**People's Democratic Republic of Algeria**

**Ministry of Higher Education and Scientific Research**

**Mohammed Seddik Ben Yahia University, Jijel**

**Faculty of Letters and Languages**

**Department of English**

# Investigation of the Use of Critical-Thinking Skills in Students' Written Production:

The case of Third Year Students of English at the Department of Mohammed Seddik Ben Yahia University, Jijel

A Dissertation Submitted in Partial Fulfillment for the Requirements for a Master Degree in Didactics of English

Submitted by:

Rafika MAZA

Meriem ZEGHIMA

Supervised by:

Ahcène KERDOUN

Board of Examiners:

Chairman: Mr. Radouane NAILI Mohammed Seddik Ben Yahia University, Jijel

Examiner: Dr. Slimane BOUKHENTACH Mohammed Seddik Ben Yahia University, Jijel

Supervisor: Ahcène KERDOUN Mohammed Seddik Ben Yahia University, Jijel

Academic Year: 2018-2019

## Dedication

This work is dedicated to:

My parents. Firstly, my mother "Rachida" for her tireless love, encouragement and understanding over the past year, and especially during the writing of this dissertation, without her, this year of full time study would not have been possible.

My dear father Mokhtar, the most loved person for his continuous help, financial support, and encouragement during the challenges of this year.

My husband: Soufiane, for his unconditional love, continuous help, and encouragement.

My sisters and my sisters-in-law: for their encouragement, and continuous help.

My brothers and their wives: for their encouragements.

My mother-in-law and my father-in-law: for their support.

My nieces: Amira, Asma, Maria, Manar, Amina, Nidal.

My nephews: Abdalali, Rida, Achraf, Ayoub, Yasser, Adem, Mohammed Amir, and Yakoub.

My cousins: Nadjet, Souad, Saliha, and Mohammed.

Everyone I met during my academic career namely: Meriem, Nessrin, Amira, Sana, Amel, Soumia, Leila, Sara, Kenza, Naziha, and all my classmates. Whose acquaintance is of great honour for me. I also would like to dedicate this work to my students at ABC School who supported me.

May Allah keep you safe!

RAFIKA

## Dedication

This work is dedicated to:

The persons unstintingly support me throughout the whole course of my life, the epitome of kindness who is ready to sacrifice for my own sake.

My dear father: "Abdel Aziz"; my mother: "Massaouda".

My beloved sisters: Asma, Fatima, Khalida, Khadidja, and Chaima.

My beloved brother: Akram Farouk.

My sister: Amina, and her husband Imad.

My adorable aunts: Samia, Abida, Abla, Aicha, Razika, and Salma.

My uncles: Nacer, Yazid, Samir, and Mohammed.

My grandmother: Fatiha, and my grandfather: Taher for their endless love and constant prayers. May Allah bless you.

My soul mates: Rafika, Amira, Leila, and Sarah.

My dear friends who really supported me: Zahia, Marwa, Mounira, Chaima, and widjdan.

May Allah bless you! ☺

**MERIEM**

## Acknowledgements

First and for most, we thank Allah, who strengthened and provided us with help to fulfil this work.

We would like to express our gratitude, and thanks to our supervisor Mr. **Kerdoun Ahcène** for his invaluable guidance during the planning and writing of this dissertation, and his insightful and constructive feedback.

We must express our gratitude to the board of examiners for reading, and evaluating our work.

We would also like to thank teachers who have responded to the questionnaire and who gave us their time at a very busy period of the year, and who enthusiastically shared their thoughts, and experiences that formed the basis of this dissertation.

A very special acknowledgement goes to our parents, sisters, and brothers who unconditionally helped, and supported us all the way.

A big thanks and much appreciation goes to our dear friends Leila, Sara, and Amira for their constant friendship, and all their supportive phone calls during this year.

Appreciations go to all who helped us, even if through a smile ☺

## Abstract

It has been noticed that students' performance in critical writing lacks illustrations of critical thinking skills (CTS) at various levels. Therefore, a study has been considered whose aim is to inspect the implementation of critical thinking skills in students' written production. In other words, it investigates the availability of critical thinking skills in students' written performance. The study rests on the hypothesis that if students are taught critical thinking skills, the latter will be manifest in written performance; supported by two research questions concerned with the students' use of critical thinking skills across the curriculum, and how this might be improved by the adoption of explicit teaching of critical thinking skills. In order to test our hypothesis, a descriptive study by means of a questionnaire and a content analysis of students' exam papers of psychology has been conducted. The questionnaire, consisting of 11 related questions, has been administered to 11 permanent teachers at the department of English, seeking to collect data about teachers' perceptions and opinions about students' use of critical thinking skills, and their role in improving their critical writing. A content analysis of 56 third year students' exam papers of psychology, asking to discuss divergent perspectives in contemporary psychology, has been carried out through assigning the exam papers to four levels of critical thinking skills (Unilateral Description, Simplistic Alternatives or Arguments, Basic Analysis, and Inference). The findings show that the majority of teachers do not teach explicitly critical thinking skills, and that the overall degree of critical thinking skills is very restricted at all four levels, giving significance to the pre-established hypothesis namely: if students are taught critical thinking skills, the latter will be manifest in written performance. It is concluded that building critical thinking skills remains to be fully integrated within the currently adopted curriculum.


**Key Words**: Critical Thinking, Critical Thinking Skills, Written Production.

## List of Abbreviations and Symbols

**CT**: Critical Thinking

**CTS**: Critical Thinking Skills

**CTD**: Critical Thinking Dispositions

**HOTS**: Higher Order Thinking Skills

**LOTS**: Lower Order Thinking Skills

**EFL:** English as a Foreign Language

**L1**: First Language

**L2**: Second Language

**VS :** Versus

**Q** : Question

**N :** Numbers

**%**: Percentage

## List of Tables

## List of Figures

## Table of Contents

## Chapter Two: The Writing Skill

## Chapter Three: Data Collection and Analysis

ملخص

# General Introduction

## Background of the Study

One major goal of higher education is to cultivate students' critical thinking skills (Roth, 2010). (Allegriti & Frederick, 1995) agree that it is important that students develop the skills of critical thinking while they engage in academic learning , in order to be able to evaluate arguments ,resolve conflicts ,and come to well reasoned resolutions. Teaching critical thinking skills is of crucial importance for students 'critical writing (Al-Sharadgah, 2004). Students should relay on different sources to gain the appropriate and the needed knowledge in order to evaluate, reason and analyse facts and thoughts .According to Al-Sharadgah (2014) most saudians EFL students' reflective writing is somehow weak because they lack different skills, more specifically, the skills of critical thinking. A study was conducted whose aim is to investigate whether critical thinking skills can be developed through writing at Internet Based Environment (IBE). The results of that study confirm that CTS developed through writing at an IBE. That study relied on using a questionnaire, and an experiment study. As master students, we remarked that the majority of EFL students at the department of English, University of Mohammed Seddik Ben Yahia, Jijel lack the use of skills of critical thinking in their writing. Thus, a study was conducted to investigate the 3rd year students' implementation of CTS in their writing.

## Statement of the Problem

The primary goal of education is to develop critical thinking skills; it should be the essential aspects of higher order thinking. The latter's importance is crucial in all disciplines, particularly in academic writing. In their academic written performance. As students, we have rarely noticed that the majority of 3rd year students show good CTS showing writing

deficiency while it is firmly believed that explicit teaching of critical thinking skills improves students writing performance.

## Aim of the Study

The aim of this study is to investigate the level of critical thinking skills and students' competence in critical writing as a way to conclude their having been explicitly taught CTS.

## Research Questions

The current research work attempts to answer the following questions:

- To what extent 3rd year EFL students can use critical thinking skills in writing across the curriculum.
- Have students been explicitly taught critical thinking skills?

## Research Hypothesis

This research is intended to be accomplished by verifying the following hypothesis:

- If students are taught critical thinking skills, the latter will be manifest in written performance.

## Research Methodology

Because of the descriptive nature of the study, it seems appropriate to opt for two means of research: a questionnaire and a content analysis. The former will be administered to11 teachers at the department of English at university of Mohammed Seddik Ben Yahia, Jijel, while the latter will be the analysis of 56 third year students' exam papers selected randomly among the papers of 280 students of the same department. The study of the exam papers obeys to a checklist that specifies four levels of CTS namely: Unilateral Description,

Simplistic Alternatives or Arguments, Basic Analysis, and Inference. The students' performance is categorized in relation to constituent skills, and final scores are attributed for each level.

## Structure of the Study

This dissertation is composed of a general introduction, three chapters, and a general conclusion. The first chapter of the theoretical part gives an overview about critical thinking skills and their teaching, while the second chapter of the same part sheds light on the writing skill and its relationship with critical thinking skills. The third chapter presents a detailed analysis of the data obtained from two means of research namely Teacher Questionnaire, and students' exam papers. The dissertation terminates with a general conclusion.

# Chapter One: Critical Thinking Skills

Introduction

1.1. Definition of Critical Thinking

1.2. Critical Thinking and Other Related Concepts

1.2.1. Metacognition

1.2.2. Motivation

1.2.3. Creativity

1.3. Elements of Critical Thinking

1.3.1. Knowledge

1.3.2. Skills

1.3.3. Dispositions

1.4. Components of Critical Thinking

1.4.1. Problem Identification

1.4.2. Clarifying Question

1.4.3. Logic of Arguments and evidence

1.4.4. Synthesis

1.4.5. Problem Solving

1.5. Core Critical Thinking Skills

## Introduction

Critical thinking skills is an essential concern in all cognitive areas, particularly in the educational one. Its serious consideration can be traced back to many centuries ago. In fact, CT is an extremely desirable goal in higher educational courses. This chapter aims at investigating learners' implementation of CT in writing. First, it starts with some definitions of the concept Critical Thinking together with distinguishing concepts related to it. Second, it examines CT elements, components, and skills along detailing the relationship of Bloom's taxonomy to critical thinking skills, levels of CTS followed by dispositions of critical thinking. Finally, it also attempts to shed light on CTS in higher education and the importance of teaching critical thinking skills.

## 1.1. Definition of Critical Thinking

The concept of critical thinking is not new since Socrates and Plato (Paul, Elder, &Bartell, 1997) have practiced it. According to Chance (1986), "it is the ability to analyze facts, generate, and organize ideas, defend opinions, make comparisons, draw inferences, evaluate arguments, and solve problems." (p.6). Barry k. Beyer (1995) believes that CT means ideas and generated judgments should be reasonable and clearly stated while Schafersman (1991) argues that CT means correct thinking that enables thinkers to get reliable knowledge about the world. It is the "reasonable, reflective and skillful thinking is focused on deciding what to believe or do." (Ennis, 1987, p.3).Cottrell (2005), summarizing, defines CT as a "cognitive activity" that involves the use of the mind and mental processes – when thinking- such as attention, categorization, selection, and judgment (p. 1). CT is also defined as the process of gathering information, analyzing it, and then evaluating the objectives behind gaining understanding in order to solve problems, or make decisions (Carter, Bishop, and Kravits, 2007).

## 1.2. Critical Thinking and Other Related Concepts

Lai (2011) views that the concept CT can be confused with other related concepts. As a way of defining the concepts, many researchers have drawn connections to other skills commonly used and viewed as twenty first century skills. These concepts include metacognition, motivation, and creativity.

### 1.2.1. Metacognition

Martinez (2006) defines metacognition as the ability to control, monitor, and evaluate thoughts and learning activities. Accordingly, the concepts of CT and metacognition are interrelated. Kuhn (1999) views CT as a form of metacognition including metacognitive knowing (thinking on declarative knowledge), meta-strategic knowing (thinking on procedural knowledge), and epistemological knowing (the production of knowledge). On the other hand, Van Gelder (2005) views metacognition as a part of CT, since one major component of CTS is the ability to use right strategies and skills at the right time. However, Limpman (1988) argues that critical thinking and metacognition are distinct construct. In other words, metacognition is not necessarily CT, because one cannot always think about one's thought in a reflective manner (as cited in Lai, 2011).

### 1.2.2. Motivation

Critical thinking skills and motivation are also related to one another. Facione (2000) views CT dispositions as "consistent internal motivation to engage problems and make decisions by using critical thinking." (p.65). Halonen has noted that a person's attitudes to demonstrate higher-order thinking are related to their motivation (1995). Thus, an unmotivated person is unlikely to demonstrate CT. So, motivation is a supporting condition for CT (as cited in Lai, 2011).

### 1.2.3. Creativity

Lai (2011) found that many researchers such as Bailin, 2002; Ennis, 1985; Paul & Elder, 2006 make connections between critical thinking and creativity. They argue that certain characteristics of creativity are necessary for critical thoughts. Creativity is the formation of something new and original, and the tendency to generate and recognize ideas, alternatives that might be useful to solve problems. Paul and Elder (2006) note that CT and creativity are aspects of good, purposeful thinking; they are two sides of the same coin. In practice, the two concepts are inextricably linked and develop in parallel, since CT requires open-mindedness and flexibility, which are characteristics of creative thinking (as cited in Lai, 2011).

## 1.3. Elements of Critical Thinking

The teaching of CTS should not be restricted only to the cognitive skills. Instead, Gloser (1941) proposes that learners should be trained in what is considered as the three elements of CT, which include knowledge, skills, and dispositions.

### 1.3.1. Knowledge

According to Gloser (1941), critical thinkers should have knowledge of the logical inquiry and reasoning, especially inductive and deductive. Inductive reasoning is where premises support the conclusion. The conclusion is part of reasoning that inductive reasoning is trying to prove. Deductive reasoning is where true promises develop a true and valid conclusion. In short, inductive reasoning means to move from specific instances to general conclusion whereas, deductive reasoning uses general principles to create a specific conclusion (as cited in Singh, 2017).

### 1.3.2. Skills

Gloser (1941) defines skills as the application of knowledge in new data or situations in order to analyze information and solve problems. Skills can be developed through the transfer of knowledge to a novel situation or context (as cited in Singh, 2017).

### 1.3.3. Disposition

This concerns the attitude of being willing and disposed to consider in a thoughtful manner the issues that come within the range of one's experiences. Disposition also describes a person 'attitude toward life and most common mood, but it can be change (Gloser, 1941, as cited in Singh, 2017).

## 1.4. Components of Critical Thinking

Critical thinking according to Bernstein and Carol (2018) can be associated with different components

### 1.4.1. Problem Identification

Hsiao, Chen, & Hu (2013) view problem identification or the recognition of the problem as an indicator of critical thinking. Problem identification is associated with pre-requisite knowledge that triggers a question (as cited in Bernstein & carol, 2018).

### 1.4.2. Clarifying Question

According to Gilbert and dabbargh, (2005) it is the clarification of content through paraphrasing or personal interpretation also is a form of reflection that seeks to eliminate ambiguity ,confusion and to elicits additional details(as cited in Bernstein & carol ,2018).

### 1.4.3. Logic of Arguments and Evidence

Resaei and Lovorn (2016) define it as the arrangement of argument in a reasonable and logic way in other words, it is a reason or set of reasons given to support and idea, action or theory (as cited in Bernstein & carol, 2018).

### 1.4.4. Synthesis

Synthesis of ideas, according to Hsiao et al., (2013), is the integration of new and previous thoughts to prove arguments or ideas (as cited in Bernstein & carol, 2018).

### 1.4.5. Problem Solving

Hsiao et al. (2013) define it as the ability to solve real world problems, using knowledge previously acquired (as cited in Bernstein & carol 2018).

## 1.5. Core Critical Thinking Skills

Woolfolk (1990) views the most essential skills of critical thinking as the skill to define a problem and clarify its nature. It is also the ability to identify central issues, find similarities and differences, determine which information is relevant in order to formulate appropriate questions and judge information related to the problem, in addition to the ability to distinguish among facts, opinions, and reasonable judgments, as well as the ability to check consistency.

Facione (1990) considers CT as "purposeful, self-regulatory judgment that results in interpretation, analysis, evaluation, and inference, as well as explanation of the evidential, conceptual, methodological, criteriological, or contextual consideration upon which that judgment is based." (p.3)

### 1.5.1. Interpretation

It is the ability to understand a wide variety of experiences, situations, judgments, and data, also, it is the ability to identify a problem and describe it objectively without any bias (Facione, 1998).

### 1.5.2. Analysis

Facione (1988) defines it as the ability to examine ideas, detect arguments, and find similarities and differences between two approaches to solve a problem. In addition, it is a detailed examination of anything complex to understand its nature or to determine its essential features.

### 1.5.3. Evaluation

It is considered to be the most complex stage for learners. Evaluation means the ability to evaluate judgments, ideas and find their strong and weak points, in addition it is the ability to form opinions, separate the others' view and try to evaluate its relevance and validity (Facione, 1998).

### 1.5.4. Inference

It is the ability to draw reasonable conclusions, to form hypotheses, consider relevant information, and to deduce the consequences flowing from data, statements, judgment (Facione, 1990).

### 1.5.5. Explanation

It is the act of explaining the result in terms of evidential, conceptual, and contextual consideration, and then presenting arguments (Facione, 1990).

### 1.5.6. Self- regulation

Facione (1990) defines it as 'self-consciously' control some individual cognitive activities, the elements associated with those activities, and the results obtained through the application of analysis, evaluation, and inference skills used to question, confirm, and validate individual's reasoning or results.

### 1.5.7. Reasoning

Another critical thinking skill is reasoning. According to Cottrell (2005) it is the capacity for 'rational thought' that used to solve problem, critically evaluate your beliefs and actions, and present your reasons to others (p.3).

### 1.5.8. Reflection

It is the ability to produce a more considered and accurate response, making useful contribution to your production (Cottrell, 2005).

## 1.6. Critical Thinking Skills and Bloom's Taxonomy

In 1956, Bloom et al. provided a suitable theoretical framework called 'Bloom's Taxonomy'. This framework identifies objectives that guide instructional practices that allow students to move from lower knowledge levels to higher levels of thinking skills. Bloom's original taxonomy identifies six levels of learning. First of all, knowledge which is the recalling of previously learned information. Next, comprehension means understanding the meaning of information. The following level is the application or the use of previously learned information in new situations to solve problems that have single or best answer. The fourth skill, analysis, is the ability to break down information into parts and examine them. Then, synthesis is the ability to put parts or information acquired as a whole in order to create

new concepts or structures. The last level is evaluation, defined as the ability to judge the value of information based upon personal values and opinions. (Victor C. X, 2016)


**Figure** 1.1. The Original Version of Bloom's Taxonomy (1956)

### 1.6.1. Bloom's Lower Order Thinking Skills

Bloom's taxonomy is presented graphically by a pyramid that shows the lower order thinking skills include: knowledge, comprehension, and application. In such a kind of learning activities, students are asked to recite information to solve problems by applying basic concepts (Sullivan, n.d)

### 1.6.2. Bloom's Higher Order Thinking Skills

Higher order thinking skills is defined by Bloom as analysis, synthesis, and evaluation. Here, learners will categorize or clarify information, find similarities and differences, and then, make decisions (Sullivan, n.d)

A critical thinking skill is defined by Bloom as the combination of HOTS and LOTS. CT itself is defined as having two components: skills to generate components (LOTS) and the use of these skills to guide behavior (HOTS) (Sullivan, n.d).

### 1.6.3. The Revised Version of Bloom's Taxonomy

However, in 2001, Anderson and Krathwhol revised Bloom's taxonomy and created a new version. They changed categories from nouns to verbs to acknowledge active learning processes from lower order thinking levels to higher order thinking levels (as cited in Victor, 2016).

#### 1.6.3.1. Remembering

It is the ability to recall information that was previously stored in the memory also remembering means to retrieve a variety of information, facts, lists and concepts (Hughes, 2014).

#### 1.6.3.2. Understanding

Hughes (2014) defines it as the students' ability to describe, interpret different information. Students at this stage start to explain and find the main ideas, and summarize them well using their own words.

#### 1.6.3.3. Applying

At this level students start to use, apply previous acquired knowledge and ideas in a new way in order to solve problems in novel situations and complete a given task using the acquired information (Hughes, 2014).

### 1.6.3.4. Analyzing

In this level, learners examine the reasons, find evidence, and diagnose the relationship between different parts of concepts to draw conclusion. Learners should think critically to do so (Hughes, 2014).

### 1.6.3.5. Evaluating

After understanding and analyzing comes evaluation where learners should possess good level of language skills in order to evaluate and judge others' works, give their viewpoints, compare ideas, and identify strong and weak points (Hughes, 2014).

### 1.6.3.6. Creating

It is the highest critical thinking skill level in the revised version of Bloom's pyramid. It involves students to create new or original product based upon previously acquired information. Writing a good piece of work is a relevant example of students' ability to create (Hughes, 2014).

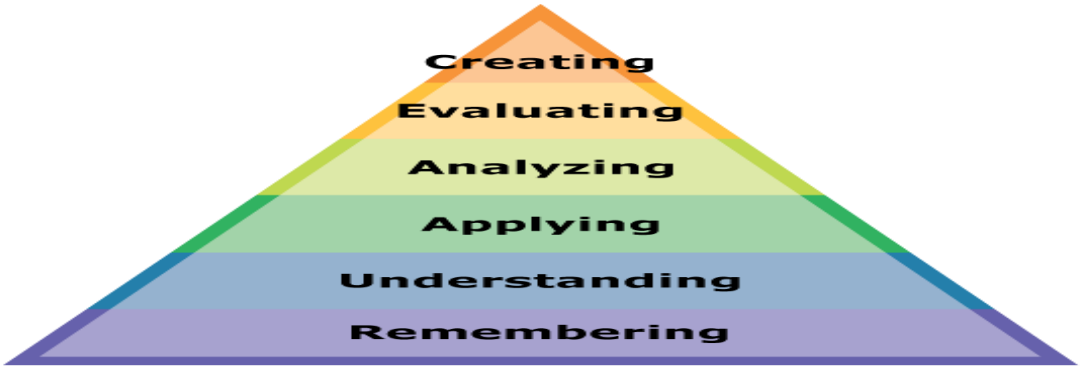


**Figure** 1.2. The Revised Version of Bloom's Taxonomy by Anderson and Krathwhol (2001)

## 1.7. Levels of Critical Thinking Skills

DeLoach & Greenlaw (2005) divide critical thinking skills into four levels namely: unilateral description, simplistic alternatives or argument, basic analysis, and inference.

### 1.7.1. Unilateral Description

In the first level of CTS, students are required to paraphrase; repeat as well as restate information, through defining terms related to the topic and add new things to the topic (DeLoach & Greenlaw, 2005).

### 1.7.2. Simplistic Alternatives or Arguments

The second level of CTS required students to include assertions, and to take a side but do not explore other alternatives. Students should cite simple rules or laws as proof, use simple explanation and make simplistic arguments (DeLoach & Greenlaw, 2005).

### 1.7.3. Basic Analysis

Students analyze facts, opinions, and thoughts and include or challenge assumptions through appealing to recognize authorities, and list numerous factors as evidence, and then evaluating these facts (DeLoach &Greenlaw, 2005).

### 1.7.4. Inference

In this level, students should include logical statements based on the discipline accepted mode or schools of thought; they should identify and challenge key assumptions of different theories in order to build cohesive arguments (DeLoach &Greenlaw, 2005).

## 1.8. Critical Thinking Dispositions

Facione (1990) views that critical thinking involves skills as well as dispositions, they are two very different abilities. Ennis (1987) views that the ability to think critically is distinct from the disposition to do so. They are considered in fact "separate entities" (Facione, 2000). Dispositions have been understood as attitudes or habits of mind. A critical thinking disposition (CTD) according to Facione (2000) is defined as "consistent internal motivations to act toward or respond to persons, events, or circumstances in habitual, yet potentially malleable ways." (p. 64) CTD according to many researchers include inquisitiveness, open-mindedness, truth seeking, self-confidence, maturity, and flexibility.

### 1.8.1. Inquisitiveness

An inquisitive individual is the one who is curious to know and understand anything about any subject to be well informed. He applies the knowledge acquired even if it is not readily apparent. An inquisitive person is predicted to agree with "no matter what the topic, I am eager to know more about it." (Facione, Giancarlo, Facione, & Gainen, 1995, p.4)

### 1.8.2. Open-mindedness

It is the desire to listen to different viewpoints than one to consider facts from whatever sources, "to recognize the possibility of errors even in the beliefs that are dearest to us." (Dewey, 1933, p.30). It values tolerance and understanding of others' beliefs (Facione et al, 1995).

### 1.8.3. Truth-seeking

Being eager to seek the best knowledge and ask questions to get information, truth-seeking thinkers continuously evaluate new information and evidence (Facione et al., 1995).

### 1.8.4. Self-confidence

This occurs when trusts one's reasoning process and reasoning judgment. CT self-confidence is increased in relation to one's maturity and mastery of CTS. A Self-confident is expected to agree with prompts such as "I take pride in my ability to understand the opinions of others." (Facione et al., 1995, p. 6)

### 1.8.5. Maturity

The attitude to be judicious in making decisions represents maturity. The CT mature person is the one who approaches problems even when they are not well-structured (Facione et al., 1995).

### 1.8.6. Skepticism

Ennis (1987) argues that skepticism in CT does not mean never believing what you hear or see, but rather, critical thinkers should hold the possibility that what they see or know is not the whole picture but only a part of it.

### 1.8.7. Flexibility

McComb et al. (2007) view flexibility as the ability of an individual in a group to collectively evaluate his behavior and refine it for functioning effectively. The organization for Economic Cooperation and Development considers flexibility as a necessary competency to adapt to new learning contexts, transfer knowledge to novel situations, and solve unfamiliar problems (as cited in Barak and Levenberg, 2016).

## 1.9. Critical Thinking Skills in Higher Education

According to Jahn and Kenner (2017), a critical thinking skill is a fundamental element of education, notably in higher education. In period of misunderstanding, oversimplified responses to more complex problems, critical thinking remains a vital skill. Teaching students CTS plays an important role in higher education because these skills enable students to engage in purposeful self-regulatory judgments, help them to evaluate the arguments of others and come to well reasoned solutions for complex problems (Horenstein & Niu, 2011).

## 1.10. Teaching critical thinking skills

According to many researchers, the teachability of critical thinking skills and dispositions is possible. In 1998, Halpern provided different instructional programs that improve critical thinking skills and dispositions of college students; they were taught general problem-solving skills based on Piagetian measures of cognitive development. Kennedy et al., (1991) conclude that these instructions have shown positive results on students' critical thinking skills and dispositions' development, as cited in Lai, 2011. Gelder (2005) argues that learners need 'deliberate practice' to exercise critical thinking skills and dispositions. This happens only when CT is taught separately from the curriculum. However, teachers must teach their students how to transfer these skills to different context by giving them chances to exercise and employ CTS in various contexts and situations. On the other hand, Pithers and Soden (2001) reject this view and believe that critical thinking could not be taught as separate subject; rather, it should be viewed as a way of teaching and learning in any field, as cited in Lai (2011). Another viewpoint is that of Halpern (2001) who argues that teaching critical thinking skills as a 'broad based-cross disciplinary' course is the most effective way of teaching critical thinking (p.271) (as cited in Lai, 2011). Ennis (1989) believes that critical thinking skills and dispositions are part of the learning content. However, critical thinking

instruction should be implicit; teachers should not focus directly and explicitly on them. Students will acquire them naturally, as they engage with the subject matter (as cited in Lai, 2011).

### 1.10.1. Importance of Teaching Critical Thinking Skills

In certain frameworks of teaching, students have continued to be considered as passive receptors of information from their teachers. The latter are conceived as the main and only source of knowledge. With the advances of technology, students are no more passive due to the large amount of information available. However, students should not passively accept them, they need to analyze the information as well as its source, and thus develop critical thinking skills and apply them in academic studies in order to be able to solve novel, and complex problems they may encounter, and to "the critical choices they will force to make as a result of the information explosion, and other rapid technological changes." (Oliver & Uttermohler, 1995, p.1). (Bayer, 1995, as cited in Karbalaei, 2012) argues that teaching of CT is important. People must think critically to make decisions about personal and civic affairs. Students should learn how to think critically, and to use good thinking skills as the guide by which they live their lives. To be a good critical thinker, Schafersman (1991) believes that you "can ask appropriate questions." (p.3). It is the duty of the teacher to teach students how to ask appropriate and well-formed questions and to think critically: "every field stays alive only to the extent that fresh questions are generated and taken seriously" (Center for Critical Thinking, as cited in Walker, 1997, why teach CT? Para -2). Finally, teaching critical thinking skills is also important for students' future challenges. To train students to job performance with limited skill areas will not serve students. Students no more focus on the transfer of information in critical thinking instruction, but rather they develop their reasoning, analysis, judgment, and good interpretation of that information (as cited in Karbalaei, 2012).

## Conclusion

In conclusion, it can be duly recapped that critical thinking is a sum of essential skills that students should purposefully learn for achieving academic goals. By developing these skills, students will undoubtedly better assimilate the subject matter. However, many students lack the ability to think critically or use the required skills appropriately in their learning process. Furthermore, teachers appear not to be confident when it comes to teaching CT for they do not consider themselves as critical thinkers, and also due to the long time CT takes to be taught. Moreover, despite that many researchers argue that the teaching of critical thinking skills is not easy at all, CTS are proven imperative to learn and exercise so that potential cognitive barriers could be overcome.

## Chapter Two: The Writing Skill

Introduction

2.1. Definition of Writing

2.2. Writing in Higher Education

2.3. Definition of Critical Writing

2.4. Importance of Writing

2.5. Characteristics of Good writing

2.5.1. Organization

2.5.2. Cohesion and Cohesion

2.5.3. Word Choice

2.5.4. Clarity

2.6. The Differences between L1 and L2 Writing

2.7. The Tasks of the Teacher in Writing

2.7.1. Demonstrating

2.7.2. Motivating and Provoking

2.7.3. Supporting

2.7.4. Responding

2.7.5. Evaluating

1.8. The Relationship between Critical Thinking skills and Writing

Conclusion

# Introduction

When people learn a language, they learn to communicate with other people: talk to them, write to them, read what they write, and seek to understand them. Writing is, then, a worthy part of language whose mastery is reinforced by any extra knowledge of any component of the language, be it of grammatical, lexical, semantic, or pragmatic character that teachers choose to incorporate for their students. The aim of this chapter is to present several defining descriptions of the writing skill and insightful explanation of its essential role. It also presents approaches to teaching writing and characteristics to produce a good piece of writing. Furthermore, this chapter considers also the differences between L1 and L 2 writing and highlights the teacher's tasks in writing. Finally, it attempts to succinctly and conveniently review the relationship between critical thinking and writing.

## 2.1. Definition of writing

According to Byrne (1988), writing is the presentation of language in textual medium through the use of a set of signs and symbols. It also refers to the arrangement of thoughts and information in a coherent way. So, it is no more considered as the putting of words together into graphic symbols, it goes beyond that to express ideas, thoughts, and provide information in a consistent way. He states that:

> Writing is clearly much more than the production of graphic symbols, just as speech is more than the production of sounds. The symbols have to be arranged, according to certain conventions, to form words, and words have to be arranged to form sentences. (p.1)

Writing is a complex process in which students have to understand what writing involves and to know how to handle words, sentences and paragraphs. It is a skill which differs from the other learning skills, in the sense that it needs instruction and learning of its

various aspects such as punctuation marks, structure of sentences, and choice of words simultaneously. (Viet, Gould, and Gould, 2013) In other words, writing needs awareness and cognitive efforts; so, it is not a random activity. We are not born with this skill we have to be taught how to write systematically (Byrne, 1988). In the same regard, Richard and Renandya (2002) state that:

> There is no doubt that writing is the most difficult skill for L2 learners to master. The difficulty lies not only in generating and organizing ideas, but also in translating these ideas into readable texts. The skills involved in writing are highly complex. L2 writers have to pay attention to higher level skills of planning and organizing as well as lower level skills of spelling, punctuation, word choice and so on. (p. 303)

To sum up, writing has always been considered as a means of communication. It is the major tool used to communicate needs such as letters, books, and speeches. Even in the recent years with the innovation of technological means of communication, writing still has its own essential status.

## 2.2. Writing in Higher Education

Students' academic writing is the heart of teaching and learning in higher education. Students are evaluated by their writing, they also need to learn academic general conventions as well as writing requirements in order to be successful in higher education. Students writing fulfil a range of purposes according to the various contexts in which it occurs. These purposes can be summarized in the following:

- Learning helps students grapple with knowledge and develop more general abilities to reason and critique.

- Evaluation is a major purpose for students writing. Students may be required to write essays and reports whose aim is to demonstrate their mastery of course content. When assessing such writing lecturers focus on the form and content of the writing.

## 2.3. Definition of Critical Writing

Critical writing means writing to present, in a well-structured way, reasons, evidence, ideas in different formats--dissertations, projects, essays-- as well as compare and evaluate alternative arguments. Arguments are differently presented but they will always reach a logical conclusion. Critical writing should include devices such as signal words that lead readers through the evidence in such a way that they are clear about the conclusion even before they read it. Critical writing language is free from emotions, adjectives, and aesthetic content. In critical writing, only technical language can be used (Cottrell, 2005).

## 2.4. Importance of writing

Richard and Renandya (2002) argue that the mastery of writing skill is very important in learning any language. Teachers and scholars consider writing as the most effective skill in which students represent their capacities in a particular language. The importance of writing can be summarized in the following points:

**1**-Writing is a means of communication. It is the major tool used to communicate needs such as letters, books, and speeches. Even in the recent year with the technological development, writing still has its own charm (Richard & Renandya, 2002).

**2-**When writing, students frequently have more time to think than they do in oral activities. They can go through what they know in their minds, with the help of dictionaries, grammar books, or other reference material. It motivates students to focus on accurate language use.

Language development and problems solving, which the writing puts into the students' minds, can happen when they think as they write (Harmer, 2004).

**3-**When students write, they become very connected with the language; the effort for expressing ideas and using eye, hand, and brain is a unique way to reinforce learning. Writers worry about what to put down next, or how to put it down on a paper, they often find something new to write about or a new way to express their ideas. They discover a real need to find the right word, and the right sentence. The close relationship between writing and thinking makes writing a valuable part of any language (Raimes, 1938).

**4-**In English as second language, writing has always been considered an important skill in teaching and learning. As Roe (2007) comments (as cited in Abdel Hamid Ahmed, 2011, p.57), English as a first language writing is useful in two respects: First, it motivates student's thinking, organizing ideas, developing their ability to summarize, analyze, and criticize. Second, it strengthens students' learning, thinking, and reflecting on the English language.

**5-** Contrary to speaking, in writing writers may have many opportunities to revise, change, and correct what they have written before giving it to the audience (Harmer, 2004).

**6-**Writing is a means that allows students to express their ideas, feelings, and thoughts (Byrne, 1988).

## 2.5. Characteristics of Good Writing

Writing is a means of communication and transmitting ideas to the audience. So, in order for writing to be effective, it is important for learners to take into consideration the following components: organization, cohesion and coherence, word choice, and clarity.

### 2.5.1. Organization

According to Starkey (2004), organization plays an important role in the process of writing since when you start your writing with organization; you will have guidance through it. Organization also helps the reader because it will direct him from first to last sentence. Starkey (2004) maintained that organization helps readers to believe what writers are saying, and to follow their progress.

### 2.5.2. Cohesion and Coherence

It is important for an essay to be cohesive. Harmer (2004) argues that "when we write a text we have a number of linguistic techniques at our disposal to make sure that our proposal sticks together" (p. 22). Additionally, he divided these linguistic techniques into two types, namely lexical cohesion that is achieved by the use of two main devices**:** repetition of words and lexical set "chains". However, grammatical cohesion is achieved in a number of different ways too: these include pronoun and possessive reference, article reference, tense agreement, linkers, substitution, and ellipsis. According to Halliday and Hasan (1976), the concept of cohesion is an effective element of the semantic relations and linguistic devices used by writers in order to produce a good piece of writing. They state that **"**cohesion is a semantic relation". For them, it refers to the relation of meaning that exists within the text while coherence is very important in enabling the reader to follow the connections of ideas. In this sense, Richards (1990) supports the effectiveness of coherence in writing. Besides that, Gebhardt and Rodrigers (1989) explain the importance of coherence in making ideas connected to each other where each sentence should relate to the proceeding and following sentence. They mention four tools that improve coherence:

1. Repetition of words, ideas, and phrases
2. Synonyms

3. Pronoun reference
4. Transitional marks (as cited in Keshta, and Harb, 2013, p. 210).

### 2.5.3. Word Choice

Word choice is one of the best ways to express ideas in essays. It means to choose the exact and appropriate words for the audience. For Starkey (2004, p, 21), "saying what you mean takes more than just an understanding of the denotation, or literal meanings of word." It is important for writers to choose a variety of words during the writing process, and avoid general words and replace them with specific ones.

### 2.5.4. Clarity

It is another characteristic of good writing. Starkey (2004) views that writers need to say what exactly they mean because learning how to be a clear writer help you to make your essays readable and help the reader to understand precisely what you mean. He proposed five guidelines to clarify the writing process:

1. Eliminate ambiguity: ambiguous means having two or more possible meaning. Ambiguous language can either be words and phrases that have more than one meaning, or word order that conveys a meaning different from the one prepared by the writer .
2. Modifiers add precision: clarity in writing involves the use of modifiers, which make your point clear, and add meaning, and originality to your writing.
3. Powerful, precise adjectives and adverbs are ways to reach clarity in writing essays.
4. Be concise: the writer will not score points with readers by using five sentences that express an idea which could have been stated in one. Wordiness is boring, and it takes up valuable time and space.

## 2.6. Differences between L1 and L2 Writing

Although there are similarities between L1 and L2 writing, empirical studies suggest that there are important differences (Hyland, 2003, p. 31). Raimes stated that "all of us who have tried to write something in a second language … sense that the process of writing in an L2 is startlingly different from writing in our L1" (as cited in kroll, 2003, p, 93). From the result obtained in a research survey, Silva (1993) concluded that L1 and L2 writing are different in many aspects; she viewed that L2 writers use few words, and commit more errors, in addition of being less effective in their writing comparing with L1 writers. According to Raimes (1994), the L1 writing is highly related "to fluency and conventions of expository discourse" while the L2 writing needs a well-developed L2 proficiency as well as the different skills of the writing process, as cited in Hinkel (2004). According to (Hinkel 2004, p.9), the differences between L1 and L2 writing extend to:

- Discourse and rhetorical organization.
- Ideas and content of writing.
- Rhetorical mode.
- Reliance on external knowledge and information.
- Reference to source knowledge and information.
- Assumptions about the reader's knowledge and expectations.
- The role of the audience in discourse and text production, as well as the appraisal of the expected discourse and text complexity.
- Discourse and text cohesion.

## 2.7. The Tasks of the Teacher in Writing

According to Harmer (2004) teachers help students to become better writers, they have a number of crucial tasks to do. The tasks which teachers have to perform before, during, and after students writing are the following:

### 2.7.1. Demonstrating

Students need to be aware of genre constraints and writing conventions in particular types of writing; teachers have to be capable to draw these features into their attention. Students should be aware of the language or layout issues to carry out certain written functions, for instance, the important issues is that they are aware of these things – that these things are drawn to their attention (Harmer 2004).

### 2.7.2. Motivating and Provoking

Students often lack the appropriate words, especially in creative writing tasks. the teacher can help students to have ideas, and convince them how fun the task can be if the teacher goes into class with prepared suggestions so that when students get stuck, they can directly be helped rather than struggle to find ideas on the point. Sometimes, teachers can give students the words they need to start a written task as a way of getting them going on (Harmer, 2004).

### 2.7.3. Supporting

Students often feel shy because they ignore how to write in an appropriate way. Building their confidence and supporting them will encourage students to take risks without fear of mistakes. Doing that is essential to the learning process (Harmer, 2004).

### 2.7.4. Responding

When responding, teachers react to the content and structure of a piece of writing .They makes suggestion for its improvement. Also, teachers respond to a student's work at different draft stages, they will not judge it as final product. Teachers will provide students with hints before showing them how to do it correctly (Harmer 2004).

### 2.7.5. Evaluating

According to Harmer (2004), when evaluating students' writing, teachers can indicate where they wrote well and where they made mistakes. Teachers can get students to look at the errors that they have made and try to correct them.

## 2.8. Relationship between Critical Thinking Skills and Writing

Al-Sharadgah (2014) views that writing is a recursive process, in the sense that students can go back to previous stages. When students revise their writing, they may think of new ideas, and evidence that support their judgments and reasons, and then include it in their written production. This suggests that critical thinking can be enhanced through writing. CTS and writing are interrelated and affect each other; in cognitive psychology, writing is viewed as a form of thinking. Kellog (1999) claims that "thinking and writing are twins of mental life", (as cited in Al-Sharadgah, 2014, p.15). In 1984, Olson proposed that "by helping students become better thinkers, we would enable them to become better writers and vice versa." (p. 31) (as cited in Al-Sharadgah, 2014). Dixton, Canady, Cross, and William (2005) emphasized that students can express their critical thinking through writing, and that writing is an expression of critical thinking when students use different CT methods in their writing (as cited in Al-Sharadgah, 2014). Kellogg (1999) views that good writing is achieved by quality thinking. Hence, writing is a means of thinking, it does not only reflect the skill of

thinking, but also it is a tool to develop this skill. When students write about a given subject matter, they will learn more knowledge and opinions concerning the subject. This knowledge is a very important component of writing as a skill. It is then, believed that enhancing one's thinking about a given subject could be achieved through writing. Applebee (1984) suggests that writing enhances thinking because it needs the individual to make his ideas clear, evaluate, and select tools necessary for 'effective discourse' (as cited in Bouanani, 2015, p.17).

## Conclusion

Writing is the most difficult skill in comparison to other skills. Teachers claim that all students are expected to go through stages of development in order to produce a good piece of writing. A major feature which differentiates writing from other means of communication is that the writer writes for a reader who is absent or not known. This is the reason why writers are obliged to be as clear as possible when they write to avoid misunderstanding and ambiguity.

# Data Collection and Analysis

Introduction

3.1. Data Collection

3. 1.1. Methodology

3.1.2. Research Instruments

3. 1.3. The Teacher Questionnaire

3. 1.3.1. The Sample

3. 1.3.2. Description of the Questionnaire

3. 1.4. Content Analysis

3.1.4.1. The Sample

3.1.4.2. Description of Students' Exam of Psychology

3.2. Analysis and Interpretation of the Results

3. 2.1. Analysis and Interpretation of the Teacher Questionnaire

3.2.2. Analysis and Interpretation of Students' Exam Papers

Conclusion

3. 3. Limitations

3.4. Recommendations

# Introduction

The present chapter consists of the practical study of the research, and it is divided into two sections: introducing the research design (instruments, participants, and procedures), and describing, analyzing, and interpreting the results of both the Teacher Questionnaire and Students' Exam (first semester exam papers of psychology).

## 3.1. Data Collection

### 3.1.1. Methodology

The methodology used is descriptive in character. Our study relies on two main tools of data collection: a questionnaire submitted to randomly selected eleven permanent teachers at the department of English, Mohammed Seddik Ben Yahia University, Jijel. Then, an analysis of third year students' exam papers of psychology is carried out. Our option for the designed methodology is justified by the nature of the study, namely content analysis, dictated by the need for a description of the students' competence in using critical thinking skills in their written production.

### 3.1.2. Research Instruments

The study relies for its data collection on two main research instruments. First, a questionnaire aims at collecting data about teachers' perceptions and opinions about students' use of critical thinking skills in their writing. Second, an analysis of fifty-six students' first semester exam papers of psychology in terms of the implementation of CTS is made.

### 3.1.3. The Teacher Questionnaire

The selection of the questionnaire as a tool is due to the limited time allotted to the whole study, and also because it provides a significant amount of primary data about the

issue, namely students' knowledge of CTS. In fact, according to Bell (1990) a questionnaire is a well-structured technique which enables the researcher to collect primary data (as cited in Beiske, 2002). Moreover, the questionnaire helps gather teachers' opinions and perceptions of the students' implementation of critical thinking skills in their writing.

### 3.1.3.1. The Sample

The questionnaire was administered to 16 teachers, eventually considered as a sample out of 22 permanent teachers of the department, but only 11teachers responded favourably by answering the questionnaire.

### 3.1.3.2. Description of the Teacher Questionnaire

The questionnaire, consisting of 11 questions, has been designed in accordance with the literature review covered in the first two chapters of the present dissertation. The questions are normally interrelated, and not divided into sections, most of which are close-ended: the teachers are requested to tick the appropriate answers. The last two questions are open-ended; urging the respondents to provide explanations. (Q1) is designed to check teachers possibly having taught writing at university. (Q2) aims at finding out the role assumed by teachers when teaching writing. (Q3) is made to find out whether teachers encourage their students to think and write critically. In (Q4), teachers are asked to qualify students' critical thinking and writing. (Q5) is asked to investigate how often students successfully rely on themselves when writing critically. In (Q6), the purpose is to specify and rank the degree of difficulty students' encounter when writing critically. (Q7) seeks to check the CTS mostly used by students when they write, whereas (Q8) tends to explore the teachers' opinions about the role of explicit teaching of critical thinking skills in enhancing students' writing performance. (Q9) is designed to find out what critical thinking skills are mostly selected by teachers for practical activities. (Q10), with a request for explanation from teachers, is made up to check the degree

of agreement about how problem solving cases are challenging activities for students' critical writing. The last question, namely (Q11), to be supported with explanation, is asked to check the extent to which teachers agree with the belief that "critical thinkers can ask appropriate questions."

### 3.1.4. The Students' Exam Papers of Psychology

#### 3.1.4.1. The Sample

Actually, 56 students' exam papers have been selected by randomly picking names through numbers from group lists containing up to 40, with each number corresponding to a student's paper.

#### 3.1.4.2. Description of the Students' Exam Papers

The students' exam papers of psychology have been found useful for collecting data for our study, since the assignment openly requires the use of critical thinking skills. In fact, the students were asked to write an essay where they should discuss the divergent perspectives characterizing contemporary psychology. Their papers would reflect their competence in implementing critical thinking skills in their essays, although not all students have completed the essays. The latter have been analysed into four levels of critical thinking skills taken from a checklist adapted from the one in the Appendix. The First Level considers "unilateral descriptions", paraphrasing information, as well as repeating and restating the question. The Second Level is about using "simplistic alternatives or arguments", where students are required to take a side, but do not explore other alternatives; they make unsupported assertions and simplistic arguments. The Third Level consists of "Basic Analysis" of students' serious attempt to analyse arguments, and evaluate with evidence. The Fourth Level is about "Inference"; students should make cohesive arguments.

## 3.2. Analysis and Interpretation of the Results

### 3.2.1. The Teacher Questionnaire

The analysis of the questionnaire will immediately be followed by the interpretation of the results for the sake of practicality and readability.

**Q 1: Have you taught writing at the university?**

Table 1:

*Teaching or not Teaching Writing at University*

| Options | Numbers | Percentages |
|---|---|---|
| Yes | 8 | 72,72% |
| No | 3 | 27,27% |
| Total | 11 | 100% |

The aim of this question is to know if teachers have had the opportunity to teach writing at the university. According to the table, the results show that 72, 72 % of teachers have taught writing against 27, 27% who have not.

In fact, the majority of teachers have taught or are still involved in teaching writing in the department of English. Moreover, writing is very important consequently denoting the importance of critical thinking skills.

**Q2: Which role would you mostly assume in the classroom when teaching writing?**

Table 02:

*Teacher's Role in Teaching Writing*

| **Options** | **N** | **%** |
|---|---|---|
| Participants | 1 | 9,09% |
| Supervisors | 10 | 90 ,90% |
| Total | 11 | 100% |

This question, which aims at highlighting the teacher's role in teaching writing, results in 90, 90% of teachers preferring to assume the role of supervisor. Only one teacher (9.09%) opted for acting as participant.

For critical thinking skills to develop, participation of teachers with motivating suggestions for their students is encouraged, whereas their direct interference to impose a mode of thought is discouraged; teachers' participation encourage students' free thinking processes which foster their critical thinking skills.

**Q3: Do you encourage your students to think and write critically?**

Table 03:

*Frequency of Encouraging Students to Think and Write Critically*

| **Options** | **N** | **%** |
|---|---|---|
| Always | 6 | 54 ,54% |
| Sometimes | 3 | 27 ,27% |
| Rarely | 2 | 18 ,18% |
| Never | 0 | 0 % |
| Total | 11 | 100 |

This question aims to investigate whether teachers encourage students to write and think critically. According to the results obtained, (54, 54%) of the teachers always encourage students, whereas (27, 27%) of them only do that occasionally. In fact, all teachers more or less encourage students to think and write critically because only (18.18%) do that rarely.

The attitudes of the teachers confirmed our interpretation of the results of the previous table. In fact, frequently encouraging students to think and write critically (9 times) is obviously inconsistent with the result in table (2) where the teachers almost never assume a participant role.

**Q4: How would you qualify your students' skills in thinking and writing critically?**

Table 04:

*Students' Level in Thinking and Writing Critically*

| **Options** | **N** | **%** |
|---|---|---|
| Good | 00 | 00% |
| Average | 5 | 45,45% |
| Bad | 6 | 54,54% |
| Total | 11 | 100% |

The aim behind asking this question is to investigate how teachers qualify students' skills in thinking and writing critically. As shown through teachers in the table above, more than half of students (54, 54%) have a poor level in writing critically, while 45, 45% of the students have an average level. No teacher views students as having good competence in writing critically.

Normally, some good critical thinking students should show on this table due to the fact that teachers encourage critical thinking skills!

**Q5: How often would students successfully rely on themselves when writing critically?**

Table 05:

*Frequency of Students' Self-reliance during Writing Critically*

| **Options** | **N** | **%** |
|---|---|---|
| Always | 00 | 00% |
| Sometimes | 3 | 27.27% |
| Often | 4 | 36,36% |
| Rarely | 4 | 36,36% |
| Never | 00 | 00% |
| Total | 11 | 100% |

This question aims to investigate whether students are able to rely successfully on themselves when writing critically. As table 5 indicates, (36, 36%) of teachers view that students often rely on themselves, and they equally (36.36%) consider that students rarely do that, while (27, 27 %) state that students sometimes rely on themselves when writing critically. None of the teachers has claimed that students never rely on themselves when writing critically.

Logically, if students have been encouraged and involved practically in developing their critical thinking skills, it would show itself through their successful self-reliance.

**Q06: Please, specify and rank the degree of difficulty that students' encounter when writing for the purposes below.**

Table 06:

*Difficulty of Critical Thinking skills*

| **Options** | **Specification of difficulty** | **Ranking of difficulty** | | | | | | | **Mean of difficulty** |
|---|---|---|---|---|---|---|---|---|---|
| | **N** | **1st** | **2nd** | **3rd** | **4th** | **5th** | **6th** | **7th** | **8th** | |
| Interpretation | 6 | 00 | 2 | 4 | 0 | 0 | 1 | 0 | 0 | 0.87 |
| Analysis | 7 | 2 | 1 | 0 | 2 | 2 | 0 | 0 | 1 | 1.00 |
| Evaluation | 4 | 2 | 0 | 1 | 1 | 0 | 0 | 2 | 0 | 0.75 |
| Inference | 5 | 1 | 2 | 1 | 0 | 0 | 0 | 3 | 0 | 0.87 |
| Explanation | 3 | 0 | 0 | 1 | 1 | 0 | 1 | 0 | 3 | 0.75 |
| Self- regulation | 3 | 1 | 0 | 0 | 2 | 1 | 1 | 0 | 0 | 0.62 |
| Reasoning | 2 | 2 | 0 | 2 | 0 | 0 | 1 | 2 | 0 | 0.87 |
| Reflection | 5 | 2 | 1 | 1 | 1 | 1 | 0 | 0 | 1 | 0.87 |

The aim behind asking this question is to discover the difficulties and their degrees that students' encounter when writing for the different purposes given in the table. As evident in the latter, seven teachers consider analysis a difficult critical thinking skill, while six of them opted for interpretation. Furthermore, five teachers believe that inference as well as reflections are difficult compared to the rest, while four of them claim that evaluation is a difficult skill. Moreover, three teachers consider explanation and self-regulation difficult, and only two view that reasoning is difficult. Actually, five teachers have not answered this question.

Analysis, interpretation, reflection, and inference are all sensibly difficult critical thinking skills, because they are complex, but self-regulation is also very difficult. When ranked, analysis is the most difficult critical thinking skill whose mean of difficulty is one (1), although reflection includes analysis, this adds to the degree of difficulty of the former.

**Q07: What among the eight critical thinking skills below is/are the one(s) mostly used by students when they write?**

Table 07:

*Frequency of Use of Students' Critical Thinking Skills in Writing*

| **Options** | **N** | **%** |
|---|---|---|
| Interpretation | 6 | 54,54% |
| Analysis | 7 | 63,63 % |
| Evaluation | 00 | 00 % |
| Inference | 3 | 27,27% |
| Explanation | 9 | 81,81 % |
| Self- regulation | 2 | 18,18% |
| Reasoning | 6 | 54,54% |
| Reflection | 2 | 18,18% |

The aim of this question is to discover the mostly used CTS in students writing. The table above shows that (81, 81%) of teachers select explanation as the mostly used critical thinking skills in students' writing, while (63, 63 %) of the teachers view that students use analysis. According to (54.54%) of teachers, students use mostly interpretation and reasoning, 27, 27% of the teachers view that students use more inference, and the rest of teachers (18, 18%) consider reflection to be prevalent in use.

Analysis and explanation are very interrelated skills, but analysis may be simple as it may be very complex depending on the componential content. Surprisingly, evaluation is never used by students; do teachers ask students to evaluate? Normally, interpretation which scores 6 would eliminate reasoning from scoring the same.

**Q08: Do you agree that explicit teaching of CTS improves students writing performance?**

Table 08:

*Explicit Teaching of CTS and Enhancement of Students Writing Performance*

| **Options** | **N** | **%** |
|---|---|---|
| Strongly agree | 4 | 36,36% |
| Agree | 7 | 63,63% |
| Disagree | 00 | 00% |
| Strongly disagree | 00 | 00% |
| Total | 11 | 100% |

This question aims to investigate whether explicit teaching of CTS is believed to improve students' writing performance. According to the results, 63, 63% of teachers agree that explicit teaching of CTS has a great influence on enhancing students' writing performance, and 36, 36% strongly agree with that. None of them disagrees.

There is unanimous agreement that CTS improves writing. However, according to the results in question (4), no student has benefited from this fact.

**Q09: What skills below would you decide to implement with practical activities?**

Table09:

*Critical Thinking Skills Implemented with Practical Activities*

| **Options** | **N** | **%** |
|---|---|---|
| Interpretation | 8 | 72,72% |
| Analysis | 10 | 90,90% |
| Evaluation | 5 | 45,45% |
| Inference | 8 | 72,72% |
| Explanation | 4 | 36,36% |
| Self- regulation | 4 | 36,36% |
| Reasoning | 7 | 63,63% |
| Reflection | 7 | 63,63% |

This question aims to investigate the critical thinking skills that teachers implement with practical activities. The statistics displayed on this table show that 90, 90% of teachers implement analysis with practical activities. On the other hand, 72, 72% of teachers implement interpretation and inference. Some teachers 63, 63% include reasoning and reflection as a part of practical activities, while 45, 45% choose evaluation to be within the practical activities that are given to students, and 36, 36% of teachers implement explanation as a part of the practical activities.

While analysis can be simple or complex, inference because consisting of many elements, is all the time difficult, and so, it deserves more practical implementation.

**Q10: How would you agree that problem solving activities are mostly challenging for students' critical thinking?**

Table 10:

*Teachers' Attitudes about Challenging Problem Solving Activities*

| **Options** | **N** | **%** |
|---|---|---|
| Strongly agree | 2 | 18,18% |
| Agree | 9 | 81,81% |
| Disagree | 00 | 00% |
| Total | 11 | 100% |

The statistics related to the question above show that all teachers agree that problem solving activities are the most challenging for students' critical thinking, among them (18.18%) show strong agreement.

- Among teachers who have provided answers, some of them consider problem solving activities as "mental Process(es)", "which train them to respond better to more difficult questions that demand critical thinking, to compare and contrast their ideas with their peers". Another teacher views that "thinking superficially about solutions without preparing a plan, questioning and testing the effectiveness of the suggested solutions is the essence of the difficulties encountered by students".

From questions 10 and 8, we can conclude that teachers are aware of the requirements for problem solving activities: higher critical thinking skills. It goes without saying that teaching at the university involves 'mental processes' and critical thinking is equally a cognitive mental activity nurtured by success in finding required solutions.

**Q11: How would you agree with the belief that "critical thinkers can ask appropriate questions"?**

Table 11:

*Teachers' Agreement with the saying: 'critical thinkers can ask appropriate questions'*

| **Options** | **N** | **%** |
|---|---|---|
| Strongly agree | 5 | 45,45% |
| Agree | 6 | 54,54% |
| Disagree | 0 | 00% |
| Strongly disagree | 0 | 00% |
| Total | 11 | 100% |

The statistics related to this question show that all teachers agree with the given saying; among them 45.45% strongly agree.

- According to teachers who have provided answers, "students who have skills of critical thinking are able to ask appropriate questions". One teacher says that "if a person, particularly, a student applies methodology that is used for dealing with tasks and questions, he / she will certainly end up asking the right questions and even think scientifically about things". Another teacher says "the critical mind is a questioning mind". "Critical thinkers pay attention to hidden points so that they can relate the topic to other topics and have a better understanding of complex issues and phenomena", as one teacher states.

Asking the appropriate questions help students get more knowledge and find solutions for problematic activities, which is a characteristic of critical thinkers.

### 3.2.2. Students' Exam Papers of Psychology

For the sake of practicality and readability, the analysis of the results will be immediately followed by their interpretation.

**Level one:**

This analysis will rely on categorizing the students' performance according to the following skills pertaining to level one. The first level consists of four skills which are: 'terms' definition', 'simple repetition of information', 'use of 'good' or 'bad' statements', and 'addition of 'little or nothing' to the issue or question'.

Table 12:

*Students' Scores for the First Level of Critical Thinking Skills*

| **Level 1** | **Skills** | **N** | **%** | **% Total** |
|---|---|---|---|---|
| Unilateral Description : (students paraphrase information, as well as repeat and restate the question) | Defining terms | 45 | 80.35% | 92.85% |
| | Simply repeating information | 52 | 92.86% | |
| | Using simple 'good' or 'bad' statements | 55 | 98.21% | |
| | Adding little or nothing to the issue or question | 56 | 100% | |

In the table above , fourty five students have performed within the first level of CTS by defining terms (80.35%), fifty two simply repeating information (92.86%), and fifty five using 'good' or 'bad' statements (98.21%). In fact, as shown clearly all students have added 'little or nothing' to the issue or question which represents the fourth skill in this first level.

Because the first level of CTS consists of basic skills, we notice that the majority of students (92.85) have been involved in implementing the considered skills. The latter have fairly comparable simplicity which is easily inferred from the high numerical values in students' performance, maybe this difference signifies what the students are accustomed to when responding to questions.

**Level Two:**

In this level, students' performance is to be analysed on the basis of the skills belonging to level two. The skills consist of 'including an assertion without evidence, often in the form of a question of modest advanced thinking', 'challenging an assertion but without evidence', 'including facts (beyond defining terms) relevant to the discussion, but without evidence', 'using simple explanation, such as giving an example', 'citing simple rules or laws as proof', and 'not addressing conflicts with opposing views or not exploring them'.

Table 13:

*Students' Scores for Second Level of Critical Thinking Skills*

| **Level 2** | **Skills** | **N** | **%** | **%Total** |
|---|---|---|---|---|
| Simplistic Alternatives or Arguments:<br><br>(Students take a side, and do not explore other alternatives; they make unsupported assertions; they make simplistic arguments. | Including an assertion without evidence, often in the form of a question of modest advanced thinking | 03 | 5.35% | 5.95% |
| | Challenging an assertion but without evidence | 01 | 1.78% | |
| | Including facts (beyond defining terms) relevant to the discussion but without evidence | 08 | 14.28% | |
| | Using simple explanation, such as giving an example | 05 | 8.93% | |
| | Citing simple rules or laws as proof | 01 | 1.78% | |
| | Not addressing conflicts with opposing views or not exploring them | 54 | 96.43% | |

From the data provided for the second level of CTS above, few students (5.35%) have included an assertion without evidence: "the advocates of this 'perception' (*biological*) (our addition) believe that behaviour 'is the cause of' (*effects*) genes, hormones, and neurotransmitters. Only one student (1.78%) has challenged an assertion but without evidence: "rejecting the application of the 'scientific method' (*behaviouristic method*) on the study of behaviour, the humanistic perspective focuses on the fact that human beings can

make their own decisions without the need to be controlled". Eight students (14.28%) have included facts while five students representing (8.93%) have provided simple explanations such as giving examples: "... for example, they may explain the introversion 'and' *(or*) extroversion of a person is due to genetic factors. The skill of 'citing simple rules or laws' was exemplified only by one student (1.78%): "the cognitive psychology 'held' (holds) that cognition, which is the mental process by which knowledge is obtained, affects behaviour and establishes methods to prove this". Most of students (96.43%) have neither fulfilled the skill of addressing conflicts with opposing view, nor exploring them.

The conception of the question is to find out divergent perspectives. If students understood, they would be able to select which perspectives to be opposing the others (Humanistic perspective Vs. Behaviouristic perspective, Behaviouristic perspective Vs. Cognitive perspective). Students seem not to have attained level two in CTS. The value of 5.95% shows the weakness of students compared with skills in level one. This is inconsistent with the teachers holding that they variably implement CTS.

**Level Three:**

'Basic Analysis' which is the third level of CTS is composed of 'appealing to recognize authority', 'including casual observation and anecdotal recollections or data', 'including assertions with explicit evidence offered or a reasoned challenge of another's assertion, but without a clear logical framework', 'using a singular, Socratic-style question', 'listing numerous factors as evidence but not integrating them within a logical framework', and 'not having a clear conclusion or choice between alternatives'. The data have been analyzed according to the students' scores in each of the given skills.

Table 14:

*Students' Scores for the Third Level of Critical Thinking Skills*

| LEVEL 3 | Skills | N | % | % Total |
|---|---|---|---|---|
| Basic Analysis: (students make a serious attempt to analyse an argument or competing arguments, and evaluate it/them with evidence) | Appealing to recognize (appropriate) authority | 02 | 3.57% | |
| | Including casual observation anecdotal recollections or data | 02 | 3.57% | |
| | Including assertions with explicit evidence offered or a reasoned challenge of another's assertion, but without a clear logical framework | 02 | 3.57% | 2.97% |
| | Using a singular, Socratic-style question | 00 | 00% | |
| | listing numerous factors as evidence but does not integrate them within a logical framework | 02 | 3.57% | |
| | not having a clear conclusion or choice between alternatives, e.g., when pressed for the best explanation, student responds that both or all are equally valid | 54 | 96.43% | |

As the table of the third level of critical thinking skills indicates, none of the students have used singular Socratic-style questions, while only two students (3.57%) have appealed to a recognized authority: "Abraham Maslow, and Carl Roger(s) believe that humans are free to select what to do, how to do, and whom to do it with. Equally, (3.57%) of students have

included 'casual observation or anecdotal recollection': "although psychology has long history, it was until recently that it started to bloom and adopt new ideas...one of the changes in psychology is that it started to tackle how human being behave from different angles (perspectives)...the major perspective in psychology...". Moreover, two students (3.57%) have included assertions with explicit evidence: "the cognitive perspective attempts to understand the human mind and the behaviour through the study of the mental processes. It emphasizes the processes of perception, and memory". Only two students (3.57%) have listed numerous factors as evidence. However, the majority of students (96.45%) have failed to provide clear conclusion.

The skills presented in this level are more difficult compared to the previous ones, especially the use of Socratic-style question because this type of questions requires accurate knowledge. Furthermore, analysis and evaluation are mostly complex skills. Although suggested by the name of the level 'Basic Analysis', analysis and evaluation sometimes show more or less complex components. The reduced numerical value of 2.97% representing the overall achievement in this level indicates strikingly the very restricted competence of students' critical thinking. This seems to contradict the teachers' attitudes in the questionnaire that analysis is the mostly used skill by students.

**Level four:**

The fourth level of CTS is concerned with 'including logical statements based on the disciplines accepted mode or schools of thought', 'identifying assumptions', 'challenging a key assumption of another theory', 'including a series of logical Socratic- style questions', 'searching for data', and lastly, 'integrating data with consistency to support an argument in oral or written language'.

Table 15:

*Students' Scores for the Fourth Level of Critical Thinking Skills*

| **Level 4** | **Skills** | **N** | **%** | **% Total** |
|---|---|---|---|---|
| Inference:<br>(students make a cohesive argument) | Including logical statements based on the disciplines accepted mode or schools of thought | 02 | 3.57% | |
| | Identifying assumptions | 03 | 5.35% | |
| | Challenging a key assumption of another's theory | 01 | 1.78% | |
| | Including a series of logical, socratic-style questions | 00 | 00% | |
| | Searching for data to test the validity of an argument | 02 | 3.57% | 2.97% |
| | Integrating data with consistency to support an argument in oral or written language | 02 | 3.57% | |

The statistics of the fourth level of CTS show that only two students (3.57%) have included logical statements based on the disciplines accepted mode or schools of thought: "the supporters of this perspective include Abraham Maslow and Carl Roger(s) who support the claim of the free will of human beings". The same number, two students (3.57%) have given data to test the validity of an argument, and have integrated them with consistency. One more students (5.35%) have identified assumptions: "in humanistic perspective, human beings can make their own decisions without the need to be controlled". Only one student (1.78%) has

challenged a key assumption of another theory: "Maslow and Roger(s) believe that human(s) are free in their behaviour unlike the biological perspective ..." Like in the previous level, no one has included logical Socratic-style questions.

It is commonly known that inference is the most complex skill compared to the other critical thinking skills. In inference, students are required to have specialized knowledge to build cohesive arguments in relation to the proposed mode of thought. In the essay question assigned to third year students during the first semester psychology exam, in which they have to identify schools' assumptions and their adopted perspectives and find diverging points, these students should have the requisite psychological knowledge to be utilized in critical ways for analysis and evaluation of each perspective and, ultimately, build a logical conclusion, that of contemporary psychology being an amalgam of divergent scientific points of view. As a matter of fact, the students' weak inferential level is bluntly shown by their scores amounting to 2.97 %.

## Conclusion

The analysis and interpretation of the data collected from examining third year students' implementation of CTS in their writing gathered via the Teacher Questionnaire and the examination of students' exam papers of psychology have led to the conclusion that explicit teaching of CTS is yet to be implemented at a large scale. In fact, the findings, easily read in the content analysis of the considered papers of psychology as a response to an argumentative question, deny students having undergone systematic teaching of CTS, accurately specified in the appended checklist.

## 3.3. Limitations

Like any piece of research, this study has been confronted with various limitations that can be summarized as follows:

- Only 11 teachers have provided answers, although the questionnaire was administered to sixteen of them, leading to limited amount of data.
- The unwanted strike undertaken by some students and forced on all of us handicapped our research project, particularly ensuring adequate supervision and easily contacting the administration.
- The real time allotted for the phases of our research has extremely been limited affecting the output of our study and dissertation.

## 3.4. Suggestions and Recommendations

In the light of the conclusive findings of the present study, some recommendations and suggestions are advanced:

- It is recommended that students be given more opportunities to express their freethinking, as free thinking allows for the acquisition of alternative modes other than the established ones.
- It has been already proven that learner-centered strategies directly lead to less responsibility on the teacher and more responsibility on the learner; allowing for constructing critical thinking skills eventually efficient in assimilating any given situation.
- It is suggested that the adopted curriculum be enhanced by emphasizing on CTS integration in actual teaching/learning processes, and thus choosing appropriate activities for problem solving as the basis for critical thinking particularly in writing.

## General Conclusion

The problematic aspect of students' critical writing has urged us to consider a study of investigating the implementation of CTS for which their performance in the written exam of psychology has been selected as the primary tool for data collection. Actually, the study has been conceptualized after a corresponding review of literature which demonstrates the complexity of CTS. Such complexity is reduced by adopting a detailed checklist that categorizes each skill and allows for deriving appropriate elements for the Teacher Questionnaire. The latter together with the systematic examination of third year students' exam papers of psychology have yielded the data from which the findings can be summarized in the weak level of students' critical thinking skills. This directly supports the hypothesis set in the beginning of the study, namely if students are taught critical thinking skills, the latter will be manifest in written performance.

As a matter of fact, the given hypothesis gets more confirmed by considering the Teachers Questionnaire in which significant inconsistencies have been noticed to reject their actual undertaking of CTS as a basis of teaching. Moreover, these same inconsistencies are strengthened by the fact that students' scores in the considered exam discards any possibility for explicit CTS to have been carried out, which further confirms the pre-established hypothesis

# References


Ahmed, A. M. (2011). *The EFL essay difficulties of Egyptian student teachers of English:* Implication for essay writing curriculum and instruction (Doctoral Thesis). The University of Exeter.

Allegriti, C. L., & Frederick, J. N. 1995. A model for thinking critically about ethical issues. *Teaching of Psychology*, *22*, 146-148.

Al-Sharadgah, T. A. (2014). Developing critical thinking skills through writing in internet-based environment. *International journal of humanities and social science,4(1),* 169-178. Saudi Arabia: Salman Bin Abdulaziz University.

Atkinson, D. (1997). A critical approach to critical thinking in TESOL. *TESOL quarterly*, *31*, 71-94.

Barak, M., & Levenberg, A. (2016). Flexible thinking in learning: An individual differences measure for learning in technology-enhanced environments. *Computers & education*. *99*, 39-52.Retrieved from: http://dx.doi.org/10.1016/j.compedu.

Bernstein, A. G., & Isaac, C. (2018). Critical thinking criteria for evaluating online discussion. *International journal for scholarship of teaching and learning,12*(2), 1-8. Retrieved from: https://doi.org/10.204229/ijsotl.2018.120211.

Bouanani, N. (2015). Enhancing critical thinking skills through reflective writing intervention among business college students. *Journal of research & method in education, 5*(1), 50-55. Morocco: University of Mohammed V, Rabat.

Byrne, D. (1988). *Longman Handbooks for Language Teachers.* Longman: London and New York

Carter, c., Bishop, J., & Kravits, S. (2007). *Keys to college studying*: Becoming an active thinker. Pearson: Prentice Hall.

Center for critical thinking, (n.d). *Defining critical thinking*. Paper presented at the 8th annual international conference on critical thinking and education reform. Retrieved from:http://www.criticalthinking.org/aboutCT/define-critical-thinking.cfm.

Cottrell, S. (2015). *Critical thinking skills:* Developing effective analysis and argument. Hampshire and New York: Palcrave Macmillan.

DeLoach, S. B., & Greenlaw, S. A. (2005). Do electronic discussions create critical thinking spillovers? *Contemporary Economic Policy*, *23*(1), 149–163.

Dewey, J. (1933). *Experience and education.* New York. NY: Macmillan.

Ennis, R. H. (1987). *A logical basis for measuring critical thinking skills.* Educational leadership.

Facione, P. A. (1990). *Critical thinking:* A statement of expert consensus for purposes of educational assessment and instruction. Millbrae, CA: The California Academic Press.

Facione, P. A. (1998). *Critical thinking:* what it is and why it counts. Millbrae, CA: California Academic Press. Retrieved from: http://www.insightassessment.com/pdf_files/what&why98.pdf

Facione, P. A. (2000). The disposition toward critical thinking: Its character, measurement, and relation to critical thinking skill. *Informal logic, 20*(1), 61-84.

Facione, P. A., Giancarlo, C. A., Facione, N.C., & Gainen, J. (1995). The disposition toward critical thinking. *Journal of general education, 44*(1), 1-25.

Halliday, M.A., & Hasan, R. (1976) *Cohesion in English* .London

Harmer, J. (2004). *How to teach writing*. England: Pearson Education Limited.

Hinkel, E. (2004). *Teaching academic ESL writing*: Practical techniques in vocabulary and grammar. University of Seattle. London: Mahwah, New Jersey. Retrieved from: https:// doi:10.11648/j.edu.2013026.12.

Horenstien, L. B., & Niu, L. (2011). Teaching critical thinking skills in higher education :A review of the literature .*Journal of college teaching & learning ,8 (2)* . 25-42. USA: University of Florida.

Hughes, J. (2014). *Critical thinking in the language classroom*. Oxford: Oxford University Press ELT.

Hyland, K. (2003). *Second language writing*. Longman: Cambridge Language Education

information-6233382.html

Jahn, D., & Kenner, A. (2017).*Critical thinking in higher education*: How to foster it using Digital media. pp 81-109. Wiesbaden :Springer Vs . Retrieved from : http://link.springer-chapter /10.1007/978 –3_658_199925_8-7.

Karbalaei, A. (2012). *Critical thinking and academic achievemen*t. Farhangian University. Retrieved from :https://www.researchgate.net/publication/critical-thinking-and-academic-achievement-262753434

Keshta, A. S., & Harb, I. (2013). The effectiveness of a blended learning program on Developing Palestinians tenth graders 'English writing skills. *Education Journal*, *2*(6), 208_221. Retrieved from: doi:10.11468/j.edu. 20130206.12.

Kroll, B. (Ed). (2003). *Exploring the dynamics of second language writing*. Cambridge University Press.

Lai, E. R. (2011). *Critical thinking*: Research report. London: Parson Publishing.

Muirhead, B. (2002). *Effective online assessment strategies for today's colleges & universities.* In Muirhead, B. (2005). *A distance education reader:* Insight for teachers and students. ISSN 1550-6908. Retrieved from http:/www.itdl.org/distEDReader.pdf/page103.

Nunan, D. (1991). *Language teaching methodology.* A textbook for Teachers. Hong Kong press

Paul, R., Elder, L., & Bartell, T. (1997). *California teacher preparation for instruction in critical thinking*: Research findings and policy recommendations. Dillon Beach, CA: foundation for Critical Thinking.

Raimes, A. (1938). *Techniques in teaching writing:* Teaching techniques in English as a second language. Oxford University Press

Richards, J. C., & Renandya, W. A. (2002*). Methodology in language teaching:* Anthropology of current practice. Cambridge University Press

Roth, M. S. (2010). *Beyond critical thinking*. The Chronicle of Higher Education.

Schafersman, D. S. (1991). *An introduction to critical thinking*. (n.p.): (n.p.)

Singh, N. K. (2017). Skills of critical thinking. *International journal of emerging trends in science and technology, 4*(5), 5180-5182. ISSN 2348-9480. Retrieved from: https://dx.doi.org/10.18535/ijetst/v4i5.09.

*Starkey, L. B. (2004). How to write great essays*. Learning Express

Sullivan, J. (n.d.). *How does bloom's taxonomy relate to critical thinking information?* Retrieved from: http://classroom.synonyms.com/blooms-relate-critical-thinking-information-62333821.html

Vdovina, E., & Gaibisso, L. C. (2013). Developing critical thinking in the English language classroom: A lesson plan. *English language teachers' association*. *1*(1), 54-68.

Veit, R., Gould, C., & Gould, K. (2013). *Writing reading and research*. Wilmington: University of North California

Victor, C. X. (2016*). Handbook of research on learning outcome and opportunities in the digital age*. USA: Florida Atlantic University.

Woolfolk, A. E. (1990). *Educational psychology* (4th ed.). Englewood Cliffs, N, J: Prentice Hall.

# Résumé

Il a été remarqué que la performance des étudiants en rédaction critique manque d'illustrations des capacités de pensée critique à différents niveaux. Par conséquent, une étude a été considérée dont le but principal est d'inspecter l'application des techniques de pensée critique dans la production écrite des étudiants. L'objectif général est donc d'étudier la disponibilité des capacités de pensée critique dans la performance écrite des élèves. L'étude repose sur l'hypothèse que si les étudiants acquièrent des compétences de pensée critique, celles-ci seront manifestes dans une performance écrite. Appuyée par deux questions de recherche concernant l'utilisation par les étudiants de leurs compétences en matière de pensée critique dans le programme d'études, et de la manière dont cela pourrait être amélioré par l'adoption d'un enseignement explicite des compétences en matière de pensée critique. Afin de tester notre hypothèse, une étude descriptive au moyen d'un questionnaire et une analyse du contenu des épreuves de psychologie des étudiants a été réalisée. Le questionnaire a été distribué à 11 enseignants permanents du département d'anglais dans le but de collecter des données sur les perceptions et les opinions des enseignants sur l'utilisation des capacités de pensée critique des étudiants et sur leur rôle dans l'amélioration de leur écriture critique. Une analyse du contenu de 56 épreuves de psychologie d'étudiants de troisième année, demandant de débattre des perspectives divergentes en psychologie contemporaine, a été réalisée en attribuant les épreuves d'examen à quatre niveaux de compétences en pensée critique. Les résultats montrent que le degré général de capacité de pensée critique est très limité aux quatre niveaux, ce qui donne une importance à l'hypothèse préétablie. Il est conclu que l'enseignement direct de compétences critiques en matière de pensée critique reste à être intégré pleinement dans le programme actuellement adopté.

## ملخص

لقد لوحظ ان اداء الطلبة في الكتابة النقدية ينقصه تمثيل مهارات التفكير النقدي ولهذا اتخذت دراسة هدفها الاول ان تتقصى استعمال مهارات التفكير النقدي في كتابات الطلبة. فالهدف العام اذن هو التحقق من وجود مهارات التفكير النقدي في الاداء الكتابي للطلبة. ترتكز هده الدراسة على فرضية ان اذا لقنت مهارات التفكير النقدي فسوف يظهر هذا جليا في كتاباتهم ، كما دعمت هذه الفرضية بسؤالي بحث متعلقين باستعمالات الطلبة لمهارات التفكير النقدي عبر المنهج التعليمي وكيف يمكن تحسينها بتبني التعليم الصريح لمهارات التفكير النقدي. لأجل اختبار فرضيتنا انتهجنا دراسة وصفية باستعمال استبيان وتحليل محتوى اوراق امتحان علم النفس لطلبة السنة الثالثة, وقد منح الاستبيان لأحد عشرة استاذ دائما بقسم اللغة الانجليزية ينشد من خلاله جمع المعطيات الرئيسية حول ادراك الاساتذة و ارائهم حول استعمال الطلبة لمهارات التفكير النقدي ودورهم في تحسين كتاباتهم النقدية, فتم تحليل محتوى 56 ورقة امتحان علم النفس لطلبة السنة الثالثة بإخضاع اوراق الامتحان الى اربع مستويات من مهارات التفكير النقدي. اظهرت النتائج ان عموم درجة مهارات التفكير النقدي جد محدودة على المستويات الاربع و هذا يثمن الفرضية السابقة ومن هذا نستنتج انه يتوجب التلقين الصريح لمهارات التفكير النقدي في المنهج المتبع حاليا.

# Appendix 01

## Teacher Questionnaire

Dear Sir/Madam,

We would be so grateful if you could answer this questionnaire concerned with investigating university students' critical thinking skills. Your answers will be of great help for the completion of this study.

## QUESTIONS:

**Q1**: Have you taught **WRITING** at the university?

Yes ☐

No ☐

**Q2**: Which role would you mostly assume in the classroom when teaching writing?

Participant ☐

Supervisor ☐

**Q3**: Do you encourage your students to think and write critically?

Always ☐

Sometimes ☐

Rarely ☐

Never ☐

**Q4:** How would you qualify your students' skills in thinking and writing critically?

Good ☐

Average ☐

Poor ☐

**Q5:** How often would students successfully rely on themselves when writing critically?

Always ☐

☐

Sometimes

Often ☐

Rarely ☐

Never ☐

**Q6**: Please, specify and rank the degree of difficulty that students' encounter when writing for the purposes below!

| | *Specify* | *Rank* |
|---|---|---|
| Interpretation | ☐ | ☐ |
| Analysis | ☐ | ☐ |
| Evaluation | ☐ | ☐ |
| Inference | ☐ | ☐ |
| Explanation | ☐ | ☐ |
| Self-regulation | ☐ | ☐ |
| Reasoning | ☐ | ☐ |
| Reflection | ☐ | ☐ |

**Q7:** What among the eight critical thinking skills bellow is/are the one(s) mostly used by students when they write?

Interpretation ☐

Analysis ☐

Evaluation ☐

Inference ☐

Explanation ☐

Self-regulation ☐

Reasoning ☐

Reflection ☐

**Q8:** Do you agree that explicit teaching of critical thinking skills improves students' writing performance?

Strongly agree ☐

Agree ☐

Disagree ☐

Strongly disagree ☐

**Q9**: What skill(s) below would you decide to implement with practical activities?

Interpretation ☐

Analysis ☐

Evaluation ☐

Inference ☐

Explanation ☐

Self-regulation ☐

Reasoning ☐

Reflection ☐

**Q10:** How would you agree that problem solving activities are mostly challenging for students' critical writing?

Strongly agree ☐

Agree ☐

Disagree ☐

Strongly disagree ☐

Please, explain!

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

**Q11**: How would you agree with the belief that 'critical thinkers can ask appropriate questions'?

Strongly agree ☐

Agree ☐

Disagree ☐

Strongly disagree ☐

Please, explain!

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

Thank you for your help ☺

# Appendix 02

## The Students Exam Assignment of Psychology

***"Contemporary psychology does not believe in one exclusive, "right" way to study how people think or behave; thus, enabling divergent viewpoints to characterize this scientific discipline."***

Discuss, in a coherent essay, to what extent this statement can be accurate.

# Appendix 03

## The Critical Thinking Skills Checklist



### Checklist of Critical-Thinking Skills

| Level | Student Skills Checklist |
|---|---|
| **Level 1**<br>**Unilateral Descriptions**<br>(Students paraphrase information, as well as repeat and restate the question.) | ☐ Defines terms<br>☐ Simply repeats information<br>☐ Uses simple "good" or "bad" statements<br>☐ Adds little or nothing new to the issue or question |
| **Level 2**<br>**Simplistic Alternatives or Arguments**<br>(Students take a side and do not explore other alternatives; they make unsupported assertions; they make simplistic arguments.) | ☐ Includes an assertion, without evidence, often in the form of a question that modestly advances thinking<br>☐ Challenges an assertion but without evidence<br>☐ Includes facts (beyond defining terms) relevant to the discussion but no argument<br>☐ Uses simple explanations, such as giving an example<br>☐ Cites simple rules or laws as proof<br>☐ Does not address conflicts with opposing views or does not explore them |
| **Level 3**<br>**Basic Analysis**<br>(Students make a serious attempt to analyze an argument or competing arguments, and evaluate it or them with evidence.) | ☐ Appeals to a recognized (appropriate) authority<br>☐ Includes casual observation, anecdotal recollections, or data<br>☐ Includes assertions with explicit evidence offered or a reasoned challenge of another's assertion, but without a clear logical framework<br>☐ Uses a singular, Socratic-style question<br>☐ Often lists numerous factors as evidence, but does not integrate them within a logical framework<br>☐ Does not have a clear conclusion or choice between alternatives; for instance, when pressed for the best explanation, student responds that both (or all) are equally valid |
| **Level 4**<br>**Inference**<br>(Students make a cohesive argument.) | ☐ Includes logical statements based on the discipline's accepted mode or schools of thought<br>☐ Identifies assumptions<br>☐ Challenges a key assumption of another's theory<br>☐ Includes a series of logical, Socratic-style questions<br>☐ Searches for data to test the validity of an argument<br>☐ Integrates data with consistency to support an argument in oral or written language |

*Source: Adapted from DeLoach, S. B., & Greenlaw, S. A. (2005). Do electronic discussions create critical thinking spillovers? Contemporary Economic Policy, 23(1), 149–163.*

# Résumé

Il a été remarqué que la performance des étudiants en rédaction critique manque d'illustrations des capacités de pensée critique à différents niveaux. Par conséquent, une étude a été considérée dont le but principal est d'inspecter l'application des techniques de pensée critique dans la production écrite des étudiants. L'objectif général est donc d'étudier la disponibilité des capacités de pensée critique dans la performance écrite des élèves. L'étude repose sur l'hypothèse que si les étudiants acquièrent des compétences de pensée critique, celles-ci seront manifestes dans une performance écrite. Appuyée par deux questions de recherche concernant l'utilisation par les étudiants de leurs compétences en matière de pensée critique dans le programme d'études, et de la manière dont cela pourrait être amélioré par l'adoption d'un enseignement explicite des compétences en matière de pensée critique. Afin de tester notre hypothèse, une étude descriptive au moyen d'un questionnaire et une analyse du contenu des épreuves de psychologie des étudiants a été réalisée. Le questionnaire a été distribué à 11 enseignants permanents du département d'anglais dans le but de collecter des données sur les perceptions et les opinions des enseignants sur l'utilisation des capacités de pensée critique des étudiants et sur leur rôle dans l'amélioration de leur écriture critique. Une analyse du contenu de 56 épreuves de psychologie d'étudiants de troisième année, demandant de débattre des perspectives divergentes en psychologie contemporaine, a été réalisée en attribuant les épreuves d'examen à quatre niveaux de compétences en pensée critique. Les résultats montrent que le degré général de capacité de pensée critique est très limité aux quatre niveaux, ce qui donne une importance à l'hypothèse préétablie. Il est conclu que l'enseignement direct de compétences critiques en matière de pensée critique reste à être intégré pleinement dans le programme actuellement adopté.

## ملخص

لقد لوحظ ان اداء الطلبة في الكتابة النقدية ينقصه تمثيل مهارات التفكير النقدي ولهذا اتخذت دراسة هدفها الاول ان تتقصى استعمال مهارات التفكير النقدي في كتابات الطلبة. فالهدف العام اذن هو التحقق من وجود مهارات التفكير النقدي في الاداء الكتابي للطلبة. ترتكز هده الدراسة على فرضية ان اذا لقنت مهارات التفكير النقدي فسوف يظهر هذا جليا في كتاباتهم ، كما دعمت هذه الفرضية بسؤالي بحث متعلقين باستعمالات الطلبة لمهارات التفكير النقدي عبر المنهج التعليمي وكيف يمكن تحسينها بتبني التعليم الصريح لمهارات التفكير النقدي. لأجل اختبار فرضيتنا انتهجنا دراسة وصفية باستعمال استبيان وتحليل محتوى اوراق امتحان علم النفس لطلبة السنة الثالثة, وقد منح الاستبيان لأحد عشرة استاذ دائما بقسم اللغة الانجليزية ينشد من خلاله جمع المعطيات الرئيسية حول ادراك الاساتذة و ارائهم حول استعمال الطلبة لمهارات التفكير النقدي ودورهم في تحسين كتاباتهم النقدية, فتم تحليل محتوى 56 ورقة امتحان علم النفس لطلبة السنة الثالثة بإخضاع اوراق الامتحان الى اربع مستويات من مهارات التفكير النقدي. اظهرت النتائج ان عموم درجة مهارات التفكير النقدي جد محدودة على المستويات الاربع و هذا يثمن الفرضية السابقة ومن هذا نستنتج انه يتوجب التلقين الصريح لمهارات التفكير النقدي في المنهج المتبع حاليا.