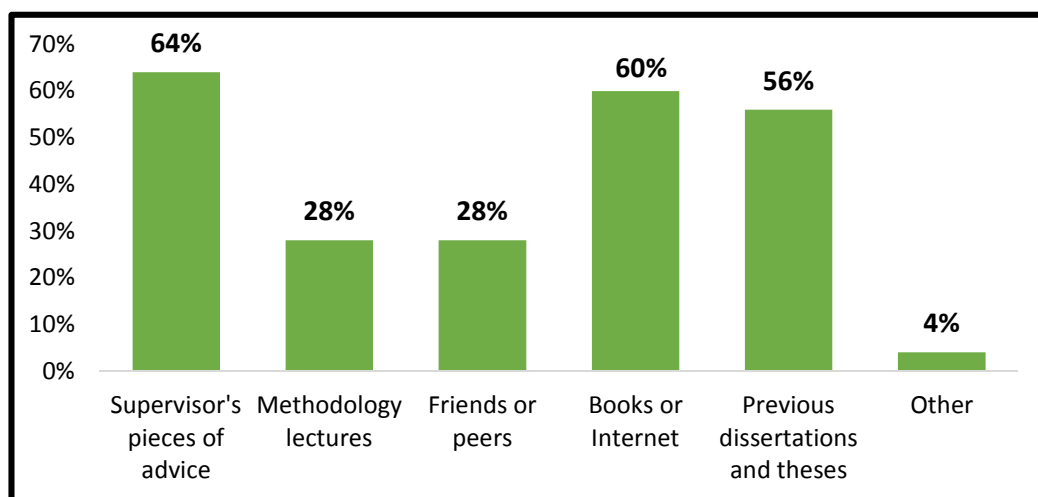


Diagram 4: Sources of Students' Guidelines

The statistics of the diagram indicate that sixty-four percent (64%) of the informants asserted that it is their supervisor who provided them with guidelines and counsels as to the writing of the discussion section. Other students namely sixty-percent (60%) said that they

resorted to “*books and Internet*” whereas sixty-five percent (56%) said they used “*previous dissertations and theses*”. Twenty-eight percent (28%) is the percentage corresponding to students who relied both on “*methodology lectures*” and their “*friends or peers*” to get guidelines. Only one student (4%) argued that s/he “*asked other teachers*” to provide him/her with pieces of advice on the way to write this specific chapter.

Q6-“Do you think that in the discussion section you should analyse, compare and contrast, make inferences, draw conclusions, express/defend opinions, evaluate and make judgments?”

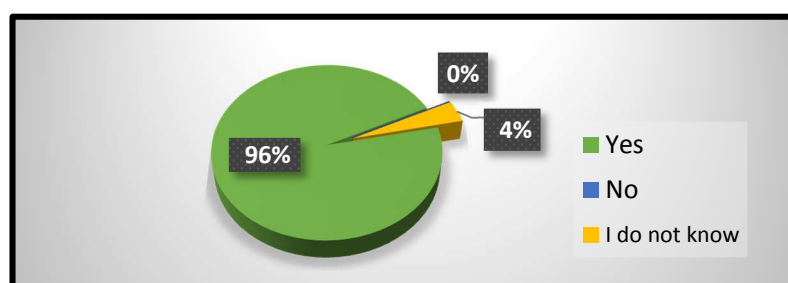


Diagram 5: Students’ Opinions about the Requirements of the Discussion Section

When asked about whether they think that the above mentioned skills are required when writing the discussion section, almost all the informants that is ninety-six percent (96%) which represent twenty-four (24) students confirmed the idea except one student who refuted.

Q7-“Do you think you used these skills (at least some) when writing this section?”

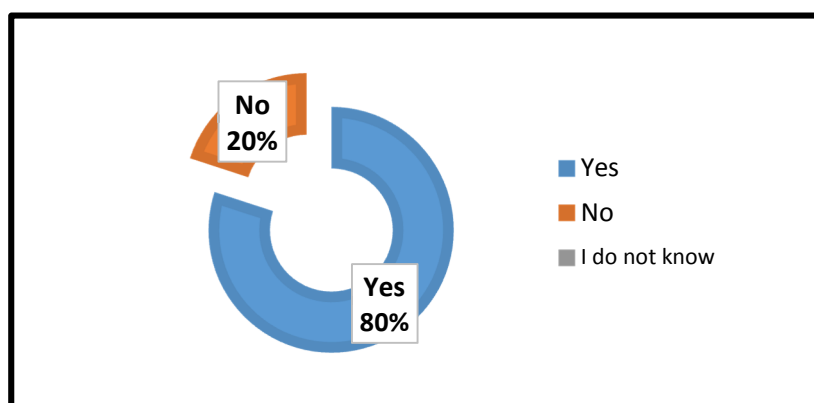


Diagram 6: Students’ Use of the Skills Required in the Discussion Section

The diagram demonstrates that apart from twenty percent (20%) of the informants, which correspond to five (5) students, eighty percent (80%) of them assert that they have used some of or all of the skills listed above in their discussion sections.

Q8- “If no, why?”

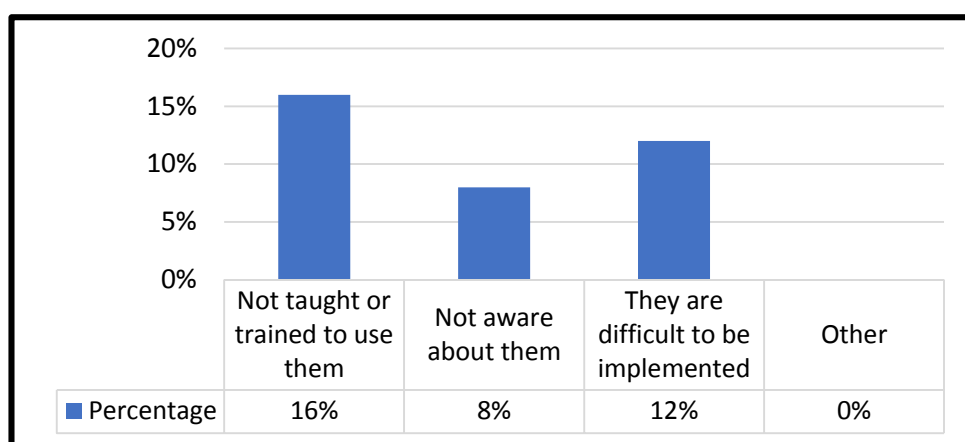


Diagram 7: Reasons of Students’ Non-Use of the Required Skills in the Discussion Section

As shown in diagram 7, sixteen percent (16%) of students argue that their non-inclusion of the skills required to the writing of the discussion section is due to the fact that they have “*not been taught or trained to use them*”. Twelve percent (12%) of the respondents corresponding to three (3) students claim that “*they are difficult to be implemented*”. Eight percent (8%) assert that they did not use them because they were “*not aware about them*”.

Q9-“Did your supervisor insist on the inclusion/use of such skills in your writing of the discussion section?”

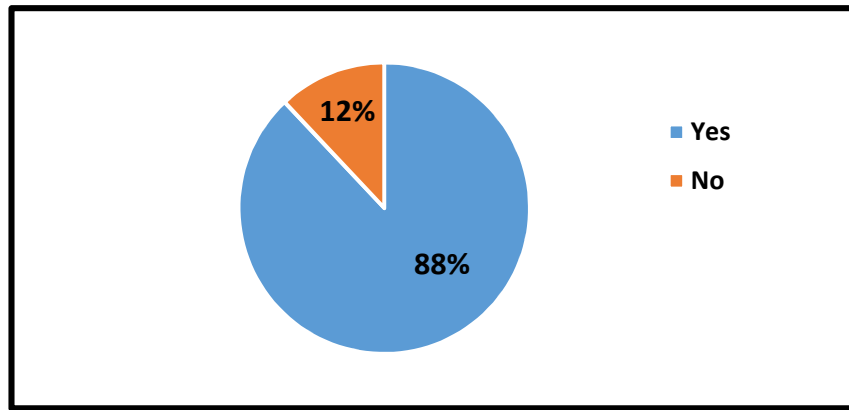


Diagram 8: Supervisors’ Insistence on the Use of the Skills Required in the Discussion Section

Diagram 8 clearly displays that the proportion of students who acknowledge that their supervisors insisted on the inclusion of the skills required when writing the discussion section is much higher than the percentage of students who do not. Put differently, whereas eighty-eight percent (88%) of the participants who stand for twenty-two (22) students affirm that their supervisors insisted that they should use those skills in the discussion section, four (4) students claim that their supervisors did not insist on that.

Q10- “How did you find the process of writing your dissertation?”

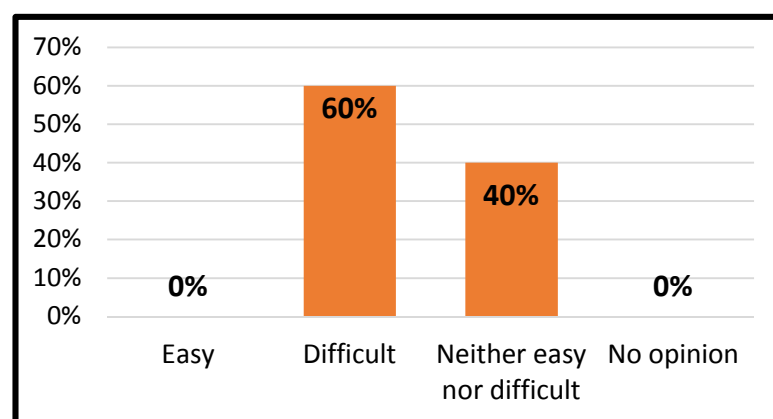


Diagram 9: Students’ Perceptions of the Process of Writing the Dissertation

Diagram 9 presents the perceptions of students towards the writing of the dissertation. It clearly shows that sixty percent (60%) of the participants, that is, fifteen (15) students qualified it as “*difficult*”. In contrast, forty percent (40%) of them qualified the process as being “*neither easy nor difficult*”. None of the students stated that s/he found it “*easy*”.

Q11- “Did you face any difficulties when writing the discussion section?”

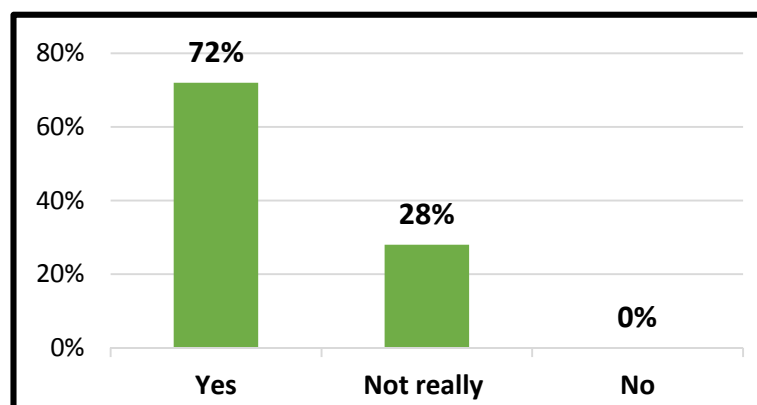


Diagram 10: Students’ Difficulties during the Writing of the Discussion Section

As indicated in the diagram above, seventy-two percent (72%) of the participants, which correspond to eighteen (18) students, assert that they did face difficulties when writing the discussion section. On the contrary, twenty- eight percent (28%) representing seven (7) students claimed that they did “*not really*” find the writing of the discussion chapter challenging.

Q12- “If yes, why?”

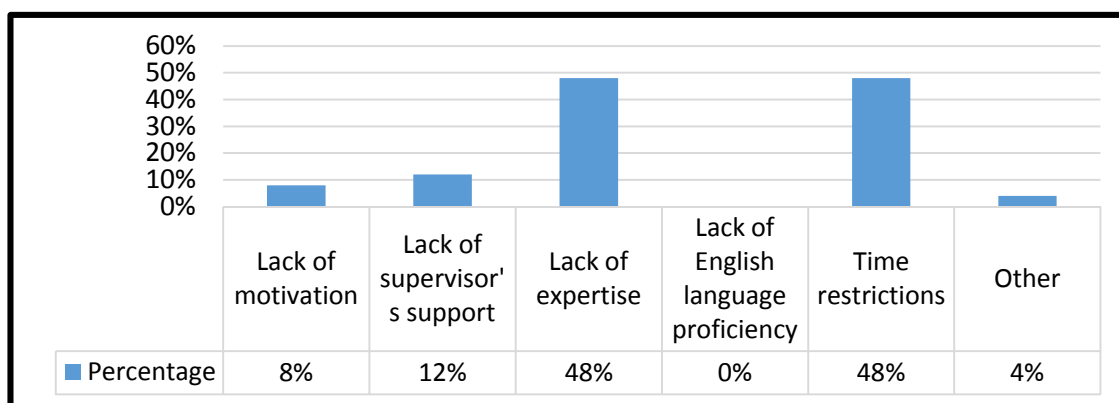


Diagram 11: Causes of Students’ Difficulties during the Writing of the Discussion Section

The results presented in diagram 11 demonstrate that students ascribe the difficulties they experience during the writing of the discussion section to various reasons. On the one hand, forty-eight percent (48%) is the percentage that corresponds to the participants who attribute the challenges they face to both “*lack of expertise*”, that is they do not know how to write this specific chapter, and to “*time restrictions*”. On the other hand, while twelve percent (12%) affirm that they find the chapter challenging because of “*lack of supervisor’s support*” to them, eight percent (8%) say that it is owing to “*lack of motivation*”. Only four percent (4%) representing one student claimed that it is due to “*lack of resources or documents*”. In addition, the statistics show that none of the respondents attributed the challenges to the “*lack of English language proficiency*”.

Q13-“Is it the only part of the dissertation you found challenging/difficult to write?”

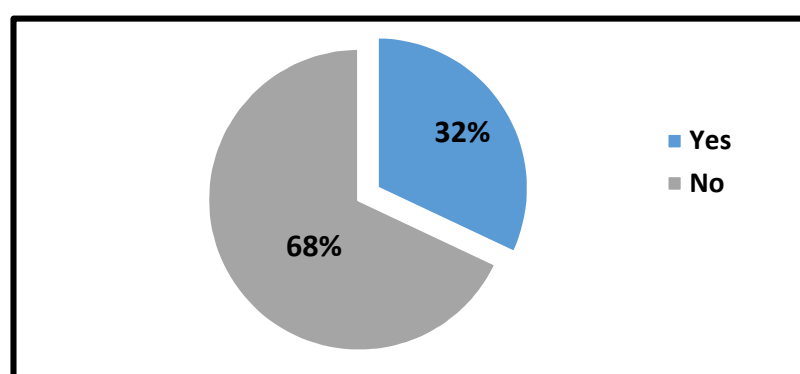


Diagram 12: Students’ Perceptions towards Other Parts of the Dissertation

As illustrated in the diagram above, an appreciable percentage of participants that is sixty-eight percent (68%) representing seventeen (17) students point out that there are other challenging chapters besides the discussion section. Nevertheless, only thirty-two percent (32%) of students confirm that the discussion chapter is the sole chapter that they find challenging.

Q14-“If no, which one(s)?”

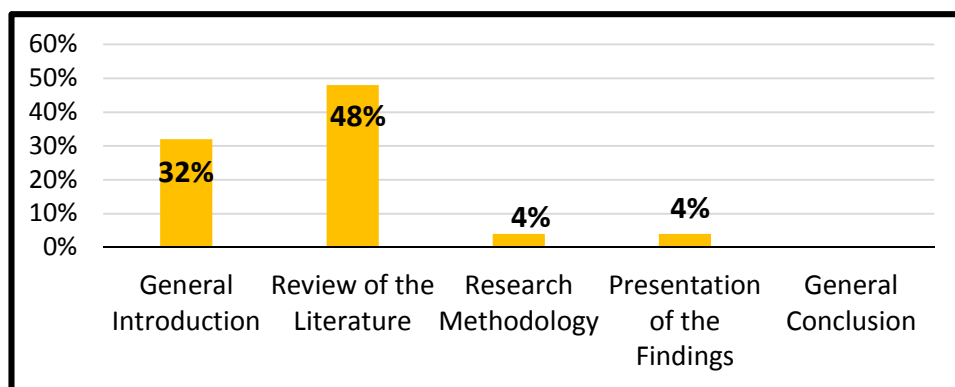


Diagram 13: Other Challenging Parts of the Dissertation

It becomes clear from diagram 13 that forty-eight percent (48%) of the respondents perceive the “*Review of the Literature*” chapter as a challenging chapter apart from the discussion chapter. Also, thirty-two percent (32%) of participants’ answers further mention the “*General Introduction*” as being difficult to be written. As for the rest of students, they represent eight percent ($4\% + 4\% = 8\%$) which are equally divided between the “*Research Methodology*” and “*Presentation of the Findings*”.

Section 2: Students’ Interpretation of Critical Thinking

Q15- “How would you define Critical Thinking?”

Categories	Number of Answers	Percentage
1 -The student’s ability to exhibit skills like analysis, comparison/contrast, evaluation, drawing conclusions, making inferences, and making judgments about a particular topic.	12	28%
2 -The ability to go beyond the surface appearances of things towards a deep reflection and understanding of them.	5	12%
3 -The ability to express one’s ideas, and show one’s authorial presence and imprint in writing.	3	7%
4 -Evaluation of one’s way of thinking	3	7%

5 -To not take everything read for granted rather question it.	9	21%
6 -The ability to evaluate and make judgments on a piece of work using evidence and arguments	8	18%
7 -The student's capacity to discern the relevant information from the fallacious.	3	7%
Total	43	100%

Table 6: Students' Definitions of Critical Thinking

Table illustrates that the participants offered different definitions of critical thinking. Most of the informants (28%) defined it as a set of skills like analysis and evaluation that a student displays when dealing with a particular topic. Others (21%) perceive it as the act of processing with a questioning mind every piece of information read rather than taking it at face value. For some students (18%), critical thinking implies one's "*ability to evaluate and make judgments on a piece of work using evidence and arguments*". Five other answers (12%) suggest that critical thinking refers to a student's ability to engage in a thorough reflection and understanding of things.

Q16-"Do you think you have reached such a level of thinking?"

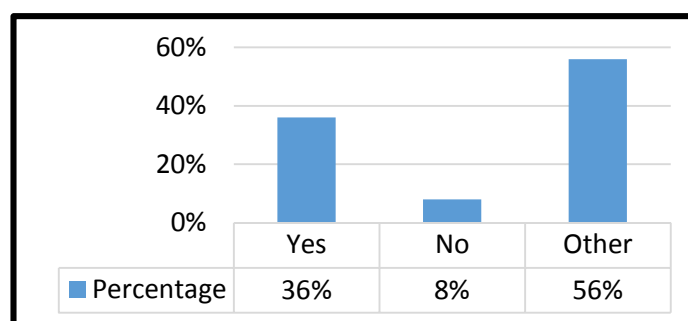


Diagram 14: Students' Estimation about their Critical Thinking Level

The results gathered from question 16 distinctly show that contrary to eight percent (8%) who argued that they do not think that they have reached critical thinking level, thirty-six

percent (36%) state that they have reached such a level of thinking. Nonetheless, there is another category of responses which, though not included in the questionnaire, unexpectedly emerged from the respondents' answers. It represents the highest percentage, that is, fifty-six percent (56%) of students who either stated that they have “*not really*” reached critical thinking level or they have reached such a level of thinking but “*to a certain extent*” only.

Q17- “Do you agree that skills like analysis, comparison/contrast, making inferences, drawing conclusions, evaluation and making judgments are critical thinking skills?”

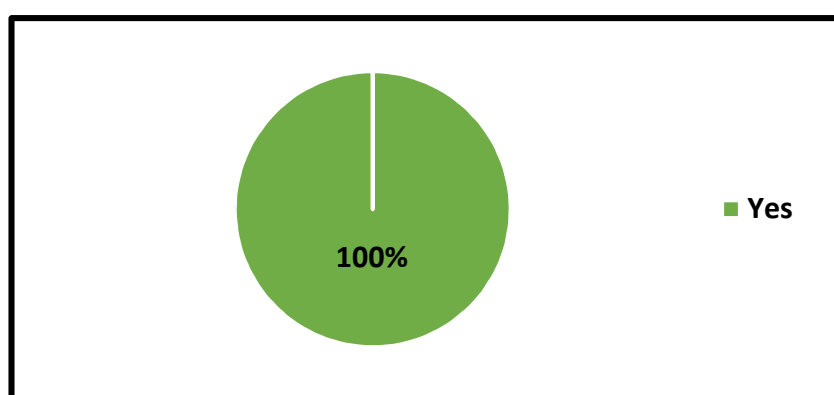


Diagram 15: Students' Views on Critical Thinking Skills

The pie chart highlights that all of the twenty-five participants that is one-hundred percent (100%) showed their agreement that the skills cited above like *comparison/contrast*, *analysis* and so on are critical thinking skills.

Section 3: Students' Motivation towards Dissertation Writing

Q18- “How did you feel during the process of writing your dissertation?”

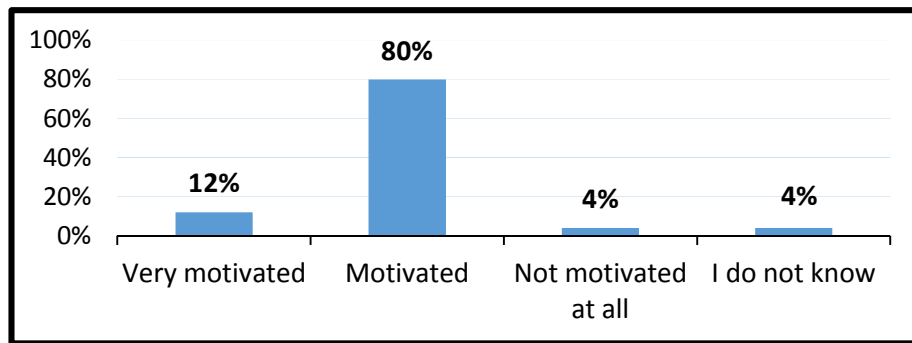


Diagram 16: Students' Motivation during the Process of Writing the Dissertation

The findings related to students' motivation indicate that ninety-two percent (92%) i.e. (12%+80%) of them were motivated throughout the process of writing their dissertations. However, eight percent (8%) represents the percentage of other students; one who noted that s/he was "*not motivated at all*" and another one who said that s/he "*does not know*" whether s/he was motivated or not.

Q19- "If you were motivated, did your motivation last until the end of the work?"

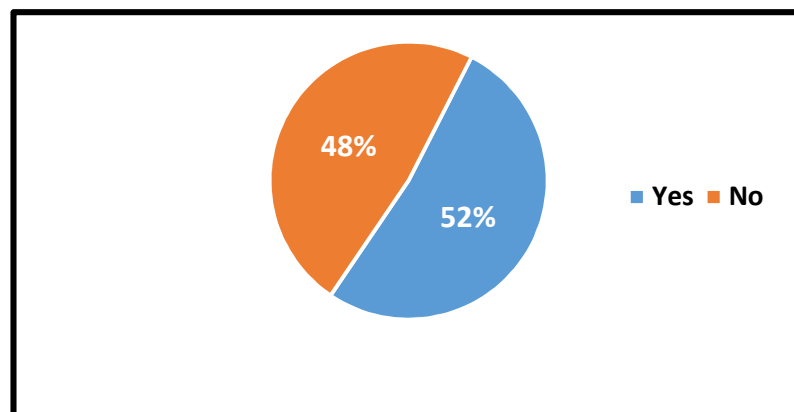


Diagram 17: The Duration of Students' Motivation

As indicated above, the answers of the participants point out that while fifty-two percent (52%) of students affirmed that their motivation lasted until the end of the work, Nonetheless, forty-eight percent (48%) of them said the opposite arguing that their motivation did not endure.

Q20- "If no, why?"

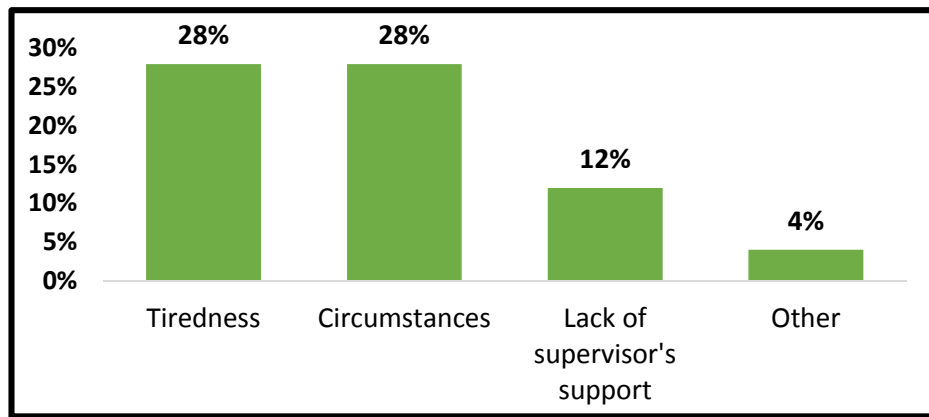


Diagram 18: Factors Affecting Students' Motivation

The results presented in diagram 18 show the factors that students cited as having ceased or hindered their motivation. In fact, twenty-eight percent (28%) of the participants affirmed that “*Tiredness*” impacted on their motivation. Similarly, twenty-eight percent (28%) of them ascribed their interrupted motivation to the “*Circumstances*” that characterized the Department on 2015, namely, the end of the year, the strike, and the fasting month. As for the rest of respondents, twelve percent (12%) of them declared that the “*lack of supervisor’s support*” to them affected their motivation. Yet, one student who corresponds to four percent (4%) stated another factor namely they “*did not know how to proceed or to write the discussion chapter*”.

Q21- “Did you feel motivated when writing your discussion section?”

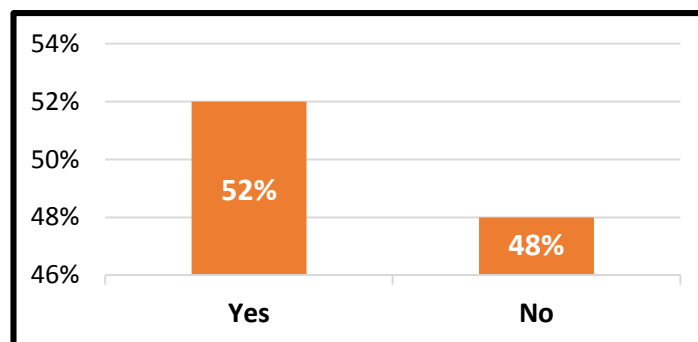


Diagram 19: Students' Motivation during the Writing of the Discussion Section

It appears from this diagram that more than half of the participants, that is, fifty-two percent (52%) which represent thirteen (13) students were motivated during the writing of the

discussion section. In contrast, the remaining forty-eight percent (48%) declared that they did not feel motivated.

3.2. Presentation of the Results of the Interviews

This part presents the results obtained from the interviews conducted with five (5) supervisors in charge of directing Master research works in *Language and Communication* speciality. The interviews have been tape-recorded and manually transcribed into texts. The transcripts of the interviews have, then, been analysed using QCA.

Q1- “How long have you been supervising Master students?”

Four (4/5) interviewees answered that they have been supervising Master students for three (3) years. Only one participant said that it is her second year, that is, she started last year (2014/2015). However, all of them stated that with the classical system ,supervision started a couple of years ago.

Q2- “How would you define the discussion of the findings section? What is its function?”

All of the interviewees (5/5) maintain that the discussion section is the most important part in the dissertation. However, on the point of the function of this chapter, their responses can be summarized as follows. The first supervisor states that the function of the discussion section is to explain the meaning of the findings and to show “*the student’s ability to produce arguments, to comment, to give evidence to support the analysis*” of the results. Another interviewee expressed the same idea by rendering it more explicit. She distinguishes between two major functions of the discussion section: a “*pedagogical*” and a “*methodological*”. From a pedagogical standpoint, she argues that the discussion section shows the student’s ability to conduct a research work and reflects his/her style and language level. At the level of research methodology, the discussion section serves to interpret and analyse the results the students has obtained. As for the other participants, they stated that the discussion section serves “*to bring*

answers to the research questions”, “to interpret the significance of the results in the light of the literature review chapter” and “to compare and contrast the results with previous researches”.

Q3- “According to you, is there a typical way of writing a discussion section? If yes, what is it?”

When the interviewees are asked about whether they think that there is a typical way of writing or organising the discussion section, divergent answers have arisen. On the one hand, three (3/5) interviewees think that there is no specific framework or way to write the discussion section. Yet, they state that there are scientific norms to respect and suggestions to students as to the writing of this section (See Q4 and Q5). On the other hand, one supervisor holds that there is certainly a typical way, for every other section has its own characteristics. Another participant expressed her inability to provide an exact way of organising this chapter because in her view *“each investigation, each research is different from the other”*. Nevertheless, she suggests, *“it’s better to organise it according to the research questions and try to answer the research questions in a critical way”*.

Q4- “What is to be included in this section?”

All of the participants agree on the fact that in the discussion section, students should imperatively go beyond the mere reiteration and description of the results towards the analytical and critical interpretation of these findings. One of them stated, *“what makes this section [discussion section] different from the results section is that here in this section the student has to give evidence and relate to the theory s/he has adopted for his/her work”*. According to the interviewees, the students should explain, interpret, comment on the results, and analyse them in relation to the review of the literature, namely, the theoretical framework, theoretical notions and previous studies. In this regard, they maintain that students ought to compare and contrast

their results with previous studies, and go further to explain how they are similar and the reasons which make them distinct. Also, to draw conclusions and make inferences from the results and, as one of the interviewees noted, *“help readers and may be help future researchers to see things that may be they have not seen yet in the results”*. Another supervisor mentioned that students may also evaluate their findings, yet in an objective way, that is, following certain scientific standards and backing by evidence. However, all of them point out that the student can provide a concise description of the results but it should be done when necessary for instance *“to remind briefly of the results just to help readers to follow”* or to serve an analysis of the findings.

When a follow-up question was asked about whether they think that students have reached such a level of thinking, at least to a certain extent, and are thus able to write an analytical discussion section, all of the interviewees hold that only a minority have reached a good level of thinking. Such students they note can do it effectively, however, *“unfortunately not the majority of students can reach this level of thinking”*. They refer to intellectual capacities and background knowledge as creating such a disparity between students.

Q5- “How do you advise or incite your students to write it? I mean what are the guidelines you provide them with as regards the writing of this chapter?”

With reference to the guidelines they provide students with as regards the writing of the discussion section, all the respondents affirmed that they insist on the fact that students should write it with a more critical stance. Yet, practically speaking, every supervisor expressed their own counsels and their own suggestions they offer to students as to the writing of this section.

Participant 1: The first participant who is also a methodology teacher stated that she advises students-both whom she supervises and whom she teaches- to follow three main steps. The first step is to reformulate or restate the results. Step two is to interpret the results in relation to the theoretical framework. As far as the third step is concerned, students should analyse the

findings by comparing and contrasting their results with those of previous studies so as to give importance to their own outcomes. Moreover, she stated that she provides them with advice concerning the use of linking words, the use of short sentences, paying attention to tense use, etc.

Participant 2: The interviewee asserted that he advises his students to write the discussion section in a “*productive*” way. That is, he incites them to discuss their results analytically and to show their personal touch by backing their own ideas with evidence. Moreover, he said that he gives them some important points to mind. He mentions “*style of writing*”, “*diction*” and “*structure*”.

Participant 3: The third supervisor said that he offers advice to students on the relevant points to include in the chapter. Furthermore, he hands previous dissertations that he examined to students so that they can have a look at the way the discussion chapter is organised. At the same time, he advises them to refer to their methodology teacher to get more details on the way to write the discussion section.

Participant 4: She expressed that she encourages students to read books on methodology and even brings them some. That is, she incites them to follow the steps and moves outlined in methodological frameworks provided in those books.

Participant 5: The fifth interviewee reported that she provides students with a model of how research is structured and encourages them to read many theses and journal articles to have a clear idea about the way the discussion section is organised.

Besides the guidelines they offer to their students, the supervisors asserted that they provide them with remarks and feedback on their drafts. Yet, they insisted that students should make efforts because it is their own research works.

Q6- “What about students’ understanding of the requirements of the writing and of this chapter?”

Asked about students’ understanding and awareness of the requirements of writing a discussion section, the interviewees asserted that there are two types of students. On the one hand, those who know the importance of writing an analytical and critical discussion of the results and going a step further from description and restatement of the findings. On the other hand, those who are not fully aware of the requirements of the discussion section and “*take it for granted that the discussion section means description*”. They note that such students need constant guidance and assistance from the supervisor to remind them of the specificities of the discussions section.

Q7- “Generally speaking, how do you evaluate students’ discussion sections? (in terms of strengths and weaknesses)”

The answers provided by the participants as regards the question above can be categorized in the following way. In their views, the weaknesses of a discussion section include the short number of pages students write compared to the results section or the review of the literature chapter “*this just shows that they do not have much to say*”, as one interviewee put it. Also, the students confining themselves to the restatement of the findings and not making any effort to go beyond the results and to do an “*analytical interpretation of the results*”. Another participant points out language inaccuracies and weak style of writing.

In contrast, what constitutes a good discussion section, for the participants, is the students’ capacity to emanate their deep understanding of the investigated topic, and show a certain extent of personal contribution rather than reproducing the results. That is, the students interpreting the results in the light of the theoretical framework, making comparisons and contrasts between their results and the findings of previous works in the field, showing a good

level of evaluation and critical analysis of the results, writing in a good style as well. However, the supervisors remark that such a capacity to meet the requirements of the discussion section writing is noticed in few works only.

Q8- “From your experience as a supervisor, what are students’ perceptions or attitudes towards the writing of this section?”

In relation to students’ perceptions towards the discussion section writing, all of the five interviewees assert that the majority of students find it challenging. They attribute these difficulties to the fact that students are more “*accustomed*” to descriptive than to analytical writing, to differences of cognitive capacities of students, and time constraints. One of the respondents calls attention to the fact that students’ perceptions are tightly linked to their awareness of the importance of this chapter. She contends that when students are aware of the crucial importance of the discussion section, they view it as being difficult. Conversely, if they take it easy, “*they are not going to consider it as being challenging*”. When asked about the type of difficulties that students face, the interviewees note that language deficiencies rank first and then followed by problems of methodology or organisation but rarely content.

Besides, to elicit more information, the interviewees were asked about whether students find it difficult to write this chapter in a critical way and the factors that might prevent them from doing so. To answer this question, one of the participants upheld that like with the attitudes towards the DF section, it is related to the awareness or non-awareness of the importance of taking a critical approach in this chapter. Other supervisors allude to intellectual capacities, educational background, demotivation, time restrictions, language problems, non-training as being additional inhibiting factors. The minority are aware of the importance of taking a critical approach in the discussion section and this is reflected in their works.

Q9- “Tell me about students’ motivation during the process of writing their works, and during the writing of the discussion section.”

The interviewees’ answers diverge when it comes to students’ motivation throughout the process of writing their works and particularly during the writing of the discussion section. In fact, two respondents maintain that there are students who keep motivated from the beginning to the end of the research. Yet, they note that there are those who are motivated at the onset of the work but their motivation lessens when they start facing problems that block the progress of their works. In this regard, one participant remarks that some students’ motivations turns into anxiety when they reach the discussion section because they do not know how to handle it. Another interviewee holds that generally, all students are motivated throughout the work and their motivation increases by the end. In the same vein, the fifth supervisor states that students usually feel unmotivated, anxious and lost when they start their works, yet, their motivation increases once they clearly understand their topics and increases when approaching the end of the work.

When further asked about whether they think that motivation is a factor that determines students’ perceptions towards the writing of the discussion section, the participants said that it might be one of the reasons but maintain that it is not the sole reason of their attitudes towards this section.

Q10- “What can you say about the teaching of critical thinking at the level of the Department of English?”

On the subject of the teaching of critical thinking in the department, two interviewees state that they do encourage such a thinking through the modules they teach. Two other respondents maintain that there are different modules that “*target the development of such a level of thinking but in an explicit way*”. They further refer to teachers’ teaching strategies that

attempt to prompt students to thinking critically on the subjects they learn. In contrast, the fifth participant thinks that critical thinking is perhaps taught in some modules rather than others where the focus is on something else. Nevertheless, all of them stress on the necessity of fostering such a cognitive skill in students at the level of the department. To elaborate further, the interviewees were asked about whether they think that the implicit teaching of critical thinking in the department can be considered as a reason why the majority of students do not write the DF in a critical way. All of them affirmed that it may be one of the reasons but not the unique reason.

Conclusion

This chapter has displayed the different results that have been reached from the analyses of the textual corpus as well as the answers of both the questionnaire and the interviews. These same findings will be the main concern of the subsequent chapter in which they will be thoroughly discussed and interpreted in an attempt to bring answers to the research questions raised at the beginning of the research.

Chapter Four

Introduction

This chapter is concerned with the discussion as well as interpretation of the findings obtained from the analyses of the textual corpus, the questionnaire and the interviews in the light of previous studies and theoretical notions in an attempt to bring answers to the research questions the study set out to explore. It is organised in accordance with these research questions raised at the outset of the investigation. The chapter, accordingly, comprises three major sections. The first section deals with students' conception and interpretation of CT and the skills it entails. Section two is devoted to students' implementation of CTS in the discussion chapter. As regards section three, it discusses the factors influencing students' use of CTS in the discussion section.

4.1. Students' Conception and Interpretation of CT

4.1.1. Students' Conception of CT and CTS

The results of the questionnaire indicate that the participants have a fairly comprehensive understanding of what is meant by critical thinking. This is noticeable by the answers they provided and which are displayed in the results section (See table 6). In fact, though students' conceptions are slightly different, they are convergent and compatible with one another in the sense that they revolve around the same notion "critical thinking". As already pointed out in the review of the literature (chapter one), CT is a broad concept that has been defined differently by a great deal of scholars. Nonetheless, the numerous conceptions converge in that CT is based upon making judgments and evaluations as its etymology indicates (See chapter one). Mortellaro (2012:21) supports this claim arguing, "*In the literature, critical thinking has been defined differently, yet, consistent in each definition is the underlying tenet that it is an active process, which utilizes a specific skill set and is founded on judgment*".

In this study, students' conceptions of CT can be grouped into three main elements which are in direct relation with CT, namely, CTS, critical reading and critical writing. In fact, 28% of students associate CT with a set of cognitive skills considered as CTS, including "*analysis*", "*evaluation*", "*drawing conclusions*", "*making inferences*" and "*making judgments*". Another group of students (21%+7%=28%) thought of CT as the reflective activity that accompanies reading or the act of actively processing with a questioning mind a reading material to distinguish what is relevant from the irrelevant also referred to as "*critical reading*" (See table 6 Definitions 5& 7). The students' conception seems to be in line with Petty's (1950:300 cited in Abdullah, 1994:47) description of the tight relationship between CT and critical reading. He conceives the relationship as "*the thinking that goes into reading, it means to really think while reading, to evaluate, to judge what is important or unimportant, what is relevant or irrelevant, what is in harmony with an idea read in another book or acquired through experience*".

Moreover, other definitions provided by students (See table 6 Definitions 3 &6) allude to "*critical writing*". The latter refers to the writer's ability to evaluate a piece of work using scholarship evidence, which would result in the production of a warranting argument. Or, the ability to generate a piece of writing that reflects one's authorial voice both in terms of content or style of writing and distinguish him/her from the rest of writers in a body of literature (Yamchi, 2015) In this way, critical writing mirrors one's critical thinking ability as s/he translates his/her ideas into writing a piece of work or generating a research paper.

This result is similar to what was found in previous studies on students' views of CT. In fact, studies conducted by (Plath et al., 1999; Tapper, 2004; Philips & Bond, 2007) reported that students tend to associate CT with the ability to present a convincing argument on a topic or a piece of work.

In accordance with what has been discussed above, the participants are cognisant of what is meant by CTS. In fact, as displayed in the results (diagram 15) all the respondents (100%) acknowledge that skills like *analysis, comparison/contrast, making inferences, drawing conclusions, evaluation* and *making judgments* are CTS.

4.1.2. Students' Views of their CT Level

When asked about their CT level, most students have been modest in their estimations. The findings deriving from the questionnaire (diagram 14) reveal that while 8% of the respondents expressed that they do not think that they have reached such a level of thinking, 36% of the participants hold that they have reached such a high-level of thinking ability coined “critical thinking”. Nevertheless, unexpected results emerged during the analysis, and which surprisingly represent the highest rate of answers from the participants, that is 56%. This percentage encompasses the answers of respondents who either asserted that they have “*not really*” reached CT level or they have reached such a level of thinking but “*to a certain extent*” only. This emergent category of answers can be interpreted as a moderate one in the sense that students do not totally see that they are unable to emanate any trait or sign pertaining to a high-order level of thinking nor completely critical thinkers. Thus, one can say that apart from a minority of students who have reached CT level as indicated by their answers (36%), the majority of the participants are average thinkers who are likely to develop their CT potential. This view is shared by an interviewee who asserted “*there are those who have reached a good level of thinking , others need to make efforts*”.

In the light of what has been discussed above, it can be deduced that most participants are cognisant of the concept CT and are aware of what is meant by CTS. With regard to their CT level, the majority are average thinkers neither devoid of of any critical thinking capacities

nor completely skillful in CT. These findings seem to be different from Orszag's (2015) research who found that students were quite confident in their CT ability but had a limited view of CT.

4.2. Students' Implementation of CTS in the Discussion Chapter

4.2.1. Students' Awareness of the Requirements of the DF section

Every chapter that constitutes a research paper has its own idiosyncratic features that distinguishes it from the rest of chapters. Being aware of these specificities is a prerequisite condition for researchers before setting out into the editing process and writing accordingly. In this study, the results clearly demonstrate that most students involved in this research are cognisant of the characteristics of the discussion section in terms of either the function it serves, or content to be included, or organisation and structure and which are in conformity with the general requirements related to the writing of the DF section as noted by scholars.

As a matter of fact, the results displayed in table (3) indicate that 28.75% of the students affirm that the main function of a discussion chapter is the "*interpretation, discussion, evaluation, commenting, and analysis of the findings*". Another portion of students (12.5% + 12.5%=25%) assert that the discussion section serves to "*relate the results to the review of the literature chapter*", that is, to the "*theoretical framework (s)*" underlying the research work and the "*previous studies*" already reviewed in the same chapter. Most importantly to "*answer the research questions and to confirm or refute the hypotheses*" that have been advanced at the onset of the research. These views are congruent with the guidelines provided in a research guide by the University of South California, which clearly states, "*the discussion section should always connect to the introduction by way of the research questions or hypotheses the researcher posed and the literature he/she reviewed*". Also, according to the findings, 16.25% of the participants recognise it as "*the most important part of the dissertation*" because they contend that the discussion section "*reflects the student's intellectual and critical abilities as a*

researcher” who has undertaken a research work of such a magnitude. One of the interviewees supports these views, arguing that the discussion section clearly mirrors the students’ linguistic ability, critical thinking ability, and most importantly the ability to handle a piece of research. She asserts, “*the discussion section is the most important part in the dissertation in the sense that it is in this section that ... we can really know if the students have really investigated their topic or not..... we find clearly the style of the learner, and also the critical thinking of the learners the real abilities of the students*”.

Similarly, students are aware of the core of the discussion section or its main content. When asked about the content of their chapters, the majority of participants (62.1%) stated that they devoted their discussion chapters to the “*analysis, discussion, interpretation, comparison and contrast of the results with relation to the review of the literature chapter*” (Table 4). This shows that students are mindful that the discussion section requires from them to depart from the description of the results to the interpretation of these findings relying on the theoretical framework and the previous studies grounded in the review of the literature chapter.

This view is confirmed by the assertions of the interviewees who maintained that in the discussion section students should go a step further from description to interpretation and analysis of the results in connection with the literature review, which will serve as a basis or reference for the analysis. Further, Paltridge and Starfield (2007:145) support the point asserting that in the DF section, students “*should move beyond their data and integrate the results of their study with existing theory and research*”. Other participants (17.2%) stated that the content of their discussion chapters is a kind of “*answers to the research questions*” through which they sought either to “*confirm or refute of the hypotheses*” advanced at the beginning of the research. This indicates that students are aware that bringing answers to the investigated issue requires an analysis and a discussion of the results rather than merely reiterating of these findings.

As already mentioned in the literature, scholars maintain that there is no typical way of organising the DF section. As noted by Swales and Feak (2004:195), “*Discussions vary considerably depending on a number of factors*” they further add that “*one important one is the kind of research question (s)*”. Interviewees also affirm the point by saying that there is no specific framework of structuring the chapter because, as one of them put it, “*each investigation, each research is different from the other*”. Yet, the results show that most participants are acquainted with the patterns of organisation that are commonly used by students in the department and asserted that they followed them in their works. 46.2% stated that they proceeded by dividing the chapter into different parts and discussed the results that emerged from the research instruments that they used in their research, such as a survey, an interview, and so on. Another significant proportion of students (30.7%), said that they selected specific points to discuss in accordance with the research questions of their studies. In this regard, Swales and Feak (2004: 195) state that “*authors of Discussions have some flexibility in deciding which of their possible points to include and then which is to highlight*”.

Another instance that indicates students’ awareness of the requirements of the DF section is their views on the use or implementation of CTS in this chapter. Evidence for such a claim is demonstrated by the results displayed in diagram (5) which distinctly show that the overwhelming majority (96 %) of the research participants acknowledge that the discussion section should be written in a critical way. That is, by integrating skills like analysis, comparison and contrast, making inferences, drawing conclusions, expressing and defending opinions, and evaluation all of which are deemed as CTS. That is, they are aware that in the discussion section they should exhibit their critical thinking potential and show their exhaustive understanding of the issue under investigation rather than reproducing the results.

In short, one can deduce that the majority of the research participants have an idea about the way to handle the DF section. They are mindful of the general requirements related to the

writing this chapter. They are aware that this chapter should be devoted to the interpretation of the findings rather than to the description or reiteration of the results reached. Also, to be structured in such a way as to “*bring answers to the research questions in a critical way*” as one interviewee put it. Thus, the current study reached divergent results from research studies conducted by Bitchener and Basturkmen’s (2006) on L2 thesis writers in New Zealand and Deng (2009) on L2 Chinese doctoral students. The two studies reported that the students had a limited understanding of the requirements of the discussion section. In other words, they were uncertain about the content that should be included in the discussion section nor the way it should be organised. This disparity may be elucidated by the fact that they are postgraduate and that the discussion section in a PhD thesis is more complex than in a Master dissertation. Besides, students in the present research are cognisant of the importance of showing traits of criticality in their discussion and analysis of the results. It is worth noting that the results of this research are in conformity with Volet and Kee’s (1993) study who found that Singaporean students in Australian universities were fully aware that they were expected to analyse critically. This brings us to discuss the practical side of the issue investigated in this research, namely, the implementation of CTS in the discussion section.

4.2.2. Students’ Integration of CTS in the DF Section

From the results displayed in diagram (6), one notes that a significant number of students (80%) stated that they have used all or some of CTS in their works. That is, they assert that they have taken a critical approach in their discussion and interpretation of the results obtained so as to be in line with the requirements of the writing of the DF section. In order to check students’ assertions, we will take, in the subsequent paragraphs, an in-depth look at the actual use of CTS identified by Quellmalz in students’ works and discuss the results that emerged from the analysis of the textual corpus.

A quick glance at the results has revealed that the percentage of *Analysis* outnumbered the rest of skills with 81%. Put simply, analysis is the main skill that the participants resort to in the critical discussion of their results. This is made noticeable in table (2) that shows that this skill figures in all the dissertations with one-hundred and thirty-nine (139) occurrences as a whole. As already mentioned in the literature, analysis is mainly concerned with the interpretation of the meaning of the results in relation to the previous literature on the topic. That is, by analysing the results, students do not confine themselves to mere restatement of the results presented in the Results section. Instead, students move beyond those results and bring their significance to light relying on theoretical notions and scholars' arguments, hence “ *help readers and may be help future researches to see things that may be they have not seen yet in the results*” as stated by one supervisor.

As an illustration, the authors of dissertations (5) and (7) try to explain their results by referring to the theoretical frameworks they have adopted in their works, namely, *Moore's Transactional Distance Theory* (1989), and *Gardner and Lambert's Theory* (1972) respectively. “*This behaviour is nevertheless considered as a type of interaction, the learner-content interaction (see chapter one) and it helps learners in the learning process, as Moore (1989) suggests, within this type of interaction learning is self-directed*”. This excerpt is taken from dissertation (7), “*The level of motivated students to learn ESP is considerably high. This is mainly due to positive attitudes they have about ESP as it is previously mentioned in the literature review in the words of Gardner and Lambert (1972:3) 'his (the learner) motivation to learn is thought to be determined by his attitude towards the other group in particular and by his orientation towards the learning task itself*”.

The two following excerpts are extracted from dissertations (8) and (4) to illustrate the way students refer to scholars' arguments to explain their results. “*This means that talking too much to learners will not help them speak. In this context, Scrivener (2005:85) claims that*

teachers should reduce their 'talking time' inside classes since...". The following quotation is taken from dissertation (4), "Such illustrations foster learners' background knowledge and the target culture and communicate meaningfully. In this sense, Hutchinson (1987: 9) proposes that 'non-linguistic content should be exploited to generate meaningful communication in the classroom'".

Moreover, *Analysis* includes other uses like "categorisation and classification" of items as suggested by Quellmalz, but in this case "results". In fact, it has been observed in the analysis of the corpus that in some works students tend to classify certain results into categories according to the theory they rely on and then explain them accordingly. Instances of such type of analysis are found in dissertation (3) whose topic revolves around error analysis. The results obtained have been categorised and analysed according to two error types in relation to Pit Corder's theory, namely, Interlingual errors and Intralingual errors and further divided into sub-categories. Likewise, dissertation (9) explores the way Intercultural Communicative Competence is manifested in an EFL textbook. The students have analysed the content of the textbook by classifying it into categories as suggested by the four dimensions constituting their theory: knowledge, attitudes, skills and critical cultural awareness. Thus, it can be noted that such an analysis of results helps students scrutinise their issue and understand it thoroughly rather than circumscribing the discussion of the results to the superficial level.

Another type of scrutiny of results under the heading of analysis skill is the understanding of cause and effect relationships among the results. According to Stiggins *et al.* (1988), it involves dissecting the results to understand how things are correlated in such a way that there are causal relationships between them. For instance, in dissertation (6) the students have tried to understand the way culture impacts on EFL students' use of language learning strategies. The following extracts are taken from dissertation (6) to illustrate the point. "*Past experiences of students and their surrounding especially the people they approach or simply*

with whom they live, impact on the use of metacognitive strategies”. “Students are greatly influenced by their surrounding and their past experiences which lead them to reflect upon things and apply these practices for studies mainly the application of cognitive strategies”.

Comparison and contrast is the second major skill that is highly manifested throughout the dissertations analyzed with a percentage of 62%. As previously stated in the literature, comparison consists in finding similarities, whereas contrast involves identifying differences between all sorts of things. In fact, it has been noticed in the dissertations that students resort to *comparison* and *contrast* to achieve different purposes. On the one hand, a category of students establish comparisons and contrasts between their findings and scholars’ arguments to show whether there is a conformity or a discrepancy between them or to confirm their results in the light of scholars’ assertions. Illustrative examples include the following excerpts extracted from dissertations (2), (5) and (8) respectively. “*These findings are in conformity with Prabhu’s (1987) statement that learners may feel a kind of embarrassment when making mistakes in the sight of their partners*”. “*Concerning the present research, the students’ answers scarcely correspond with Tim S. Robert’s (2003) claim*”. “*This result is likely to prove Long’s (1996) assertion which suggests that interaction with others plays a significant role I the process of language learning*”.

On the other hand, a further use of *comparison* and *contrast* which is in tune with the requirements of the writing of the DF section is making reference to previous studies conducted around the same topic or in the same field of study. Put another way, students draw analogies and contrast the findings of their researches and other scholars’ results and confirm their outcomes in relation to previous investigations. In this concern, Swales (2004 cited in Paltridge & Starfield, 2007: 147) posits that “*previous research is used for confirmation, comparison or contradistinction*”. To deepen the discussion of the results, students further explain the way the results are similar or the reasons which make them distinct.

By way of illustration, one can adduce dissertation (6) in which the students have contrasted between their findings and another study and have explained what makes them divergent. This goes hand in hand with the interviewees' assertions that students need to make comparisons and contrasts between their findings and other studies to deepen the analysis. *"Thus this study reached differing results from Jiang & Smith (2009) qualitative study and concluded that Chinese students use most frequently memorization strategies. Explanations and evidence for the elucidation of this fact in the current study can be provided by the socio-cultural background of the students"*. In the subsequent extract taken from dissertation (5), the students confirm their results reached with those of a previous study: *"The results concerning time constraints confirm other previous research (Croxtan, 2014)"*. The following quotation taken from dissertation (8) shows students' affirm that their findings are in line with the results reached by researchers in other contexts: *"This result goes hand in hand with what has been found in the early research (Long & Porter, 1984; Ur, 1996; Erten, 2000; Storch, 2001)"*.

By comparing and contrasting with other findings, students provide other dimensions to their studies and broaden their scope. They give importance to their findings by placing them amidst the body of previous researches and literature on the topic and strengthen them with scientific arguments. In this regard, one interviewee stipulates that students should compare and contrast between results because in her view *"generally in research the findings either remain inconclusive or there are contradictions between the investigations ...and the results are not always the samethus the aim behind every research is to complement previous research"*.

Inference is another critical thinking skill identified by Quellmalz. It consists in students drawing conclusions from the results or generalizing the findings they have obtained on the basis of a reasoning and a thorough discussion of the results. Nevertheless, the results indicate that inference occurred only 21 times throughout the whole dissertations, this corresponds to 12%. In other words, only a minor part of the participants exhibited this skill of drawing

conclusions or generalizations based on either a deductive or inductive reasoning in their works. This observation may be explained by the fact that it requires more cognitive efforts from the part of the students and that only a minority of students are able to integrate such a skill in their works. This view is shared by one of the interviewees, who stated that *“I think require more cognitive abilities ...I think ...maybe good students can do thisbut not all ... the students I think can do that”*.

This excerpt from dissertation (4) serves as an example of a generalization reached on the basis of an inductive reasoning that the students have gone through. They started by discussing particular examples of the way Knowledge is incorporated in the textbook and came up with a generalization. *“From the aforementioned examples, it is clear that knowledge in Spotlight on English One appears mainly in terms of visual and literary texts involving both the target and foreign cultures. Thus, knowledge is sufficiently incorporated in the textbook”*.

In the words of Stiggins et al. (2004), *evaluation* refers to the act of arguing one’s standpoints or judgments and supporting them with cogent evidence. In addition to this, they stipulate that an evaluation involves an assertion, criteria and evidence. Drawing on the results displayed in table (2), one notes that the percentage of evaluation is low contrasted with the other skills. This implies that it is the least incorporated skill in the dissertations with one occurrence solely standing for 1%. This fact may be ascribed to diverse reasons. One possible reason is that students are deterred from advancing their viewpoints in their analysis of the results. In this sense, one supervisor and who is also a methodology teacher upholds that she counsels students to be objective in their analysis and discussion of the results and not make judgments or give their opinions on the subject matter. Another supervisor shares the same idea arguing that for ethical matters, students are advised not to judge or blame rather to try to evaluate following scientific standards of objectivity. This result is also likely to be interpreted by the fact that when they try to be objective in their evaluations, students do not support their

arguments with enough scholarship evidence. To affirm this, Stiggins et al. (2004) note that students generally fail to construct complete evaluations, as they do not go beyond the assertion. An extra reason is the fact that students at this level may not be well equipped with sufficient background knowledge in the field that would permit them to put their ideas and stances forward and defend them. This is what one respondent claims by saying, *“a Master student in my opinion is not apt or s/he has not sufficient ability or legitimacy to give his/her opinion or to make judgments”*.

All the adduced reasons make students circumscribe their discussion and analysis to the results themselves and the literature review and do not put forward their positions towards the topic tackled. That is, students *“do not dare to say what is not being said in the results and do not dare to put their ideas forward”* as one interviewee indicates.

From the foregoing discussion, it can be concluded that most students, whose works have been analysed, have taken to a certain extent a critical stance in their discussion sections by incorporating some of the CTS discussed above. Therefore, one can say that the results of this analysis corroborate with the results of the questionnaire that suggest that 80% of the participants have used some of CTS in their works. Additionally, interviewees' views on the matter converge and reinforce these results claiming that *“we find very good works in which the students interpret, analyse, compare, contrast etc... it means that they are really following the critical thinking approach”* as affirmed by one of them.

In the following part, light will be shed on the potential factors that may have encouraged or helped students to take a critical approach in their discussion sections.

4.3. Factors Influencing Students' Use of CTS in the DF Section

4.3.1. Encouraging Factors

- **Supervisor's Guidance**

Supervisors play a crucial role during the process of writing the dissertation and the discussion section in particular as they constantly guide, orient and advise students. As indicated in the findings 88% of the participants affirm having received guidelines on the way to write the discussion section. (See Diagram 3). The majority of students further point out at the supervisor as the main source of these guidelines (64%) (Diagram 4). That is, they provide them with pieces of advice and directives to follow when writing this chapter. These guidelines range from the appropriate language to use, to the content to the organisation. Further, as we have already reported from the interviews some supervisors encourage students to read methodology books and previous researches to see practical examples of how discussion sections are structured and try to imitate this genre of writing. In this regard, one interviewee remarks, “*students learn to write through imitation...they are not going to create their own way of writing the discussion section it’s impossible they are going to write by imitating others*”. The percentages clearly illustrate that students follow their supervisors’ counsels as they resort to “*books or Internet*” (60%) and “*previous theses and dissertations*” (56%) to get an idea about the way to write the discussion section. In addition to that, a significant number of students (88%) acknowledge that their supervisors incited them to write the discussion section in critical manner (Diagram 8). Likewise, supervisors concede that they insist on students to write the DF section in a critical way. One of them stated that he advises students to write it in a “*productive way*” in the sense “*to show their abilities to produce something personal*” by discussing the results analytically and showing their personal imprint and supporting their claims with scholarship evidence.

Put another way, they incite them to show their understanding of the issue and to move beyond the reiteration of the results to the critical discussion of these findings by comparing and contrasting with other researches, analysing and elucidating the results in relation to previous literature. These facts seem to confirm what has been noticed earlier, that the majority

of the participants are aware about the general requirements of the DF section writing. In other words, the results demonstrate that the supervisor is the main agent who imparts and transmits the guidelines to the students and that their role is substantial in helping students to understand what is expected from them in this specific chapter, namely, making them cognisant of the importance of writing the DF section in a critical way.

Apart from offering guidelines to students at the beginning, supervisors affirm that they constantly provide students with feedback on their drafts during the process of writing the DF section. Put simply, supervisors help students keep their research on track and incite them to depart from description. In this concern, one supervisor asserts, “*we always give them (students) feedback on the way they comment, the way they analyse, the way they explain, the way they suggest, the way they compare, and so on*”. Yet, they note that the responsibility for developing their work and making efforts to be critical in their works rests on students. This fact may reinforce the results that have been already discussed in the previous part and which suggest that the majority of students have endeavoured to a certain extent to display some traits of criticality in the works analysed. In sum, one can note that the supervisors’ advice and guidance are central to students and for achieving a DF section that meets the standards of academic writing.

- **Motivation**

As already mentioned in the literature, CT ability is tightly linked to motivation, in the sense that motivation acts as a stimulus prompting students to show their critical thinking potential in the academic context and mainly in the dissertation writing. As Dörnyei (1998) maintains, being equipped with notable abilities does not guarantee students’ achievement of learning goals unless supplemented with sufficient motivation. In the current study, results reveal that the overwhelming majority of students (12% + 80% = 92%) assert that they were motivated throughout the process of writing the dissertation (Diagram 16). This finding may be

explained by the fact that students feel that their efforts will result in producing their personal product a “*dissertation*” that reflects their own style, thoughts, and arguments. Three interviewees share this idea and note that students’ motivation reaches its peak once they approach the end. In fact, results indicate that 52% of students affirmed that their motivation lasted until the end of the work (Diagram 17).

Regarding students’ motivation during the writing of the discussion section, the findings suggest that a significant proportion (52%) stated that they felt motivated when writing the discussion section. Students’ lasting motivation implies that students did not face any obstacle that would interrupt their motivation. Drawing on the previous results reached, most students are mindful of the requirements related to the writing of the DF section that is to say they have a clear perception of what is expected from them and know how to handle it. That is, students’ motivation is related to their awareness and understanding of the requirements. When students understand the way to proceed in writing the DF section, they keep motivated as shown from the results above. Thus, one can infer that when students understand the requirements, they feel motivated hence, they make efforts to write it in a way that matches these norms. One interviewee shares this view stating that “*if they (students) are motivated they are going to write it (discussion section) in a good way*”. The interviewee’s assertion further corroborates with Guay et al. (2010:172 cited in Lai, 2011b:4) who conceive motivation as “*the reasons underlying behaviour*”. This result therefore sustains the previous findings suggesting that most students have attempted to write the DF section according to the requirements.

In short, this implies that motivation may have been an incentive factor to students’ use of CTS in the discussion section. Put differently, as maintained by another supervisor “*Motivation leads to have the willing to reach...good standards of thinking that is to say good achievement, performance and when we say achievement we say critical thinking*”.

Still, attention should be drawn to the fact that the amount of CTS is relatively low compared to the amount of description and reiteration of the results, which have been observed in some dissertations that have been selected to serve as a case study to the current work. That is to say, though some students made attempts to integrate some CTS in their works, a considerable amount of description of results is noticed in some works. This is confirmed by the respondents' answers (20%) who answered that they did not use CTS in their works. (See Diagram 6). Interviewees, similarly, remark that not all students are able traits of criticality in their works. Accordingly, in this second part, the focus will be on the potential factors that may have arisen as obstacles in front of students and prevented them from writing the DF section in a critical way.

4.3.2. Obstructive Factors

The potential factors which may have hindered students from writing this chapter critically are essentially "*objective*".

- **Objective Factors**

Results from the questionnaire display that 20% of students affirm that did not use CTS in their works. They further point out to the fact that they were "*not taught or trained to use them*" as the main obstructive motive (16%). Interviewees confirm the idea arguing that this can be one of the reasons. One of them stated, "*the fact that critical thinking is not explicitly taught can be a reason yes*". This fact raises a focal question on the teaching of CT in the department and the educational system as a whole. Though the competency-based approach adopted focuses on learning outcomes (Chelli, 2010) like critical thinking, the latter is not explicitly taught to students. This is in line with Kida's (2006:15) statement that "*most college courses focus on teaching subject matter and lack formal instruction in critical thinking skills*". Students' answers also call attention to the fact that they have not been trained to deploy CTS.

Given the abstract and complex nature of the CTS, students need to study practical examples of dissertations and practise CTS in a concrete way. To substantiate such an assumption, all the interviewees stipulate that “*practice is fundamental*” to help learners get accustomed to the way of analysing, evaluating, comparing, contrasting, and so on. Thus, it is advisable that critical thinking be taught and mainly fostered at university level as one interviewee put it “*critical thinking should be given the importance it deserves*” to help students develop their cognitive abilities. In this regard, Black (2005) holds that students are able to improve their thinking skills if they were taught how to think.

However, a number of studies (Lauer, 2005; Willingham, 2007; Fani, 2011) reported that the non-implementation of CT in academic contexts is related to different challenges such as its vague conceptualisation, lack of teachers’ training in the field among others. In the Algerian contexts, likewise, the integration of CT into the curriculum may be fraught with challenges like infrastructure, schedules, large classes, and non-awareness of the importance of CT. This standpoint is shared by one supervisor who argues that different propitious pre-conditions should be available to lay the groundwork for the implementation of CT in the Algerian context. In the same vein, Fodil (2012) suggests that one of the paramount actions that the Algerian university ought to take is the conception of curricula or syllabi that would equip students with necessary skills to better cope with and meet the demands of the constantly evolving world like problem-solving, and prompt them to develop their thinking and why not CT potential. To quote his words,

Remplacement des programmes désuets par des contenus mieux adaptés aux transformations que connaissent les sociétés d’aujourd’hui, en privilégiant par exemple des méthodes reposant sur la résolution de problèmes nouveaux, sur une optimisation des intelligences multiples disponibles localement, plutôt que sur la reproduction mécanique de modèles de pensée figés et routiniers qui sclérosent la réflexion et la créativité des apprenants. (Fodil, 2012:312)

Another number of students (12%) mention the “*difficulty of implementing the CTS*” as being the reason behind their non-inclusion of such skills in their works (Diagram 7). This directly alludes to students’ cognitive abilities in the sense that students have different intellectual capacities. This implies that not all students can exhibit critical thinking ability in their works. As it has already been mentioned, most students are average thinkers not total critical thinkers. Thus, one notes that cognitive capacities are one of the major factors that create a difference between students and such a disparity is reflected in their works as well. That is, this a reason why some students find it difficult to integrate CTS into their works whereas other students, as demonstrated by the results, have succeeded to a certain extent to write the DF section in a critical way. In other words, the use of CTS in the DF section is partly related to students’ ability or inability to do so and not to the awareness of the requirements of the writing of the discussion section as mentioned in the results (8%) because as illustrated in previous findings, 96% of students affirmed that they are aware that they are expected to write it in a critical way. To affirm this claim, one of the interviewees argued that “*it is not a problem of knowing to write it (discussion section) in a critical way or not but this is a problem of being able or not being able depending on the intellectual abilities of every student*”. In such situations, students need more guidance, assistance, and orientation from the supervisor to handle the task.

When students are asked about whether they faced any difficulties during the writing of the discussion section, the majority of students (72%) asserted that they have (see Diagram 10). Nonetheless, a surprising result is that none of the respondents mentioned “*English language proficiency*” as being a challenge when writing the discussion section (Diagram 11). It is worth noting that language deficiency can be a hindrance in front of an effective expression of the students’ ideas, reaching coherence and cohesion, and construction of convincing arguments in

the DF section. In this concern, all interviewees uphold that the DF section is the part that clearly mirrors students' linguistic level and most of the time the weakness of the DF section is due to students' limited mastery of the target language. Conversely, being proficient in the English language would be *"the key to success in the dissertation in general and in the discussion part in specific"* as one supervisor affirmed it. In the same vein, a research study conducted by Bitchener and Basturkmen (2006) reported that one of the main challenges that L2 thesis writers faced is weak command of the target language that prevented them from writing the discussion section in a good way. In other terms, students had trouble in organizing ideas and arguments, using appropriate styles of writing, and expressing thoughts clearly in English. Hence, one can say that the current study is divergent from the above-cited research in that the findings reached are distinct and because the present study is not an in-depth investigation into the difficulties that Master students experience with this particular chapter.

Nevertheless, the results show that 48% of students attributed the difficulty to time constraints. In fact, time limitations can have an effect on the quality of one's work and it is a major obstacle that arises before research-paper writers. This view is shared by one interviewee who asserted, *"Time limitations...are always considered as one of the obstacles in writing the dissertation in a concrete way in a good way"*. Yet, one notes that students need to develop research –related skills like managing time.

Conclusion

We have, through this chapter, embarked into a thorough discussion of the different results reached in an attempt to bring answers to the research questions that the present study has set out to explore. The results revealed that the participants have a comprehensive understanding of CT and CTS. The hypothesis which states that Master students view CT as beyond their reach is partly refuted because the majority of students were found average critical

thinkers who have reached CT to a certain extent. Also, the findings showed that the majority of the participants attempted to integrate the CTS into their works thus write it in a critical way. Concretely speaking, analysis (81%), comparison and contrast (62%), inferences (12%) and evaluation (1%). In more explicit terms, the second hypothesis advanced is confirmed. With regard to the factors that may have helped students to take a critical approach in the discussion section, the results indicated the paramount roles of supervisor's permanent guidance and assistance, and students' motivation towards their research works. On the other hand, the factors that may have paralysed students and prevented them from writing the DF section in a critical way have been put under the category of objective factors. They include of students' cognitive skills, time restrictions, non-explicit teaching of CT all of which made students unable to adopt a critical approach in the discussion chapter. One can deduce that the third hypothesis put forward, which states that the use of CTS in the DF section is challenged by factors, is corroborated as well.

General Conclusion

General Conclusion

The present study intended to shed light on an essential element that is congruent with the standards and expectations of higher education termed “Critical Thinking”. It is thus set out to explore Master students’ conception and implementation of CTS in a specific chapter of the dissertation, which is the Discussion-of-the Findings chapter of the dissertation. In other words, the study aimed to determine the way Master students conceive CT and the extent to which they take a critical approach in this chapter. It has taken Master students enrolled in the field of “Language and Communication” in the Department of English at Mouloud Mammeri University of Tizi-Ouzou (MMUTO) as a case to carry out the study.

To investigate such an issue, the study has raised the following research questions.

Q1-How do Master students interpret CT and the skills it entails?

Q2-To what extent do students adopt a critical dimension in their writing of the Discussion section?

Q3-What factors foster or impede students’ implementation of CTS in their writing?

To bring answers to the advanced research questions, it relied on Quellmalz’s *Framework of Higher-Order Thinking Skills (1988)* as a theoretical basis. Additionally, it adopted a mixed-methods research combining between quantitative and qualitative procedures for both data collection and data analysis. The study relied on a textual corpus made up of ten (10) Master dissertations submitted in 2015 by Master students enrolled in “Language and Communication”. Moreover, another type of data was drawn from a questionnaire administered to twenty-five (25) graduate-Master students enrolled in the above-mentioned speciality and semi-structured interviews conducted with five (5) supervisors responsible for directing Master research works in the same speciality. The dissertations were analysed using Quellmalz’s framework and Qualitative Content Analysis (QCA). The quantitative data that emerged from

the questionnaire were processed using a computer software known as SPSS. Whereas the qualitative data that emerged from the open-ended questions of both the questionnaire and the interviews were analysed through Qualitative Content Analysis (QCA).

The findings deriving from the questionnaire suggested that students have an idea about what is meant by CT and CTS and that the majority of the participants are average critical thinkers. The results obtained also indicated 80% of students stated that they used some of CTS in their works that is, the four higher-level thinking skills identified by Quellmalz in her framework, namely, *Analysis*, *Comparison and Contrast*, *Inference*, and *Evaluation*. To confirm students' responses, a textual corpus was analysed to detect the use of these skills. The results reached from the analysis of the corpus revealed that the majority of students integrated some of these skills in their discussion chapters. More explicitly, they have written the chapter in such a way to meet the requirements of writing the discussion section. The interviewee's views on the same issue reinforced the results of the analysis and the questionnaire suggesting that most students adopted to a certain extent a critical approach in their works.

To find out about the motives behind students' use of these skills in their works, results demonstrated that supervisors' constant guidance and advice as well as students' motivation towards research played a significant role in encouraging them to write the chapter in a critical way. In contrast, supervisors drew our attention to the fact that, based on their self-experience, only a minority of students succeed to write the chapter in the appropriate way. This fact lead us to explore the reasons that make students stick to description rather than engage in an analytical discussion of their results. Once more, from the results we came to conclude that there is one major type of influencing factors that are "objective". These objective factors encompass students' cognitive and intellectual abilities, time restrictions, and non-explicit teaching of CT involuntarily prevent students from meeting the requirements related to the writing of the chapter in a critical way.

The present research acknowledges the existence of some limitations. First, the fact that due to time constraints the present study took into account only ten samples of discussion sections produced by students enrolled in one Master speciality solely. Second, the number of the participants involved in the research is confined to twenty-five students only. This is due to the difficulty of getting in touch with them knowing that they are graduate and no longer students in the department where the present study has been carried out. A further limitation is that being only researchers not the authors of the dissertations selected for analysis, we made great efforts to grasp the contents of those samples. We may have missed some instances of CTS that might have been covert. Only research-paper writers have full understanding of their subjects of research.

Hopefully, this research is a point of departure that would pave the way to further investigations that would reflect upon broadening the scope of the present research by conducting a comparative study with other Master specialisations in the Department of English, namely, “Social Semiotics and Applied Linguistics” specialisation. Further research could also probe into the way CT is manifested in writing mainly in terms of “authorial voice” at a doctoral level.

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Appendices

Students' Questionnaire

Dear students,

This questionnaire is part of a research work that revolves around the **conception** and the **implementation** of **critical thinking skills** in the **discussion section** of **Master's dissertations**. Your answers will be valuable for the accomplishment of the present study. Hence, you are kindly requested to answer the following set of questions. Your answers will be treated anonymously, so please provide sincere responses.

Please put a cross (×) in the appropriate box (es) to indicate your answers, and provide full statements whenever required.

Thank you in advance for your collaboration.

Section 1: Writing the Discussion Section

Q1- How much time did you spend writing the discussion section of your dissertation?

☐ Less than one week

☐ Two to four weeks

☐ One to two weeks

☐ More

Q2- How can you describe the discussion section of dissertations in terms of function and content?

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Q3-How did you proceed in writing (content and organisation) the discussion chapter?

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Q4- Did you get any guidelines about the way to write this chapter?

☐ Yes

☐ No

Q5- If yes, from whom or where did you get them?

☐ Supervisor's pieces of advice

☐ Friends or Peers

☐ Methodology lectures

☐ Books or Internet

☐ Previous dissertations and theses

Other, please specify.....

Q6- Do you think that in the discussion section you should analyse, compare and contrast, make inferences, draw conclusions, express/defend opinions, evaluate and make judgments?

☐ Yes

☐ No

☐ I do not know

Q7- Do you think you used them (at least some) when writing this section?

☐ Yes

☐ No

☐ I do not know

Q8- If no, why?

☐ Not taught or trained to use them

☐ Not aware about them (did not know they are required)

☐ They are difficult to be implemented

Other, please specify.....

Q9- Did your supervisor insist on the inclusion/use of such skills in your writing of the discussion section?

☐ Yes

☐ No

Q10- How did you find the process of writing your dissertation?

☐ Easy

☐ Neither easy nor difficult

☐ Difficult

☐ No opinion

Q11- Did you face any difficulties when writing the discussion section?

☐ Yes

☐ Not really

☐ No

Q12- If yes, why?

☐ Lack of motivation

☐ Lack of supervisor's support

☐ Lack of expertise (Don't know how to write it)

☐ Lack of English language proficiency

☐ Time restrictions

Other, please specify.....

Q13- Is it the only part of the dissertation you found challenging/difficult to write?

☐ Yes

☐ No

Q14- If no, which one(s)?

☐ General Introduction

☐ Presentation of the Findings

☐ Review of the Literature

☐ General Conclusion

☐ Research Methodology

Section 2: Students' Interpretation of Critical Thinking

Q15- How would you define Critical Thinking?

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Q16- Do you think you have reached such a level of thinking?

☐ Yes

☐ No

Q17- Do you agree that skills like analysis, comparison/contrast, making inferences, drawing conclusions, evaluation and making judgments are critical thinking skills?

☐ Yes

☐ No

Section 3: Students' Motivation towards Dissertation Writing

Q18- How did you feel during the process of writing your dissertation?

☐ Very motivated

☐ Not motivated at all

☐ Motivated

☐ I do not know

Q19- If you were motivated, did your motivation last until the end of the work?

☐ Yes

☐ No

Q20- If no, why?

☐ Tiredness

☐ Circumstances (e.g.: end of the year, strike, fasting month...)

☐ Lack of supervisor's support

Other, please specify

Q21- Did you feel motivated when writing your discussion section?

☐ Yes

☐ No

Please use the space below to provide your comments and suggestions.

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Thank you!

Teachers' Interview

- 1- How long have you been supervising Master students?
- 2- How would you define the discussion of the findings section? What is its function?
- 3- According to you, is there a typical way writing a discussion section? If yes, what is it?
- 4- What is to be included in this section?
- 5- How do you advise or incite students to write it? I mean what are the guidelines you provide students with as regards the writing of this chapter?
- 6- What about students' understanding of the requirements of the writing and organisation of this chapter?
- 7- Generally speaking, how do you evaluate students' discussion sections? (in terms of *strengths* and *weaknesses*)
- 8- From your experience as a supervisor, what are students' perceptions or attitudes towards the writing of this chapter? I mean how do they find the writing of this section?
- 9- Tell me about students' motivation during the process of writing their works, and during writing the discussion chapter.
- 10- What can you say about the teaching of critical thinking at the level of the Department of English?