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Investigating The Correlation between EFL Learners' Level of Critical Thinking and Irony comprehension
Case of 3rd year EFL students at M'sila University

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DEDICATION

I dedicate this work to those whom Allah Almighty has mentioned in His words: *"And lower to them the wing of humility out of mercy and say, My Lord, have mercy upon them as they brought me up [when I was] small" Surat Al-Israa: 24*

To my incredible parents, **Rebiha Derri** and **Saleh Ammari**, whose unwavering love and endless sacrifices have shaped my journey.

To my loving brothers, **Walid**, **Aboud**, **Salim** and **Nabil.** I'm grateful for their confidence, love and support.

To my cherished sisters, **Basma**, **Barkahem**, **Lwiza** and **Chafika**, who have been my source of strength all the time.

To my amazing nieces, **Nada**, **Ahlem** and **Samira**, who have stood by my side through thick and thin.

To my beloved cousin, **Karima**, who has been my pillar of support and believed in me when I doubted myself.

To my precious diamonds, **Ruqayyah**, **Ishaq**, **Israa**, **Jannah**, **Ritadje**, **Iyad** and all the kids in the family, who have brought smiles to my face and joy to my heart.

To my loving sisters-in-law, **Souhila**, **Loubna** and **Naziha**, who have always treated me as a sister.

To my beautiful dandelion, whose unconditional love, encouragement and belief in me have been a constant source of inspiration.

To my dearest friends, **Hiba**, **Zainab** and **Meriem,** who celebrated my victories and lifted me up during my lowest moments.

May this dedication serve as a small token of gratitude.

Haizia AMMARI

DEDICATION

This dissertation is dedicated to my dearest **parents** who stood by my side in every minute physically and morally.

To my delightful **sister** for her continuous support.

To My beloved **brothers** to whom I wish nothing but happiness and success.

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Abstract

In today's complex and interconnected world, effective communication extends beyond mere superficial comprehension, encompassing intricate interpretations and layered meanings. As these meanings intertwine within the multifaceted communication landscape, the exploration of the underlying cognitive processes becomes a captivating avenue of inquiry. On that account, the present study explores the relationship between Algerian EFL learners' level of critical thinking (CT) and their ability to comprehend irony. In addition, the study investigates EFL teachers' beliefs and attitudes towards developing CT among students. In order to accomplish these objectives, the researchers opted for a mixed-methods design, combining both correlational and descriptive methods. First, the correlational study is conducted with thirty (30) third year EFL students at M'sila university. In this regard, two data collection tools were used, namely the California Critical Thinking Skills Test (CCTST) and Watson-Glaser Appraisal (WG) as well as Irony Comprehension Test (ICT). As for the descriptive study, data were collected from eight (8) EFL teachers at M'sila university, using a written questionnaire. Through statistical analysis, processed in the Statistical Package for Social Sciences (SPSS) version 24, a strong positive correlation, with a Pearson value of 0.708, is revealed between CT and irony comprehension (IC). Additionally, most teachers stressed the importance of integrating CT in EFL classes. These findings, therefore, underscore the significance of fostering critical thinking skills (CTS) within educational contexts, particularly EFL classrooms, as they positively impact the ability to recognize and effectively interpret ironic elements present in everyday communication.

Keywords: Critical Thinking, Critical Thinking Skills, Irony Comprehension, EFL Learners, EFL Teachers.

List of Abbreviations

CT…… Critical Thinking.

IC……. Irony Comprehension.

EFL……...English as a Foreign Language.

TL……. Target Language.

FL……. Foreign Language.

CCTST……...California Critical Thinking Skills Test.

WGCTA……...Watson-Glaser Critical Thinking Appraisal.

SPSS……. Statistical Package for Social Sciences.

LOT……. Lower Order Thinking.

HOT……. Higher Order Thinking.

$\bar{x}$ ……..... Mean.

SD……. Standard Deviation.

N……Number of Students.

List of Tables

List of Figures

List of Graphs

Table of Content

General Introduction

Chapter One: Theoretical Background on Critical Thinking and Irony Comprehension

Chapter Two: Data Analysis, Findings' Discussion, Implications, Limitations and Recommendations

General Introduction

1. Background of the Study

Learning English as a foreign language (EFL) has witnessed some innovative trends that have emphasized the significance of promoting critical thinking (CT) as an integral part of English language pedagogy especially in higher education where the learners are actively questioning knowledge instead of accepting it uncritically. Conducting a more thorough investigation in the recent research can reveal the attempts to link critical thinking and social life as Slameto (2014) has affirmed the focal role that critical thinking skills (CTS) play in both educational life and daily life.

CT has been conceptualized and understood in diverse ways, reflecting its multidimensional and complex nature. According to Bloom (1965), critical thinking encompasses the ability to acquire knowledge by actively exploring ideas through six levels, namely knowledge, comprehension, application, analysis, synthesis and evaluation. These levels serve as a comprehensive framework that is deeply embedded within the field of education, guiding instructional practices and curriculum development.

In the context of higher education reforms, the focus extends beyond cognitive processes. It encompasses a broader scope that includes not only how subjects are taught but also what subjects are taught. The transformative changes within this wave of reforms impact not only the methodologies employed in teaching but primarily the content of education itself. These changes seek to address the evolving needs of students, aligning education with the demands and challenges of the contemporary world.

In the 21st century, the international educational sphere has shifted its focus from grammatical competence to pragmatic competence in order to use the language appropriately in its context (kasper, 1997). In this respect, the grammatical knowledge that serves the abstract patterns seems to be inefficient and insufficient for EFL learners to establish appropriate serious, ironic or humorous communication and comprehension with

native speakers because “a word spoken, a small gesture can have meaning for beyond its literal sense” (Tannen, 1992, p.60). Wisudariani and Sriasih (2017) highlight the significance of implementing CT in pedagogical field, as they have concluded that the pragmatic learning tools have a crucial impact on the students’ skills in critical thinking.

From the pragmatic sense, communication across cultures is more complex because of the enormous varieties between languages, cultures, norms, mental conception and comprehensions. Gibbs (2000) concludes that eight percent of all conversational turns are ironic. So, communicative utterances can sometimes be understood from their opposite or ironic sense. Wilson and Sperber (1993) point out that “irony is a complicated pragmatic phenomenon because it is ruled by a variety of mental processes” (p.76). Therefore, the ironic comprehension may require complicated mental efforts; what supports this view, according to the findings of Ackerman (1983), Filippova and Astington (2008), Recchia et al (2010) and Winner and Leekam (1991) who claim that ironic production and interpretation is a complex cognitive process (as cited in Banasik-Jemielniak & Bokus, 2019).

From the aforementioned details, it can be noted that the comprehension of irony and other complex mental cognitive skills cannot be easily restricted in one process and concept; in this regard, the mechanism for comprehending precisely beyond what has ironically spoken or written may count on the focal and crucial basis of critical thinking in addition to other factors such as intercultural and pragmatic awareness.

2. Research Problem

In the context of teaching English as a foreign language (EFL) in Algeria, the lack of attention to everyday language, particularly ironic utterances, has created a significant communication gap for non-native learners. Merely understanding and acquiring linguistic rules and structures are insufficient for establishing effective communication in this

context. Ironic utterances hold immense importance in developing learners' communicative competence, as they contribute to the nuances and subtleties of language usage. However, due to the limited exposure to the target language (TL), in addition to the lack of pragmatic, intercultural and communicative competences, many EFL learners find themselves unable to grasp the intended ironic meaning behind such expressions. Research conducted by Sigar and Taha (2012) suggests that approximately eighty percent of individuals interpret ironic statements literally, indicating a deficiency in irony comprehension among learners.

This research proposes that the key mechanism that enhances ironic comprehension is the listener's cognitive skilfulness in recognizing the implicit meaning beyond what is explicitly stated. Critical thinking skills can play a crucial role in this process by enabling learners uncover the underlying layers of meaning and grasp the intended ironic message.

Despite the significance of this issue, little research has been conducted on the relationship between levels of critical thinking and ironic comprehension, specifically in the Algerian context. To the best of the researchers' knowledge, no similar study has been published in this area. Hence, the present study aims to fill this essential knowledge gap by investigating the correlation between the EFL learners' CT levels and their IC.

3. Research Questions

In order to achieve the objectives of the research, this study addresses the following research questions:

Q1 -What is EFL learners' level of CT at M'sila University?

Q2 - What is EFL learners' level of IC at M'sila University?

Q3- Is there a statistically significant correlation between EFL learners' level of CT and their level of IC?

Q4- Is there a statistically significant correlation between IC and CTS specified in this study?

Q5- What are EFL teachers' perceptions of developing CT among students?

4. Research Hypothesis

Based on the above questions, this research assumes the null hypothesis for the correlation analysis:

- H0: There is no statistically significant correlation between EFL learners' level of CT and their IC.
- H0: There is no statistically significant correlation between IC and CTS specified in this study.

5. Aims of the study

The most important goal of the present inquiry is to shed light on the crucial role of CT in EFL teaching and learning, as well as to investigate whether there is a relationship between CT levels and EFL learners' IC. In order to achieve this purpose, three objectives were set:

- First, to explore the level of CT among third year students at M'sila University.
- Second, to examine EFL learners' ability to understand ironic discourse.
- Third, to discover and/ or establish a correlation between EFL learners' ability to comprehend irony and their levels of CT.
- Fourth, to explore teachers' perceptions of developing CT among students.

6. Significance of the Study

The researchers have opted for this research due to the importance of critical thinking in higher education, teaching/learning process and various aspects of human communication and cognition. By exploring the relationship between critical thinking and irony comprehension, the researchers aim to enhance the understanding of how individuals process and interpret complex forms of communication. In this regard, the study highlights irony comprehension as a fundamental component of effective communication that requires individuals to recognize the discrepancy between literal and intended meaning of a message. This research has the potential to provide valuable insights into the underlying mechanisms that contribute to effective comprehension of ironic messages. Such insights can have practical applications in education, literature and interpersonal communication. Moreover, it can contribute to the development of educational strategies aimed at enhancing both critical thinking and irony comprehension. Furthermore, this research can have broader implications for societal understanding and discourse. Thus, the study at hand sheds light on the significance of understanding human cognition, improving communication skills and enhancing critical thinking abilities. To put in nutshell, the study's findings will contribute to the existing body of knowledge on language learning and teaching, particularly in the Algerian context, where pragmatic competence, including irony comprehension, has been overlooked. Ultimately, this study strives to provide valuable insights and recommendations that can inform language pedagogy and help improve the effectiveness of EFL instruction in Algeria.

7. Research Methodology

This research is carried out through a mixed methods approach, stemming from a pragmatic paradigm. Accordingly, researchers in this study have opted for the correlational method because it is an efficient way to determine whether and to what

degree the selected variables are related, in addition to the descriptive method that is useful to provide information about teachers' perceptions towards CT.

The population for the correlational research is third year students at M'sila University. Their total number is 174 students. Out of this population, a group of 30 students was randomly selected as the main sample. In addition, two different data collection tools were used to obtain the necessary data for the current investigation. The California Critical Thinking Skills Test (CCTST) and Watson-Glaser (WG) test was used to measure EFL learners' CT level. On the other hand, The ICT was used to measure their IC. As for the descriptive research, the sample consists of 8 EFL teachers at M'sila University. Their opinions were collected using a questionnaire.

8. Structure of the study

The current study has been planned so as to include mainly two chapters, with the aim to exhibit the development of the study from theoretical to practical chapters. Chapter one provides a theoretical background for the topic investigated in this study by reviewing literature on the most important notions related to CT and IC. It is made up of two sections; the first section is devoted to discuss the concept of CT, and the second one is concerned with a detailed discussion about IC. Chapter two, that is, the practical one, is devoted to research design and methodology including the approach, method, population, sample, procedures and the data collection tools used. It also provides detailed analysis of the collected data, interpretation of the findings, and it ends with implications and suggestions for an enhanced foreign language (FL) learning experience.

9. Definitions of Key Terms

The key words that are used throughout the dissertation need to be defined. First, Critical thinking, according to this study, is a cognitive process that involves the

application of skills such as inferences, deduction, evaluation/ analysis and interpretation. Together, these skills enable individuals to think critically and make informed decisions. Second, irony comprehension is defined as the ability to understand and interpret indirectly communicated language. This type of language is characterized by the use of positive or negative irony.

Chapter One: Theoretical Framework of Critical Thinking and Irony Comprehension.

Introduction

The present chapter aims to conduct a comprehensive analysis of the theoretical framework of this research's variables. The chapter consists of two main sections. The first section provides an overview of the concept of critical thinking (CT). Initially, it discusses CT definitions according to a number of researchers, stresses its importance in education, and provides a classification of critical thinking skills (CTS) according to Bloom, Ennis, and Facione. Subsequently, it highlights the teachability of CT and mentions some strategies for its instruction. Lastly, the section addresses the difficulty in assessing CT as well as some of the widely used CT tests. The second section covers the concept of irony comprehension (IC). It first introduces the arguable multiple definitions and types of irony. Hence, it allows the readers to gather insights on other figurative language devices that resemble irony (metaphor) and to elucidate the complex relation between them. Moreover, it discusses irony as a flouting maxim. In the end, the section presents the possible hurdles and analytical notions that have been continuously reviewed to mitigate ironic complexity and to efficiently comprehend beyond the literal meaning.

1. Critical Thinking

1.1Definition of Critical Thinking

Sometimes, people mistakenly assume that CT is synonymous with negativity and providing deconstructive comments, feedbacks or criticisms concerning a view or a topic, although this is not always the case. As Atkinson (1998) affirms, very few people have actually attempted to define CT, although everyone seems to understand its conception. Despite this widespread view, many definitions have been attributed to the term CT by different scholars, each from his own perspective.

The most common definition of CT is proposed by Ennis (1996), who represents CT as: "Reasonable, reflective thinking that is focused on deciding what to believe or do."

(as cited in Black, 2007, p.2). Such original definition seems to be the cornerstone upon which all subsequent CT elucidations are based. For instance, Oxford Advanced Learner's Dictionary provides a similar definition in which CT is explained as: "The process of analysing information in order to make a logical decision about the extent to which you believe something to be true or false." In other words, CT refers to the ability to rationally assess, evaluate and make judgments about information.

In the same vein, Facione (1990) describes CT as: "The process of purposeful, self-regulatory judgment." (p.4). According to him, evidence, contexts, perceptions, methodologies and criteria are all given careful and logical evaluation, in this process. As a result, it necessitates analysing presuppositions, implications and real-world outcomes.

Subsequently, Paul and Elder (2008) collaborated to offer the following definition to CT: "Critical thinking is a self-directed, self-disciplined and self-corrective thinking. It requires rigorous standards of excellence and mindful command of their use. It entails effective communication, problem-solving abilities and a commitment to overcoming our egocentrism and sociocentrism." (p.2). Throughout this definition, they highlight CT as a way of self-examination and evaluation of thinking, which requires a set of sub-skills and entails self-improvement as a goal.

Another important definition to CT is suggested in 2014 when Halpern declares: "Critical thinking is the use of cognitive skills and strategies that increase the probability of a desirable outcome." (p.8). In other words, CT is concerned with using mental activities and processes to generate logical, intended conclusions. She further explained: "It is used to describe thinking that is purposeful, goal-directed – the kind of thinking involved in solving problems, formulating likelihoods and making decisions." (p.8). This means, CT as a cognitive process is a way for forming opinions and arguments, discovering fundamental truths and identifying workable solutions to problems.

In the light of the aforementioned definitions, a comprehensive definition might be suggested. It can be agreed that CT is a process for questioning opinions, generating ideas and analysing information in order to make logical judgments on the basis of reason. Additionally, it can be inferred that CT is a broad term that covers more specific cognitive skills, namely CTS. For example: reasoning, problem-solving and decision-making. Later in this section, those CTS will be explained in more detail.

1.2 The Significance of Critical Thinking in Education

In the past several decades, CT has become a ubiquitous presence in the fields of education and language learning and teaching at all levels of instruction. Research shows that CT is a core academic skill and a fundamental goal of learning, in higher education., since it is the basis for problem solving. (Keely & Shenberg, 1995; Khun, 1999 as cited in Moon, 2008; Quitadama et al, 2011 as cited in Tawil, 2016; Lai, 2011; Tawil, 2016). Additionally, The Partnership for 21st Century Skills (2011) recognizes CT as one of the essential skills that assist students to achieve academic and professional success. (as cited in Lai, 2011; Stobaugh, 2013) (see Figure 01 below)

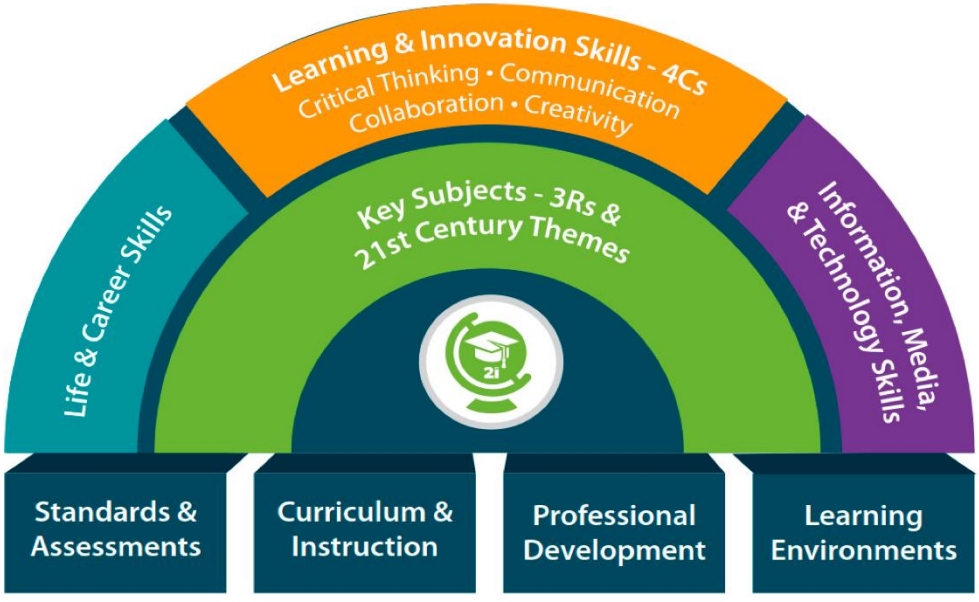


Figure 01:

The Partnership for 21st Century Skills, taken from Stobaugh, 2013, p.3

In 1993, Paul advocates the vital role of CT in education as it helps students in analysing and comprehending the vast quantity of information they are exposed to, in arguing for and against viewpoints, and in making decisions for their personal and public lives. Likewise, Stobaugh (2013) stresses the importance of practicing and refining students' CTS. She states that CTS offer a better understanding of the world and help to make appropriate decisions. She adds that CTS are crucial for:

- Sustaining educated citizens.
- Increasing students' readiness for college and future career.
- Raising students' motivation.
- Performing well on academic assessments.
- Making life decisions.

Moreover, Bradford University lists CT as an objective in their mission statement due to its importance in forming independent and intellectual students who are capable of putting their knowledge into practice. (as cited in Moon, 2008). Taking the same stance, Tenias (2013) and Flores (2016) agree that CTS, including comprehension, evaluation, analysis and argumentation, are essential for students' professional growth and handling the demands of today's globalized world. (as cited in Bezanilla et al, 2021)

On the other hand, CT is considered as a crucial skill not only in education, but also in all domains, as Halpern declares: "A substantial increase in the likelihood of a desirable outcome is the best that critical thinking can promise, and it is the best hope for the future that anyone can offer" (p.9). Therefore, every aspect of life requires individuals

to think critically and make appropriate judgments. These aspects, according to Reed (1998) include:

- Global economy and employment.
- Maintenance of a democratic way of life.
- Personal decision-making in a complex evolving society.

Similarly, Kristensson (2007) explains the importance of CT in processing and evaluating the enormous amount of data people are exposed to, daily, in terms of content and source so that they can make reasonable judgments.

Overall, "the influence of critical thinking education is unyielding in academic settings" (Murray, 2011 as cited in Vergara & Rodriguez, 2019, p.184). This implies that integrating CT in the curriculum is a must. To this end, researchers and educators should do their best to create opportunities for students to enhance their CTS. (Lai, 2011; Stobaugh, 2013)

1.3Critical Thinking Skills

CT has always been a subject of growing interest among philosophers, educationalists, and psychologists due to its importance in comprehending knowledge and improving the ability to judge it. However, there is no global agreement on a specific set of CTS since each scholar sees CT itself from a different angle. Therefore, it is clear that CTS classifications are multiple.

After referring to some sources, a set of CTS classifications can be presented as follows:

1.3.1 Bloom's Taxonomy

Benjamin Bloom (1956) makes the first attempts to identify cognitive skills and the development of intellectual abilities through his taxonomy of educational objectives,

known as “Bloom’s Taxonomy”. Educational objectives, according to Bloom (1956), are the ways in which students are expected to change, whether in their thinking, feelings or actions, as a result of the educational process. The purpose of Bloom’s taxonomy is to construct a classification of student behaviours, into which any cognitive or mental ability might be categorized. In his taxonomy, Bloom (1956) classifies cognitive skills on a hierarchal scale of six levels. These levels are arranged, in an ascending order, from simple, lower order thinking skills (LOTs) to complex, higher order thinking skills (HOTs), based on the idea that equally simple behaviours might be combined to form a more complex one. The LOT level includes knowledge, comprehension and application, while the HOT level encompasses analysis, synthesis and evaluation. Figure 02, below, represents the hierarchal pyramid in which Bloom’s taxonomy skills are classified.

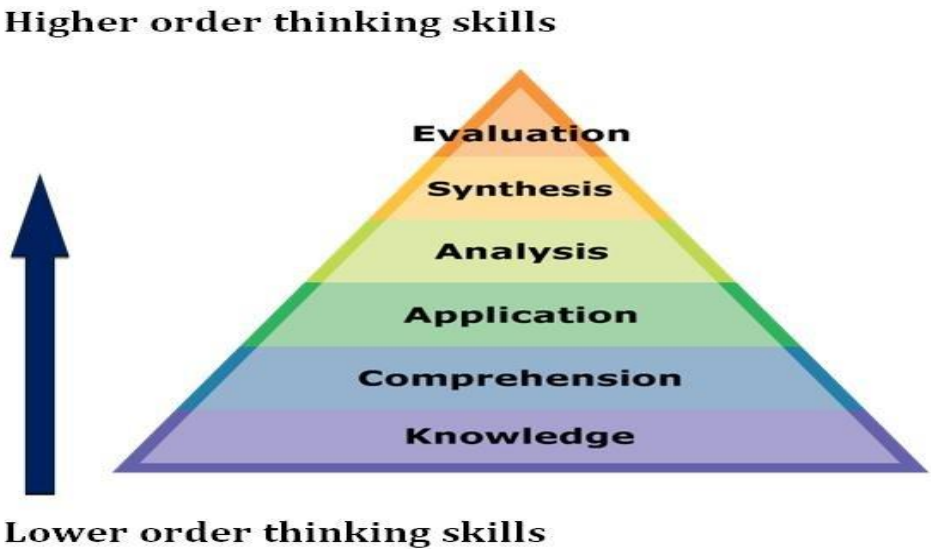


Figure 02:

Bloom’s Taxonomy 1956

According to Bloom (1956), starting from bottom to top, knowledge is the first stage in the taxonomy. This stage is concerned with the ability to remember previous

knowledge either through recognition or recall. It is divided into two types: knowledge of specifics which deals with information that can be remembered in isolation and knowledge of universals which emphasizes the interrelations and the organizational patterns of information. The next stage, namely comprehension refers to the ability to understand and make use of the communicated knowledge through linking it to prior one. The last stage in the LOT level is application which refers to the ability to use the learned knowledge and to make appropriate generalizations about it. Moving a step in the scale, HOT level is reached. This category starts from analysis which means: "the breakdown of material into its constituent parts and detection of the relationship of parts and of the way they are organized." (Bloom, 1956, p.144). The second HOT skill is called synthesis. It refers to the ability to combine parts of knowledge in order to form a new whole or a new meaning. The highest stage in the scale is evaluation. It is related to judging and assessing the value of information for a given purpose. Evaluation is a complex skill that involves a combination of all the aforementioned categories, that is why it is placed at the top of the taxonomy. (Bloom,1956)

Although CT is not mentioned explicitly in Bloom's taxonomy, it lies in the HOT level as a product of active processes such as analysis, synthesis, comparison and validation. (Stamenkovski & Zajkov, 2012)

Further, in order to be relevant to the 21st century educational requirements, Anderson and Krathwohl (2001) revised and updated Bloom's taxonomy. They have modified the terminology of Bloom's categories from nouns to verbs. In addition to some changes in structure and emphasis in which the stage of synthesis becomes at the top under the name "create". (as cited in Drawzeh & Branch, 2015). Therefore, Bloom's taxonomy becomes: remember, understand, apply, analyse, evaluate and create. (see Figure 03 below)

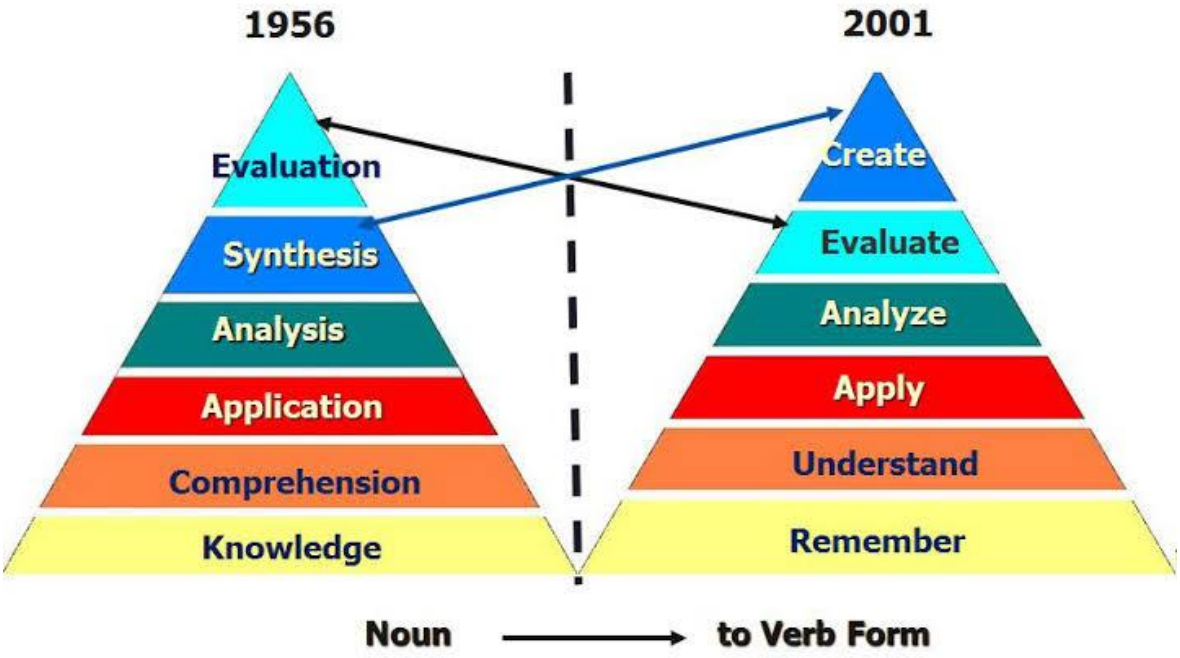


Figure 03:

The Revised Bloom's Taxonomy by Anderson and Krathwohl (2001), taken from Drawzeh & Branch, 2015

1.3.2 Ennis's Taxonomy

In his work on CT, Ennis (1985) criticizes Bloom's taxonomy for being vague, difficult to be understood, and for lacking criteria to judge the outcome of an activity. Therefore, he emphasizes the necessity of going beyond it to consider specific dispositions and abilities of critical thinkers in which the most practical HOT activity is deciding what to believe or do. Further, in 1991, Ennis classifies CTS into five overlapping groups which he separated for the simplicity of explanation. Each group consists of a set of sub-skills. The first group is "clarification abilities" which refers to the quality of being clear about the meaning of what is said or written. It involves identifying the focus of an issue, a question or a conclusion, analysing arguments, in addition to asking and answering challenging questions, judging definitions and identifying unstated assumptions. In the

second group, namely “decision-making abilities”, Ennis (1991) proposes two sub-skills which are observation and judging credibility of a source. The third group in his classification is “inference skills”. These skills include deducing, inducing, in addition to judging inductions and deductions both to generalizations and exploratory conclusions. Ennis (1991) refers to the fourth group as “metacognitive abilities” since it requires a cognitive process to be performed on another cognitive process. This group includes supposition by which critical thinkers reason about a given proposition (premises, assumptions or reasons) they disagree with or have doubts about. It also includes integration where all the dispositions and abilities are combined to make a defending decision. The last group, according to Ennis (1991) is “auxiliary abilities” which also consists of some sub-skills, mainly proceeding on an orderly manner following up problem-solving steps, especially when dealing with complicated problems., in addition to taking into consideration the emotions, knowledge level, level of sophistication of others and using suitable rhetorical techniques during discussions and presentations.

In 1996, Ennis finally offers a summary of his taxonomy. He calls it “FRISCO checklist” (p.20). It is used as a reminder to make sure that all the basic necessities in reaching a decision about what to believe or do, has been done. The acronym FRISCO stands for the following:

F: focus, it refers to the ability of critical thinkers to identify the central concern of an argument.

R: reason, which refers to the ability to judge the acceptability of arguments.

I: inference, which refers to the ability to judge the quality of inferences.

S: situation, it refers to the ability to define and pay attention to the context of the problem.

C: clarity, it refers to the ability to assess the clarity of the language used.

O: overview, here critical thinkers are required to take a step back and evaluate the entire process to determine if the argument is credible.

1.3.3 Facione's Classification

In 2011, Facione uses "The Delphi Method" to identify the basic characteristics of an ideal critical thinker. This method is used to gather and organize views of experts on a specific subject for which there is a theoretical framework that stills under development. Consequently, he classifies CT into six different skills called "core critical thinking skills" (p.5), namely interpretation, analysis, evaluation, inference, explanation and self-regulation. These skills are not categorized or arranged in a hierarchal order. They are illustrated in Figure 04 below.

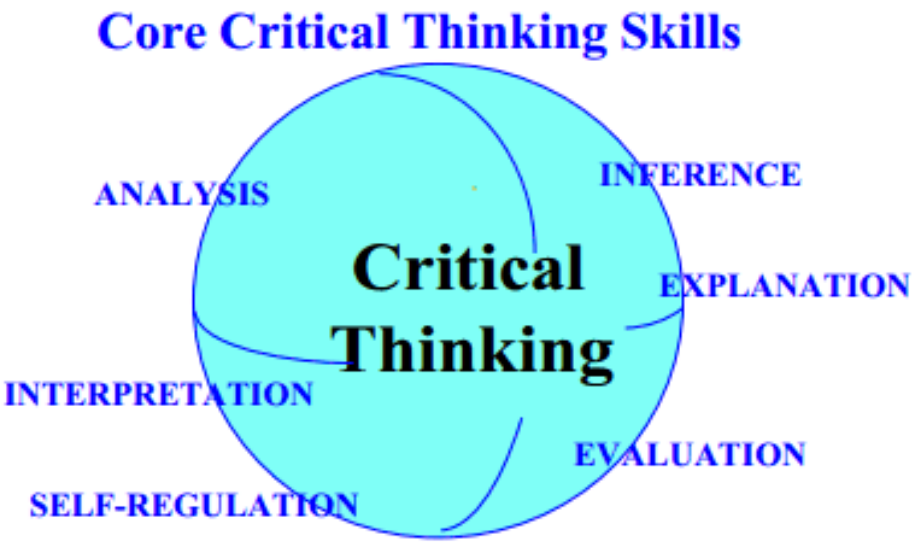


Figure 04:

Core Critical Thinking Skills by Facione, taken from Facione, 2011. What Critical Thinking Is and Why It counts, p.5.

Interpretation, as the first CTS is defined by Facione (2011) as the ability to understand and communicate meaning of a given experience, situation or event, in addition to decoding its significance.

The second skill, according to Facione (2011), is analysis. It refers to recognizing the actual intended inferential links among statements, questions or concepts that are meant to reflect beliefs, judgments or opinions.

Evaluation, as the third CTS defined by Facione, means the ability to assess the credibility of claims that express someone's perception, belief or opinion.

Another skill proposed by Facione (2011) is inference. It is referred to as the ability to determine and secure the necessary elements to reach a logical conclusion.

The next skill in Facione's classification is explanation. Here critical thinkers are required to clearly and cogently present the conclusions reached through reasoning.

The last skill in Facione's classification of core CTS is self-regulation. He defines it as follows: "to self-consciously monitor one's cognitive activities, the elements used, and the results, particularly by applying skills in analysis and evaluation to one's inferential judgments with a view toward questioning, confirming, validating or correcting either one's reasoning or one's results" (p.7). In simple words, this skill requires being aware of one's own cognitive abilities and their associated components and outcomes through utilizing one's analytical and evaluative skills.

It is important to note that, although researchers agreed on the aforementioned skills, it is not necessary to master every skill to generate a critical thought. (Facione, 2011).

1.4Teaching Critical thinking

CT is central to understand learners' different thinking abilities. Thus, it is seen as a desirable educational outcome and one of the aspects of future success in learning. In this regard, many CT researchers maintain that CTS and abilities can be taught in schools and universities. First, Scheffler (1989) provides evidence on this stating that: "critical thought is the first importance in conception and organization of educational activities."

(as cited in Siegel, 2010, p.143). Similarly, Resnick (1987) explains the role of CT instruction in building a natural knowledge base and environment for students to practice and develop HOTs. He adds that instructional training provides the criteria for good thinking and reasoning. Moreover, research shows that teaching CT is crucial to shape successful students with developed cognitive abilities. This is proved in Gelder's experiment (2001) in which he taught college students how to recognize and evaluate an argument. Then, he tested them using a multiple choice CT test and concluded that CT appears to advance more quickly when students are taught about the structure and persuasiveness of arguments. (as cited in Halpern, 2014). Additionally, using a skills approach, in order to support the idea of explicitly teaching CT, Facione (1991) found that college students who took CT coursework performed noticeably better on the CT test than those who did not. (as cited in Halpern, 2014). As the previous evidence shows, teaching CT is essential for developing its accompanied skills and dispositions. However, CT instruction is a hard and demanding task to do, which relies, in small part, on showing students new ways of thinking and, in large part, on enabling them to use the appropriate kind of thinking when it is needed. (Willingham, 2008)

In the same vein, Halpern (2014) acknowledges that students can learn to think more critically when instruction is designed for this purpose. She also elaborates that CT instruction needs to be overt and self-conscious. In other words, there should be clearly identifiable thinking skills that students can recognize and apply appropriately. In order to achieve this objective, Halpern (2014) proposed a model of CT instruction which consists of four parts, summarized and simplified as follows:

- Explicitly learn CTS.
- Develop a mind-set (disposition) that values hard work in both thinking and learning.

- Plan learning activities in a way that increases the chance that those skills will be applied in different contexts (trans contextual transfer).
- Monitor metacognition (thinking about one's thinking).

Likewise, Dunn et al (2008) stress the importance of planning before teaching CT in order to maximize its effectiveness. For this, they have provided some suggestions on how CT should be taught. First, giving students problems to solve for each topic in the lesson, with some handouts about CT techniques. Second, putting theory into practice through the application of CT methodologies and lastly, providing everyday examples about CT.

Furthermore, in his article *Teaching Critical Thinking,* Gelder (2005) provides six key lessons for teachers of CT. First, it is difficult to acquire expertise in CT. Second, it is important to practise CTS to enhance those skills themselves. Third, theoretical knowledge is required to teach CT. Fourth, it is important to practise the transfer of skills, that is, the way students apply a skill acquired previously in new different situations. Fifth, it is important to map arguments. Last, it is important to consider that students are susceptible to belief preservation. That is, maintaining a belief despite new information that firmly contradicts it. In this case, it is the responsibility of teachers to help their students eliminate this cognitive bias.

In the EFL context, CT helps learners to develop the ability to communicate effectively since it stimulates autonomous learning, self-confidence and creativity. It also enlarges language knowledge as well as cultural knowledge. (Harijaz & Hajrulla, 2017). Therefore, Harijaz and Hajrulla (2017) collaborated to suggest some practical activities to foster CT, based on their experience and observation of EFL classes. These activities are information-gap activities, stimulation activities, jigsaw activities, surveys and interviews, in addition to project works, essays, debates and discussions, at the university level.

Despite the importance of CT instruction, there is some ambiguity concerning what should be covered in a CT curriculum as well as some inconsistency regarding how the curriculum should be constructed since it is not clear whether CT should be taught as a separate discipline or should be integrated into other subject areas.

Overall, schools and universities seem to be the appropriate places where CT should be introduced due to its numerous benefits for both students and teachers.

1.5 Critical Thinking Assessment

Assessments and evaluations are important tools in and inseparable parts of instruction. However, research shows that assessing CT is a complex and hard task to do. (Dunn et al, 2008; Lai, 2011; Abrami et al, 2015) because when intending to measure CT, the unsolved degree of domain specificity complicates the issue. This is because researchers cannot agree on whether CT is general or subject-specific, making it unclear what type of inferences are being made. Additionally, it is difficult to assess the transfer of CT to other contexts as it is often intertwined with subject-specific knowledge, required to exercise CT. Consequently, if a student fails to transfer CTS to other subjects, they may need instruction either in CT or in the subject matter. Moreover, although CTS and dispositions have been recognized by researchers as separate entities, it is challenging to differentiate their individual impacts through an assessment in practical terms. (Norris, 1989 as cited in Lai, 2011)

Despite these challenges, efforts have been made to construct reliable and valid CT assessments that are capable of yielding representative results. Consequently, numerous CT assessment tools were created and published. Abrami and colleagues (2015) sort these tools into five categories:

1.5.1 Standardized Tests

These are well-established measures of CT or particular CTS and dispositions. The reliability, validity and practicality of these tests are measured and their format, content and objectives are varied. The table below illustrates "the objective measures of CT" (p.72-75), collected by Dunn et al (2008):

Table 1:

Standardized Critical Thinking Tests.

Test	Format	Target	Objectives
Critical Thinking Test (1989)	Multiple-choice items based on text readings.	Students at the end of their second year at college, probably usable at other levels.	Identifying conclusions, inconsistency and loose implications; judging direction of support, strength of reasons and representativeness of data; making predictions; noticing other alternatives and hypothesizing about what a person thinks.
Ennis-Weir Critical Thinking Essay Test (1985).	Essay test.	General use.	Getting the points, seeing the reasons and assumptions, stating one's point, offering good reasons, seeing other possibilities and responding to and avoiding equivocation, irrelevance, circularity, reversal of an if-then (or other conditional) relationship, overgeneralization, credibility of problems and the use of emotive language to persuade.
ICAT Critical Thinking Test (1996).	Essay test.	General use.	Responding to an editorial, summarizing it, identifying its focus and commenting in its strengths and weaknesses.
Watson-Glaser Critical Thinking Appraisal (1980).	Multiple-choice.	General use.	Induction, assumption identification, deduction, judging whether a conclusion follows beyond a reasonable doubt and argument evaluation.

Assessment of Reasoning and Communication (1986).	Open-ended Producing three essays and three speeches.	Students finishing college, probably usable at other levels	Assessing social, scientific and artistic reasoning.
The California Critical Thinking Skills Test (1990).	Multiple-choice.	College students.	Assessing interpretation, argument analysis and appraisal, mind bender puzzles and induction.
The Critical Thinking Dispositions Inventory (1992).	Multiple-choice.	College age and adult professionals.	Assessing CT dispositions.
Cornell Critical Thinking Test, Forms X & Z (1985)	Form X: multiple-choice. Form Z: multiple-choice	Form X: 4-14 grades Form Z: college students and adults.	Form X: assessing induction, credibility, observation, deduction and assumption identification. Form Z: assessing induction, credibility, prediction and experimental planning, fallacies, deduction, definition and assumption identification.
Cambridge Thinking Skills Assessment (1996).	Part one: multiple-choice, 15 items, 30 min Part two: essay, 1hr.	Postsecondary students.	Argument assessment, argument evaluation and further argumentation.
Critical Thinking Interview (1998).	30 min one to one interview.	College students and adults.	Assessing displayed knowledge and reasoning on a topic of the interviewee's choice with an emphasis on clarity, focus, credibility, sources, familiarity with topic, assumption identification and appropriate use of reasoning strategies.

1.5.2 Tests Developed by Teachers

This category includes for example the content analysis of students' responses to an interview or open-ended questions and essay type activities created by teachers to measure CT development.

1.5.3 Tests Developed by Researchers

These are non-standardized measures established by a researcher for use in a particular study.

1.5.4 Tests Developed by Researchers Who Are Also Teachers

These are developed by researchers who also taught the courses in question.

1.5.5 Secondary-Source Measures

Those instruments are usually adopted from other sources with or without modifications.

In the end, as noted by Abrami et al (2015), researchers may use the previously developed tests; however, they should modify them to meet the requirements of their research setting since each test is designed to target different objectives and to test different CTS.

2. Irony Comprehension

2.1Definition of Irony

Ample and controversial definitions have been proposed to irony reflecting its innovative complexity in nature and rationale. Up to now, there is still no agreement between philosophers, linguists on a shared representation to irony; inasmuch as it has been studied from pragmatic discourse with cognitive, psychological and clinical-psychology scope (in this regard such as Tompkins, 1986; McDonald & Pearce 1996).

Initially, the most common definition is the one of Rhetorical, Classical, Theory that presents irony as a "trope" or a figure of speech (Du Marsais, Des Tropes, Chapter XIV as cited in Wilson & Sperber,1992, p.54). On this account, Kaufer (1981) and Haverkate (1990) describe "trope" as a general term that must be narrowed, since this rhetorical perception made no adequate distinction between irony, metaphor and other figurative language. This insufficient representation has led to multiple studies to differentiate between them; for instance, Winner and Gardner (1993); Katz and Pexman (1997).

While other scholars (Grice 1967; Mueck 1969; Booth 1974; Grice 1975; Brown and Levinson 1978; Verschueren 1999; Attardo 2000; Brayant & Tree 2005) define irony utterances as opposition, in which the hearer assigns to the opposite of what has been literally said to successfully generate the exact interpretation. However, this definition has extensively been criticized and rejected by many researchers (Wilson & Sperber,1981, 1986, 1998; Kaufer, 1981; Yus Ramos, 2000, Alba –Jeuz 1995a) specifically Grice 's (1967) account (interpretation through contradictory). Wilson and sperber (1981) held that interpreting irony through its opposite would provide a wrong analysis because not all the ironic utterances can be stated in declarative form, ironic remarks can be interjection, questions , requests , offering , and expressive (Sperber and Wilson , 1992; Kumon-Nakamura, Glucksberg, & Brown, 1995) as they questioned the reasons that make the speaker say the opposite of what they meant instead of saying it directly "what a bizarre practice" (Wilson & Sperber, 1981, p.240). This traditional definition has many weaknesses and it might not be necessary to detect the exact ironic interpretation through opposition since some utterances cannot be possibly formed in their opposite.

Formerly, the Roman rhetorician Quintilian (1975) concluded that "the Romans call irony illusion (mocking)." (VII,6,54 as cited in H. Kotthoff ,2003), Similarly as

Merriam Webster Dictionary (1974) describes irony as way of mocking; while mockery is highlighted as the main aim of ironic utterances. (Muecke, 1980; Kreuz & Guluckberg, 1989; Wilson, 2007). Irony can take the instance of mockery; however, it depends on the ironist's intention.

While Amante (1981) traces a further problematic issue in ironic comprehension and describes irony as a gap that exits between what is said and what is meant. Similar to Muecke's (1969, 1982) irony is a distance between the surface (what is said) and the depth (what is meant). simply explained, the ironic addressee is supposed to work beyond the literal meaning to detect the speaker's exact intention, however, s/he may succeed or fail.

The aforementioned definitions reveal that irony is difficult to define as it has been viewed from multiple perspectives that are presented in controversial notions which have indeed led , according to Barbe (1995), to continuous refusal to the proposed theories that tend for a better portraying to irony, the lack of agreement appears in the way that in every time a new ironic notion represents coincides with a new definition , Gibbs and O'Brien precisely (1991) describe this phenomenon as ironic " the irony of irony is that we can offer recognize ironic situations and language even though we have a terrible time trying to define irony" (p.523). On this historical diversity account, introducing an agreeable representation to irony is more challenging.

2.2Types of Irony

The above mentioned, contradictory, definitions to irony can be easily noticed in the several attempts that have been made to capture the essence of its type's. According to Leech (2014) irony has only one type which is sarcasm or "conversational irony" (p.100). Arguably, Attardo (2000) notes how the different efforts to dissect irony and sarcasm fail to estimate whether they are closely similar or greatly different. For this reason, irony and sarcasm are presented in some researchers interchangeably (Pexman et al 2000; Attardo et

al 2003; Pexman et al 2019). While, Gibbs (1986) uses Echo theory (is firstly represented as an ironic theory: recognition of ironic utterances through sharing common knowledge between the interlocutors) to measure sarcasm as a memorable instance of echoic mention, he also defines sarcasm as opposition between what is said and meant.

Interestingly, sarcastic utterances are noted to have special cues nasalization, slow speaking rate and other prosodic cues that are also noticed in ironic discourse, (Cutler 1974; Grice 1975, 1978; Searle 1979). "……the tone suitable to a such feeling or attitude seems to be mandatory at any rate." (Grice, 1978, p.125). That is to say, irony and sarcasm are theoretically similar, measured using the same theory and share indistinguishable properties, they can then be possibly represented as the same pragmatic phenomenon. While, Haiman (1990,1998) tries to elucidate the obscure relation between them by adding speaker's intention to the triangulation; in other words, sarcasm requires speaker's intention or responsibility of his indirect discourse to contempt or ridicule, while irony does not require such an intention but rather it is more spontaneously to amuse. But it is necessary to bear in mind that speaker's intention cannot be easily pinned down Wilson and Sperber (1992). Haiman's distinction, thus, seems to be unconceivable because the speaker's intended meaning can be vague and implicit. Lee and Kats (1998) represent them as sub- category of figurative language. Yet, there is no terminal agreement about the types of irony.

According to Gibbs (2000) irony has five essential types:

> (a) jocularity, where speakers teased one another in humorous ways; (b) sarcasm, where speakers spoke positively to convey a more negative intent; (c) rhetorical questions, where speakers literally asked a question that implied either a humorous or critical assertion; (d) hyperbole, where speakers expressed their nonliteral

> meaning by exaggerating the reality of the situation; and (e) understatement, where speakers conveyed their ironic messages by stating far less than was obviously the case. (p.12)

Sarcasm is still listed as a type of irony that is used to express mainly attitude , Gibbs (2000) concludes that jocularity is the most used type of irony; these ironic forms are used to express various kinds of meaning; for Instance , sarcasm is mainly used as critical tool , while the other types evoke humour in this essence, irony is represented as a cover term that involves various subcategories of irony , similarly as Winner et al (1987) but with omission to jocularity and rhetorical questions. Sarcasm tends to be the common ironic form that resembles irony theoretically (in its general representation) and functionally (in its critical remarks).

The most recent classification to irony goes back to Alba-Jeuz (1995 a; 2014; Alba –Jeuz and Attardo 2001, Alba –Jeuz and Attardo 2014b), who has rejected Leech's (2014) classification, and list three types of irony (positive, negative, neutral).

2.2.1 Positive Irony

Or "pretended criticism" (Alba-Jeuz and Attardo 2014, p.100)

Similarly, to Cicero's as cited in Quintilian (1975 as cited in Alba-Jeus 2014, p.144) and Knox's (1961) "praise by blame". In this sense, the ironist criticizes a person, a weather for praising, irony is not always used to criticize and by this classification Alba (1995 a, b) is showing her disagreement with (Grice 1975, 1981; Brown and Levinson 1987; Sperber and Wilson 1981) who portray irony as a way to evoke criticism and ridiculousness.

positive irony is also presented by Leech 2014 as a "banter" or "Mock impoliteness", not being polite, (p.100) he insists not to consider it as a type of irony. Furthermore, positive irony is also called "asteism" as cited in Alba –Jeuz (2014, p.151),

or a “genteel irony” which Fontainer (1977) [quoted Mizzau (1984, p.19) as cited in Attardo (2000, p.796)] defines praising or flattering someone under pretence of blaming or criticizing. For this reason, banter is often represented as offensive and aggressive remarks. Positive irony, thus, is rare to use because it uses negative literal utterances (a stupid boy, a lazy worker) to mean the opposite. In this account, Haverkate, (1990) describes them as “dangerous” (p.90).

In spite of these, more importantly, Leech’s (2014) banter as a “mock impoliteness”, contributes significantly to accomplish “in-group solidarity” (p.101). Simply stated, it is not necessary to be polite, the interlocutors can receive ironic insult as a joke these negative words to express positive meaning in a positive context will make the speaker and the hearer as well feel more familiar and attached with one another.

Clupper (2011), thus, represents the purpose behind using banter as “safety valve” (p.211); in easier words, as a strategy to absorb emotional pressure in which this ironic language can be mutually used to express aggression and negative attitude in friendly and humorous atmosphere (Kumon et al 1995; Utsumi 2000; Leech 2014). But what needs to be taken as a serious matter is that this solidarity is not value free but rather it is governed, as Leech (2014) says, by social status and familiarity.

These conditions resemble, to some extent, Brown and Levinson’ (1978) scales of politeness between the speaker S and the hearer H in terms of: power(P) of status, distance (D)between the speaker and the hearer, and rank(R) of imposition (p.79), rank in Leech’s (2014) sense is called “vertical distance” (p.139) where S has a higher or lower position than H. [P-D-R] were mainly designed to assess the degree of the required politeness.

In this vein, these parameters make the conversational participants’ face (“public self-image that every member wants to claim for himself” Brown and Levinson (1987, p. 61) to be accepted, if they receive any acts that threaten their faces is called face

threatening acts (FTAs). The politeness theory can be easily explained with negative irony.

2.2.2 Negative Irony

In contrast to positive irony, negative irony is also notoriously as sarcasm or conversational irony in which the ironist uses positive literal words often coincide, according to Leech (2014), with certain prosodic features such as tone of voice and laughter that make the hearer successfully detect the accurate meaning and differentiate it from banter. Leech (2014) describes it as a "mock politeness the overt meaning, which is polite, and the covert meaning or implicated meaning, which is its opposite". (p.216)

The negative evaluation is implicitly expressed through positive literal language. In this sense, and from what is stated previously, Brown and Levinson (1987) define irony as a strategy to minimize the threat and Kumon et al (1995) describe it as a way to save face especially in situation where (FT) is the possible and expected reaction. Similarly, to Attardo (2001) who states that irony achieves "in-group feeling" (p.173) through communicating negative judgement about others because using irony with over-politeness tone contributes to express negative remarks without being rude (Kumon et al, 1995).

Sarcasm, thus, is a way of reducing rudeness, conflict and mainly threat while judging and criticizing because ironic criticism can be used as a less face-threatening strategy than literal criticism due to the humours and funny feelings that ironic utterances evoke (Brown and Levinson 1987; Barbe 1995; Dews, Kapalan and Winner1995). The above mentioned types reveal that irony has multiple functions as strategy for praising and also to express negative attitudes, feelings and evaluation but in coexisting environment in which the (FTA) can be removed.

According to Alba and Attardo (2014) it is possible to find irony expresses incongruity feeling of praising and criticizing at the same time, thus, it is often more difficult to distinguish between them.

2.2.3 Neutral Irony

According to Alba-Jeuz (1995a, 2014a, Alba-Jeuz and Attardo 2014) it is called neutral because of the ironist's unclear position either praise or criticize. Further, Alba-Jeuz and Attardo (2014) reject to analyse Oscar Wild "life is too important to be taken seriously" by its opposite and describe it as a neutral irony because of the ironist's implicit or unclear attitude.

It is not always easy to identify the type of irony sometimes the ironist's objectivity can unable the addressee to comprehend the intended attitude. This type is briefly represented because this research addressed only positive and negative irony.

2.3Irony as a Flouting Maxim

Grice (1975, 1978) defines irony as a conversational implicature in which the maxim of quality, truthfulness, is deliberately disregarded. According to Grice's (1975) theory of cooperative principle and conversational maxims, interlocutors' cooperation with one another is highly recommended. This cooperation occurs through respecting conversational maxims: 1) Quality, make your contribution as true as possible ;2) quantity, make your contribution as informative as required ;3) relation, be relevant; 4) manner, be perspicuous (1975, p.45). In this regard, the ironist flouts the truthfulness maxim and the hearer, thus, must interpret the conversational implicature rather than the literal meaning. Accordingly, the ironist is uncooperative; however, Colston (2000) rejects the idea of uncooperative intention and prioritizes that the speaker intends to mean something else.

That is, flouting the maxim of quality can be represented as clue which the addressee can infer that what is said is ironic, what supports this view is Colston (2000) who affirms that violating conversational maxims (not only quality maxim even, quantity, manner, relation) does facilitate ironic comprehension because this flouting draws incongruity between what is expected and what really happened. Kaufer (1981) accepts that utterances with violated maxim can be perceived as irony, but it is not an adequate condition for ironic comprehension.

The traditional Gricean account, thus, seems to be restricted to only one maxim; however, what is mentioned above reveal that ironist can disrespect even the other maxims. Brown and Levinson (1983), Sperber and Wilson (1981) applaud the flout of relevance and quantity ones. While, Leech (1983) addresses quantity maxim as the violating one.

Furthermore, Colston (2000) argues that understatement is the irony that flouts the maxim of quantity; while overstatement flouts the maxim of quality as Alba-Jeuz (1995a, p.17) defines it is a way of generating implicature by saying more than necessary. Interestingly, Alba-Jeuz (1995b) declares the possibility to flout all the maxims at the same time. Attardo (2000) describes irony as pragmatic phenomenon that is not appropriate to its context; in other words, an ironic remark can be relevant, but it is inappropriate to the context. Attardo (2000) analyses these statements as:

- How this night treating you? (uttered in daylight)
- Two farmers in a drought-stricken area are talking and farmer A says: “Don’t

  you just love a nice spring rain?” (Attardo, 2000, p. 816)

These statements can be true, but they are not appropriate to the context. Gricean maxims pay no attention to the contextual norms, Attardo, then, applauds Appropriateness Theory. The locus of appropriateness is reached when “an utterance U is contextually

appropriate if all presuppositions of U are identical or compatible with all the presuppositions of the context C in which U is uttered" (p.818). Relevance and appropriateness are clearly not the same, in Grice (1975) be relevant not extraneous to the conversation; while in Attardo (2000) be appropriate to context factors.

Therefore, Attardo adds to the conversational maxims, a fifth maxim "be appropriate" (2000, p.823). The ironist's overall level of appropriateness is required; since the context can be utilized predominantly to serve successful eliciting of ironic language.

2.4 Irony and Metaphor

Metaphor is broadly defined, there is no common definition, as comparison between subjects from different categories this comparison is obviously not related at level of semantics Colson (2001); for example, Lisa is a flower or an angel, in reality people, flowers, angels do not belong to the same category, it is used to describe her beauty or kindness. Recent psycholinguistic research has considerably attempted to capture the essence of this complex processing mechanisms underlying the interpretation of figurative language mainly irony and metaphor, because according to Roberts and Kreuz (1994), irony and metaphor are the common figurative language forms that are used extensively in everyday language. As a matter of evidence, Glucksberg (1998) asserts the similar processing duration time between metaphorical and literal utterances, these findings resemble the Direct Access View that claims the equivalent duration between ironic and non-ironic language. However, the recent empirical studies reject the traditional view that irony and metaphor pass through similar process, but rather "metaphor and irony follow different developmental trajectories, require different orders of meta-representational ability and break down in different ways". (Wilson & Speber, 2012, p.2).

Whereas, another explanation is provided by some scholars, Grice (1975), to unearth that some non-literal utterances can be confusingly perceived as either metaphoric

or irony. This inability to differentiate might occasionally be due to the akin function that metaphor can serve in order to provide negative remark or negative metaphor that is used mainly to criticize. (Black,1962)

It may be also concerned with both irony and metaphor as Grice (1967,1989) argues flout the maxim of quality. More confusingly, humour is also noticed in metaphoric language (Raskin 1985; Kövecses 2015) through creating incongruous and surprising comparison between dissimilar things. Needles to mention the pivotal role that irony plays in humour activation

In the same subject of confusion between irony and metaphor, according to Sperber and Wilson (1985), metaphor and hyperbole are similar; since both exaggerate description or comparison; however; Grice (1967) and Lewis (1979) treat them separately, while Gibbs (2000) represents hyperbole as a type of irony.

To draw a conclusion, metaphor and irony are two extensively complex and interconnected figures of speech, that have an interest in common and what mentioned above can justify why they are used interchangeably in some contexts.

2.5Ironic Comprehension

For a long time, irony has been an interesting topic to be addressed not only from literary theory as figurative device, but mainly as a pragmatic phenomenon in which the socio-cultural context, users and interpretation have straightforwardly taken into the ironists scholars' consideration. Notably, scholars' interests have been shifted from conceptual fertility to experimental studies within pedagogical context. Plenty empirical studies have been conducted in order to accurately unmask the factors and mechanisms that the hearer can assign to for comprehending irony, along with the human developmental stages from childhood to adolescence (Gibbs 1986; Ellen Winner1988; Gibbs & O'Brien et al 1995; Colston 2000; Attardo 2001; Harris &Pexman 2003; Kats

2005 and other worthy experimental researchers). However, few empirical and pedagogical studies have been made to scrutinize the fundamental factors that prevent EFL learners to comprehend ironic utterances among these studies (Bromberek-Dyzman et al 2016; J. Kim 2014; Rover et al 2014; Al-Fatlawi 2018).

In the core nature of comprehension, there are two general approaches to ironic comprehension:

2.5.1 Standard Pragmatic Model

Before dive deeply and give more insights about ironic perception, acquiring sufficient lexical and syntactic knowledge of the TL is significant. (Bouton, 1999). Because literal, lexical, meaning constitutes the first step for analysing in the earliest traditional approach Standard Pragmatic Model that was introduced by Grice (1975) and Searle (1979). According to this model, the hearer of any figurative language, including idiomatic meaning, must initially analyse the utterance on its surface meaning in which s/he can infer the incompatible relation between the literal meaning and the context. The lexical meaning needs, thus, to be rejected; then, the hearer detect the non- literal meaning through opposition of the literal interpretation. For this reason, ironic discourse requires longer time for processing than literal one (schoweobel, Dews, Winner, Srivians 2000). IC and literal comprehension are argued to pass through different comprehension processing and the time required for comprehending could reveal that.

2.5.2 Direct Access View

Other linguists (Gibbs 1986, 1994, 2012; Kumon et al 1995; Attardo 2013) reject the traditional model, that claims the disparity of time to process the literal and non-literal utterance, Gibbs (1986, 1994) affirms that people are able to comprehend precisely the indirect discourse with appropriate context. In this case, ironic and literal

meaning are interpreted by the same processing mechanisms without additional inferential efforts of analysing and rejecting, the ironic interpretation can adhere the availability of rich contextual information and adequate pragmatic knowledge or the interlocutors 'shared beliefs, knowledge and attitudes (Gibbs 1999; Colston 2002). Hence, sharing specific pragmatic knowledge can facilitate the possibility of comprehending irony; addressee is assumed to primarily recognize the extent of relevance between the speaker's ironic utterance and their common ground that, according to Gibbs 1986, the more they are mutual the more processing is effortless.

2.5.2.1 Common ground

Common ground is also known as "mutual knowledge" Yus Ramos (1998, p.42). As Clark and Gerrige (1984) argue, the ironists have their audience; they do not use irony with anyone but rather with particular addressees. Similarly, as Clark and Marshall 1981; Brown and Levinson 1987 who claim about the significance of the interlocutors' agreement upon some aspects of communality that is acquired, as Leech (2014) says, by familiarity. As a consequence, irony is used as a way to reflect previous events Kreuz & Gulcksburg (1989) or mutual expectation Clark & Gerrige (1984). In this respect, the notion of common ground is the basis of the Sperber and Wilson's echoic theory (1981, 1984, 1986, and 1992) where irony is seen as a way of echoing previous beliefs, norms, utterances and sometimes a contradiction between what expected and what happened.

The hearer, therefore, will infer that the speaker's utterance is literal or not through their previous knowledge and expectation in particular context. As an initial step to address the reasons that lead EFL learners to misunderstand irony, it can possibly be due to the lack exposure to the TL environment in terms of social norms and cultural expectation that represent under the umbrella sociolinguistics. Sociolinguistics is broadly

defined as a branch of linguistics that relates language use to society (Radford, 2009); language to its authentic context the main aim purpose of sociolinguistic knowledge is, therefore, to ameliorate people's capacity to understand language meaning in its context. (Trask & Stockwell, 2007). Based on this stance, in order to make EFL learners able to understand beyond literal meaning, there should be a special focus on developing their sociolinguistic norms. If these principles brought to be taught explicitly in the classroom context, ironic comprehension will be more efficacious. (Bouton,1999).

Not only at level of comprehending irony but also make the language learner communicative competent, Oller (1970) highlights the main purpose of teaching a language is "to send and receive messages in the language. "(p. 507). However, this distinct pedagogical change may encounter certain difficulties, the main problem stems, according to Izumi (1996), from the fact that non-native English teachers lack sociolinguistic norms. Suffice to say, teaching irony requires sociolinguistic competent teachers who are sufficiently aware about the TL environment; irony cannot be separated from its authentic context rather it reflects socio-cultural parameters. In this regard, context is part, cannot be separated, from pragmatic knowledge. (Gibbs, 1999), in which contextual information enriches the hearer's perception to the figurative language.

2.5.2.2 Context

Context of interaction plays a pivotal role as similar as users. As mentioned above in both views, context is the common and the main factor that assists the addressee to take the spoken utterance literally or not. It worth noting that, context is not a novel notion to be discussed in pragmatics, inasmuch as irony is described as pragmatic phenomenon. (Attardo, 2000), that tends primary to correlate language use to context appropriateness production and comprehension. Hence, it does not seem outlandish to assert the

interwoven relationship between ironic comprehension and contextually available information. Simply explained, irony is context-dependent.

There is prima facie case to suggest that incongruity between the context and what is said contributes significantly to ironic recognition (Barbe, 1995), Similarly as Yus (2000) who uses incompatibility as a standard that makes this recognition less challenging. Compliment such as “thank you” is perceived ironically and only the context, in which it is used, leads the hearer to identify and process (Leech,2014). Context, then, is a crucial component firstly to differentiate literal from ironic meaning. Additionally, to contribute to the comprehension of what said ironically (Kaufer1981; Sperber and Wilson 1986,1995; Kats & Lee 1993; Colston 2000,2005).

While on the same subject, Yus (1998,2000) lists seven contextual sources that the listeners can use to detect irony 1) factual information includes cultural knowledge and social norms; 2) physical setting of interaction; 3) non-verbal communication behaviour that includes facial expression , tone of voice and other cues ;4) biographical data or background information about the speaker; 5) mutual knowledge ; 6) previous utterances; 7) linguistics cues syntactic structure and vocabulary selection .(p.42).

From above, it is highly estimated that, in addition to linguistic and sociolinguistic attention, context is also enriched by certain prosodic cues or non-verbal communication; such as, intonation, facial expression (Clark & Gerrige 1984; Barbe 1995; Creusere 1997).

2.5.2.3 Ironic Cues

Based on Bouton’s (1999) insistence to the requirement of L2 learners’ higher language proficiency to detect irony; Shively et all (2008) comment on his finding is might be because he uses written instrument lacks audio and visual cues. Despite the significance of verbal and non-verbal cues for some researchers (Grice 1978; Amante 1981;Wilson and Sperber 1986; Winner and Leekam 1991; Dews and Winner 1995; Dews

at al 1996; Crusere &Echols 1996; Crusere &Echols 1999;Utsumi 2000; Kim 2014) who show the role of certain cues especially intonation and facial expression that accompany ironic utterances that may be taken seriously as potential keys for understanding the implied meaning .Schaffer (1982) applauds that it is not always necessary to generate the exact meaning from literal utterance " but from cues in the conversational context " (p.15) . To simplify these cues Utsumi (2000) lists these cues as following:

Table 2:

Examples of Cues for Implicitly Displaying Negative Attitudes, Utsumi (2000, p. 1787)

Verbal cues	1. hyperbole, exaggeration—adjectives (e.g., amazing, splendid), adverbs (e.g., certainly, really, absolutely), metaphors
	2. interjection—'Oh!,' 'ah!,' 'O!,' 'Dear me!,' 'Oh dear!,' 'huh'
	3. prosody (paralinguistic cues)—accent, intonation contour, exaggerated stress, slow speaking rate, tone of voice, nasalization
	4. speech acts for expressing counterfactual pleased emotions—thank, compliment
Nonverbal cues	1. facial expression—quizzical, sneering, deadpan
	2. behavioral cues—gesture, pointing, laughing

Table 2 shows the variety of these cues even the selection of certain adverbs and adjectives are considered as cues what supports this notion is Kalbermatten's findings (2007) (as cited in Shively et al, 2008, p.105). This result licenses a claim that Bouton (1999) supports and shively et all (2008) later conclude about the significance of acquiring adequate linguistic proficiency, if not, they will struggle to understand irony (Attardo,2013).

According to study conducted by Dews and Winner (1995) using auditory recording of voice speaking their ironic items with organized tone, they conclude that

“ironic insults were spoken in nasal, mocking, sarcastic intonation” (p.9). While Sperber and Wilson (1986, p.239) note that the implicitness of speaker’s attitude “to be gather only from tone of voice, context, and other paralinguistic cues”. In this sense, these cues might facilitate the mission for the hearer.

Moreover, Rockwell (2007), in a comparative analysing between literal and non-literal utterances, concludes that sarcastic utterances characterized by higher pitch, wider pitch range. Recently, Yang (2021) notes that irony is marked with breathy and nasal. These acoustic studies reveal that prosodic cues can be considered as sources to differentiate literal from ironic language.

Yus (1998) hypothesizes that the existence of extra cues in the context can strengthen ironic detection; in the light of this assumption and the Direct Access View one that insists on the importance of the availability of rich contextual information. It is surprising to find, Gibbs (1986) shows that intonation plays unnecessary role for comprehending ironic remarks especially in written discourse; furthermore, ironic and non-ironic utterances may share the distinguishable tone (Gibbs & O’Brien 1991; Barber 1995). These prosodic, thus, can be affianced for the hearer in oral communication but not to the extent of exaggerated relying since they may hinder and dilute the addressee’s ability to distinguish between literal and figurative meaning.

To summarize, the appropriate understanding of ironic meaning is attributable to the contextual information, common ground, and linguistics proficiency. Although these conditions are presented as divisive areas. Yet, there is no agreement on a factor that must be prioritized; in addition to necessitate the cultural awareness, the need for linguistic knowledge is then a prerequisite to ensure an appropriate language comprehension. .undeniably , endless experimental studies, among them Lakoff (1987), that have been conducted to persist the cognitive processes beyond IC; it will not be surprising, any

more, to perceive additional controversial debates about this sensitive part of cognitive linguistics, a modern approach that tends to study language in relation with thought in terms of mental processes , because the recent studies in IC have specifically highlighted the correlation between ironic intent and human cognition. In a number of occasions, irony is studied with human's mental ability, McDonald (2000), par excellence, tries to scrutinize the difficulty that people with a damaged brain's right hemisphere (RH) or traumatic brain injury (TBI) and their ability for IC. That is to say, in spite to the previous factors; irony is not only a pure pragmatic phenomenon to be studied from cross-cultural perspective but rather from the cognitive efforts that are associated and required for a better ironic interpretation.

In this respect, these psycholinguistic studies can be indispensable to boost the muscles of the EFL learners' brain that need to be trained to pertinently recognize irony.

Conclusion

The chapter of literature review contributed with valuable information concerning prior research conducted about CT and IC as two complex cognitive processes. Throughout this chapter, CT different definitions are presented. Also, its importance in the academic sphere is reflected as it generates the most effective ways to deal with problems autonomously and to express, evaluate, and judge viewpoints of oneself and others. It also reflects individual's higher order thinking processes. Moreover, the chapter provides a classification of CTS and necessitates developing those skills in higher education since they are essential requirements to reach a high level of knowledge. Thus, teaching and assessing CT should take a major part in the curriculum. On the other hand, out of the aforementioned, irony cannot be simply defined in a terminal agreement, until now. What is more problematic is the complex interwoven relation between the types of irony however, the most recent ironic classification is as positive, negative and neutral irony.

Further, common knowledge, contextual information, verbal and non-verbal cues are presented as factors to capture exact detection of irony as a flouting maxim. Most importantly, ironic recognition has been represented in the language learning context.

Chapter Two: Methodology, Findings, Discussion, Implications, Limitations and Recommendations.

Introduction

This chapter, which constitutes the practical part of the research, is deemed to be the most salient portion of the entire study to which the nature of the relationship existing between EFL learners' CT levels and IC is carefully examined. In this respect, the chapter is divided into three sections. Section one provides an image of the overall research design, context, participants of this research in addition to the instruments used to collect data from the sample as well as the procedures of data analysis and interpretation. Section two is concerned with Statistical analysis to the gathered data that are displayed in the form of graphs and tables, in addition to a detailed discussion to the results. By the end of this chapter, based on the findings, some pedagogical implications are suggested, this chapter also addresses certain study limitations and recommendations for future research.

1. Research Methodology

1.1 The Mixed Methods Research Design

The current study aims to investigate the relationship between Algerian EFL learners' level of CT and their ability to comprehend irony in addition to investigating EFL teachers' perceptions of developing CT among students. Thus, based on the nature of this research, a mixed methods approach has been adopted. Mixed methods research refers to an approach of investigation that integrates or links quantitative and qualitative approaches in one study. It is not just about gathering and analysing both types of data, but also about using both methods to enhance the quality of research beyond what can be achieved by either quantitative or qualitative research alone (Creswell, 2009). The study at hand seeks to answer both qualitative and quantitative questions. As a result, it proceeds through two phases. In the first phase, quantitative data are collected from the correlational research

through the use of two tests, while in the second phase, qualitative data are collected from the descriptive research using a questionnaire.

1.2 The Correlational Method

The central purpose of using correlation, as a quantitative research methodology, is to investigate whether a relationship exists among variables, if so, to what extent. In this respect, the direction can be positive in which the variables increase or decrease together or it can be negative correlation which indicates the inverse relation between them. These formative descriptions are expressed in terms of numbers or magnitude ranging from +1 to -1 indicate respectively to positive perfect, strong, average, weak, or absence of association between the variables. This study addresses two quantitative variables, thus, Pearson correlation coefficient is selected.

1.2.1 Setting and Participants

The population under concern in this research is third year students at the department of English letters and language at M'sila University, during the academic year 2022/2023. Their total number is 174, divided into six groups. Out of this population, the researchers have chosen groups one and two, purposefully, due to their appropriate time planning. From these groups, thirty (30) students have been selected, using simple random sampling, to be the main sample. Unlike the sample, the choice of the population was not actually random; it has been selected deliberately for several reasons. For one, third year students have completed a significant portion of their degree program and have likely developed a high level of CT. Additionally, they are likely to have a better understanding of irony since they have received instruction on it in their literature module. Moreover, they are at a stage in their academic career where they may be more mature and motivated to participate in research studies and engage in academic activities. Lastly, they

have had more exposure to a variety of courses and may have a broader perspective on the research topic. Therefore, due to these reasons, the selection of third year BA English language students is believed to be the suitable population that aligns with the primary objective of the present research.

1.2.2 Research Tools

To accomplish the research at hand, which aims to investigate the correlation between CT levels and IC, two data collection instruments were used, namely CCTST and WG Test and Irony Comprehension Test (ICT).

1.2.2.1 The California Critical Thinking Skills Test and Watson-Glaser Critical Thinking Appraisal

In the current research, EFL learners' CTS were tested through synthesising, due to the common skills they measure, both Watson Glaser Critical Thinking Appraisal (abbreviated as WGCTA) that was developed by Goodwin Watson and Edward Glaser (1964) and California Critical Thinking test (CCTST) by Facione et al (1998) .These tests are generally adopted to obtain and evaluate the respondents' CT. WGCTA and CCTST were selected among numerous CT assessment tools because, above all, they address college students (see Table 1,chapter one). CCTST has been extensively validated and has shown to be reliable with consistent scores when the test is taken multiple times. (Facione et al. 1998 as cited in OUSLIMANI, 2022).

The reliability and validity of the employed CCTST and WG, developed and synthesised by Ouslimani (2022), may vary depending on the target population and context. However, it is worth mentioning that these assessments have been confirmed to be accurate in a similar context to the present one, specifically at Batna-2 University. It is

also worth noting that, the researchers made some modification in which the test has been reduced in length in order to keep the target sample engaged.

The CCTST and WG test in this study is subdivided into four sections each section consists of two statements that were selected firstly on the basis of frequent occurrence in real life context divorce, sport, business and other social issues. Additionally, each statement is tailored to the specific skill being tested inferences, deduction, evaluation /analysis of an argument, and interpretation through multiple-choice options. The participants, therefore, were restricted to the mere proposed answers.

1.2.2.2 The Irony Comprehension Test

The ICT is a test which aims to measure EFL learners' comprehension of ironic discourse. It consists of two main sections, namely irony detection and irony comprehension. Due to the limited literature on testing irony in the EFL context, each section of our research tool was adapted from a different source to ensure a comprehensive coverage of the topic and to collect valid data. The initial section of the research instrument comprises ten (10) situations, wherein participants are required to discern the presence of negative or positive irony. This section was adapted from Ellis et al (2020) in their study of Chinese learners' ability to comprehend irony. While the original study included twenty (20) situations, this study opted to limit the selection to ten due to time constraints and the inclusion of an additional section. Additionally, the second section comprises ten (10) scenarios, each of which includes underlined utterances and accompanying contextual information to aid the participants in understanding the utterances. The participants are, then, prompted to provide their own interpretations of the ironic utterances. This section was adapted from Palacio's (2020) doctoral thesis, which employed a scenario-based approach to irony. The researchers narrowed down their

selection to ten scenarios from the original study, which initially comprised one hundred scenarios. (see Appendix B)

1.2.3 Procedures

Data collection for the present study prolonged through two days. Thirty (30) participants were randomly divided into two groups, and each group was assembled in an empty room to avoid distribution or the collection of invalid responses. Firstly, the participants began with the CCTST and WG test, once they finished it, they started the IC test. It is worth noting that both tests were simultaneously given with no delay between the two assessments. Approximately 45 minutes was the allotted time for each participant to complete both tests.

1.3 The Descriptive Method

In order to capture the essence of the teachers' perceptions and attitudes toward the promotion of CT in the higher educational context, a small scale, descriptive study was conducted to meet the central purposes of this research. In other words, in case of existence of correlation between the variables, teachers' views will accurately boost the locus of the current pedagogical implications.

1.3.1 Participants

Eight volunteer teachers, in the department of letters and English language at the University of M'sila, are the targeted population for this study. A written questionnaire has been handed to the teachers who are from different specialties: linguistics, translation, literature and civilization.

1.3.2 Research Tool

The questionnaire used in this study was derived from Ouslimani (2022) in order to collect data about teachers' perceptions and attitudes towards developing CT among EFL students at M'sila University. This questionnaire comprises seven open-ended questions (see Appendix C) that give the respondents the opportunity to freely answer them and propose some suggestions depending on their lifelong pedagogical experience. The questions are organized under three main sections, starting with teachers' conceptual perception to CT; then, their perception of students' CT ability and conclude with the instructors' roles when integrating CT in their classroom.

1.3.3 Data Collection and Analysis Procedures

The questionnaire, which is used to gather qualitative knowledge about EFL teachers' different opinions on developing CT among students, provides additional data to our research. It was distributed hand to hand to some teaches while others preferred to answer a word document version and send it via email. After that, the collected data were coded and subjected to thematic analysis since all the questions are open-ended. In further detail, thematic analysis entails systematically organizing and categorizing data to identify recurring themes or patterns that emerge from it, and then interpreting and analysing these themes to gain insights into the research question and objective. (Braun et al, 2006).

1.4 Statistical Tools

For the correlational study, quantitative data analysis method is used, in which the collected data from CCTST and WG test and ICT is analysed using statistical methods and techniques. Therefore, both descriptive and inferential statistics are used to summarize data in a meaningful way and to draw conclusions about the population based on the sample. Specifically, the mean is used to represent the average value in the dataset. It is calculated using the following formula:

$$\bar{x} = (\Sigma\, xi) / n$$

- **Σ** = add up.
- **xi** = all of the x-values.
- **n** = the number of items in the sample.

Moreover, the standard deviation is used to measure the degree of dispersion or variability in relation to the mean. It is calculated using the following formula:

$$s = \sqrt{\frac{\sum(X-\bar{X})^2}{n-1}}$$

As for the correlational analysis, Pearson correlation coefficient is used to measure the strength and direction of the relationship between the study's continuous variables. It is calculated using the following formula:

$$r = \frac{N\Sigma xy-(\Sigma x)(\Sigma y)}{\sqrt{[N\Sigma x^2-(\Sigma x)^2][N\Sigma y^2-(\Sigma y)^2]}}$$

- N = the number of pairs of scores.
- Σxy = the sum of the products of paired scores.
- Σx = the sum of x scores.
- Σy = the sum of y scores.
- Σx2 = the sum of squared x scores.

- Σy2 = the sum of squared y scores.

As for the descriptive study, the qualitative, open-ended questions' data, were analysed using percentages and frequencies. Percentages indicate the proportion of teachers who answered in a particular way; while, frequencies express how many times a particular answer is repeated.

All the aforementioned statistical operations are processed via the Statistical Package for Social Sciences (SPSS) software version 24 for Microsoft.

1.5 Reliability and Validity of the Study Research Tools

1.5.1 The Critical Thinking Test

Due to time constraints the researchers did not measure the validity and reliability of the employed CT test. However, Ouslimani (2022), the questionnaire designer, confirmed that this test was verified its face and content validity by specialist teachers in addition to pilot studies that were conducted, in a similar context, in order to confirm the adjustment of some items. Additionally, she measured the internal consistency of the CT using Cronbach's alpha, by IBM SPSS Statistics 22. The results of the analysis for each component were as follows: Inferences ($\alpha = 0.75$); Deduction ($\alpha = 0.82$); Interpretation ($\alpha = 0.70$); and Evaluation ($\alpha = 0.71$). this indicates good internal consistency of the CTS. The entire test had, therefore, acceptable internal consistency with $\alpha = 0.65$.

1.5.2 The Irony Comprehension Test

1.5.2.1 Validity

The ICT underwent verification for its validity by presenting the test to specialist teachers from different departments at M'sila University, namely Dr. Imane CHERIET and Dr. Tayeb BOUAZID from the English department and Dr. Ramdane KHATOUT

from the Psychology department. Their expertise was sought to review both face and content validity of the ICT, aiming to identify any potential issues with its items. Face validity was assessed to determine if the test visually and superficially appeared to measure the intended skills (Jones, 2019), while content validity was examined to ensure that the test items adequately covered the relevant content and accurately assessed the desired knowledge and abilities (Johnson, 2020). The valuable feedback received from the reviewers influenced adjustments to certain items and emphasized the need to underline statements that required interpretation.

1.5.2.2 Reliability

Reliability refers to the degree to which a test produces consistent and dependable results over time and different samples. (AERA, 2014). It is a crucial aspect of any research endeavour; therefore, participants' scores were processed in the SPSS version 24 in order to measure the internal consistency of the ICT.

Reliability analysis for the ICT yielded a Cronbach's alpha value of 0.743, as illustrated in table 3 below:

Table 3:

Cronbach's Alpha for the ICT.

Cronbach's Alpha	N of Items
.743	20

Cronbach's alpha is a commonly used measure of internal consistency reliability, indicating the extent to which items in a test or a scale are interrelated or measure the same construct. A higher alpha coefficient (closer to 1) suggests greater internal consistency indicating that test items reliably measure the intended construct. (Cronbach, 1951)

In the case of our test, the Cronbach's alpha value (0.743) indicates satisfactory internal consistency. This demonstrates that the items in the test are moderately correlated and measure the same aspect which is irony comprehension. While the value is not perfect, it still demonstrates a reasonable level of reliability.

To further strengthen the reliability of the test, the researchers performed additional reliability analysis (split-half). The results are presented in table 4 below:

Table4:

Split-half Reliability.

Cronbach's Alpha	**Part 1**	**Value**	.698
		N of Items	10[a]
	Part 2	**Value**	.518
		N of Items	10[b]
	Total N of Items		20
Correlation Between Forms			.651
Spearman-Brown Coefficient	**Equal Length**		.781
	Unequal Length		.781
Guttman Split-Half Coefficient			.793

As shown in the table above, the correlation between test items is 0.651, indicating moderate positive relationship. This suggests a certain degree of consistency or similarity among the test items which is desirable for a reliable test. On the other hand, the Spearman-Brown coefficient value (0.781) indicates a relatively good level of internal consistency. This coefficient suggests that the test items are parallel or have equivalent difficulty across the two halves of the test. Furthermore, the Guttman coefficient value (0.793) indicates that there is a significant positive correlation between the two halves of the test, suggesting a reasonable level of internal consistency.

Overall, based on the aforementioned coefficients, the ICT demonstrates a moderate to good level of reliability.

2. Data Analysis and Discussion

The main objective of this research is to explore the relationship between CT and IC in EFL students at M'sila university. Specifically, it aims to determine whether there exists a statistically significant correlation between the two variables. This section presents the participants' responses to the two tests and the questionnaire.

2.1Data Analysis

2.1.1 Data Analysis for CCTST and WG

To investigate the first research question which is: "what are EFL learners' levels of CT?". The responses of CCTST and WG were processed using SPSS, and the results obtained are displayed in the table below.

Table 5:

Descriptive Statistics for CCTST and WG Data.

CT		
N	**Valid**	30
	Missing	0
Mean		13.5333
Std. Deviation		2.50149

From the table 5, it is clearly noticed that most of the participants' scores are average and have a moderate level of CT, as it is conveyed in the mean ($\bar{x}$ = 13.53). While the standard deviation (SD = 2.50) indicates that the scores are tightly clustered around the mean.

2.1.1.1 Data Analysis for CTS

CTS' descriptive statistics were measured to determine the skill that mostly influences the general CT level. Data obtained from SPSS is summarized in the following table.

Table 6:

Descriptive Statistics for CTS.

		Inferences	Deduction	Evaluation	Interpretation	CT
N	**Valid**	30	30	30	30	30
	Missing	0	0	0	0	0
Mean		1.9000	4.0000	3.7000	3.9333	13.5333
Std. Deviation		1.12495	1.28654	1.14921	1.17248	2.50149
Minimum		.00	2.00	1.00	2.00	8.00
Maximum		4.00	6.00	5.00	6.00	18.00

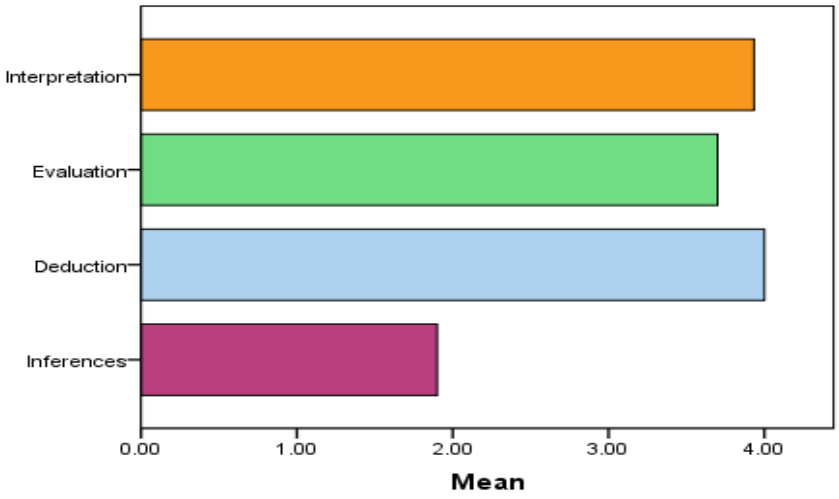
The total score of the CT test is 24 points, six points for each skill. The analysis of the results, therefore, indicates that the lowest mark in this test (minimum) is 8; while the highest mark (maximum) is 18, which explains that students have a wide range of scores.

Table 6 reveals that inference skill has the lowest value of the mean ($\bar{x}$ =1.90) and (SD=1.12) as well. This explains that most of the students have difficulty in inferential skill or the ability to judge the conclusion on the basis of reasoning of the given statements. Overall, some students get zero (0) as the lowest mark and 4 points as the highest mark.

In contrast to inference, most of the students have no difficulty to deduct whether the conclusions logically follow or not. The mean value is high ($\bar{x}$ = 4.00) in comparison to the other skills; while, the spread of the scores around the mean is (SD = 1.28). The lowest mark is 2. Remarkably, some students could reach the full mark 6 points which explains the students' ability to draw conclusion based on a set of premises.

Concerning the evaluation of an argument either strong or weak, the respondents' overall performance is slightly below average ($\bar{x}$ = 3.70) with dispersal of scores (SD = 1.14) in which eight students performed well and got 5 points as the maximum score, and two students obtained 1 point as the lowest mark.

The results of the learners' interpretation skill are satisfactory with a mean value ($\bar{x}$=3.93) that is slightly average and (SD= 1.17). Five students got a full mark, while two students got 2 points as the lowest mark. These results show that learners' interpretation skill is relatively good.



Graph 01: *CTS' Mean.*

What is mentioned previously can be easily noticed in graph 01 that illustrates the CTS' mean value, to sum up the bar chart, deduction skill has the highest mean value ($\bar{x}$ =4), followed by interpretation ($\bar{x}$ = 3.93) and evaluation ($\bar{x}$ =3.70) almost all the scores of these subscales are close to each other. Accordingly, the students' scores do show a negative evaluation to the inference skill ($\bar{x}$ =1.93).

2.1.2 Data Analysis for ICT

In order to address the second research question, the data collected from the participants' ICT responses was analysed using SPSS to determine their level of IC. The findings are presented in the table below.

Table 7:

Descriptive Statistics for ICT Data.

IC		
N	**Valid**	30

	Missing	0
Mean		14.1567
Std. Deviation		2.99052
Maximum		18.60

Table 7 displays the descriptive statistics for thirty EFL learners' responses to the ICT. According to the data, the value of the mean ($\bar{x}$ = 14.15) is considered good compared to the highest value of the test scores which is 18.60. Additionally, the low value of the standard deviation (SD= 2.9) indicates that the data points are closely clustered around the mean. In other words, there is less variability or spread in the data. Therefore, it can be inferred that the participants' overall level of IC is above average.

2.1.2.1 Data Analysis for ICT Sections

IC dimensions were measured to determine which one has the highest value and therefore influences the general IC level. The data obtained from the SPSS is presented in the following table.

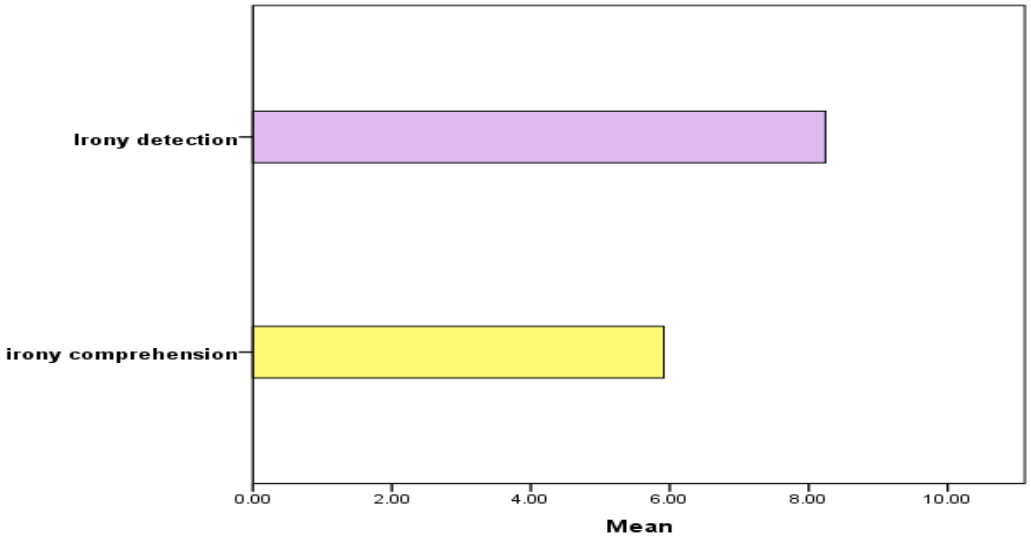
Table 8:

Comparison between IC Sections.

Descriptive Statistics				
		Irony detection	**Irony comprehension**	**Total**
N	**Valid**	30	30	30
	Missing	0	0	0
Mean		8.2400	5.9167	14.1567
Std. Deviation		2.84903	2.13381	2.99052
Maximum		12.00	11.60	18.60

From table 8 above, it is clear that learners' level in irony detection is significantly high ($\bar{x}$ = 8.24) compared to the average value of irony comprehension section ($\bar{x}$ = 5.91). As for the standard deviation, irony detection has a low value (SD = 2.8). This indicates

that almost all scores are near 8.24 which is good compared to the highest value scored in the section (Max = 12). On the other hand, the low value of the standard deviation in irony comprehension section (SD = 2.1) shows that most scores are around 5.9. This value is below average compared to the highest score in the section (Max = 11.60). Overall, the results show that EFL leaners are aware when irony is used in a certain utterance; however, they find some difficulty in understanding it. Thus, this area requires improvement.



Graph 02:

ICT Sections' Mean.

Graph 02 clearly illustrates the findings of table 6. The Y-axis represents the ICT dimensions; irony detection and irony comprehension, while the X-axis represents the mean for each dimension. The chart shows that the most dominant dimension which influences learners' level of IC is irony detection ($\bar{x}$ = 8.24) followed by irony comprehension dimension ($\bar{x}$ = 5.91). Overall, irony detection dimension contributes, on a greater part, to IC.

2.2 Correlation Analysis for CT and IC

Correlation analysis is used to measure the relationship between two or more variables.

As regard with the present study, the researchers aim to test the null hypothesis through examining whether there exists a statistically significant correlation between EFL learners' levels of CT and their IC. Therefore, the collected data were processed in the SPSS to calculate Pearson correlation coefficient in order to determine the strength and direction of the relationship between the study's quantitative variables. The results are presented in table 9 below.

Table 9:

Pearson Correlation Coefficient for the Relationship between CT and IC.

Correlation		**IC**	**CT**
IC	Pearson Correlation	1	.708**
	Sig. (2-tailed)		.000
	N	30	30
CT	Pearson Correlation	.708**	1
	Sig. (2-tailed)	.000	
	N	30	30
**. Correlation is significant at the 0.01 level (2-tailed).			

According to the results demonstrated in table 9, the Pearson correlation coefficient value (r = 0.708) confirms the existence of a strong positive correlation between CT and IC, calling for the rejection of the null hypothesis and accepting the alternative one. The level of significance of 0.01 (2-tailed) shows that there is a very low probability that this correlation occurred by chance. Therefore, it can be concluded that, there is a statistically significant correlation between the study's variables.

For further explanation, figure 05 below displays a scatter plot of the correlation between CT and IC in which each dot on the plot represents one subject from the dataset. Looking at the scatter plot, it is clear that there is a strong positive correlation between the two variables; since, the data points are clustered closely together and are arranged in a clear upward trend, indicating that as one variable increases, so does the other.

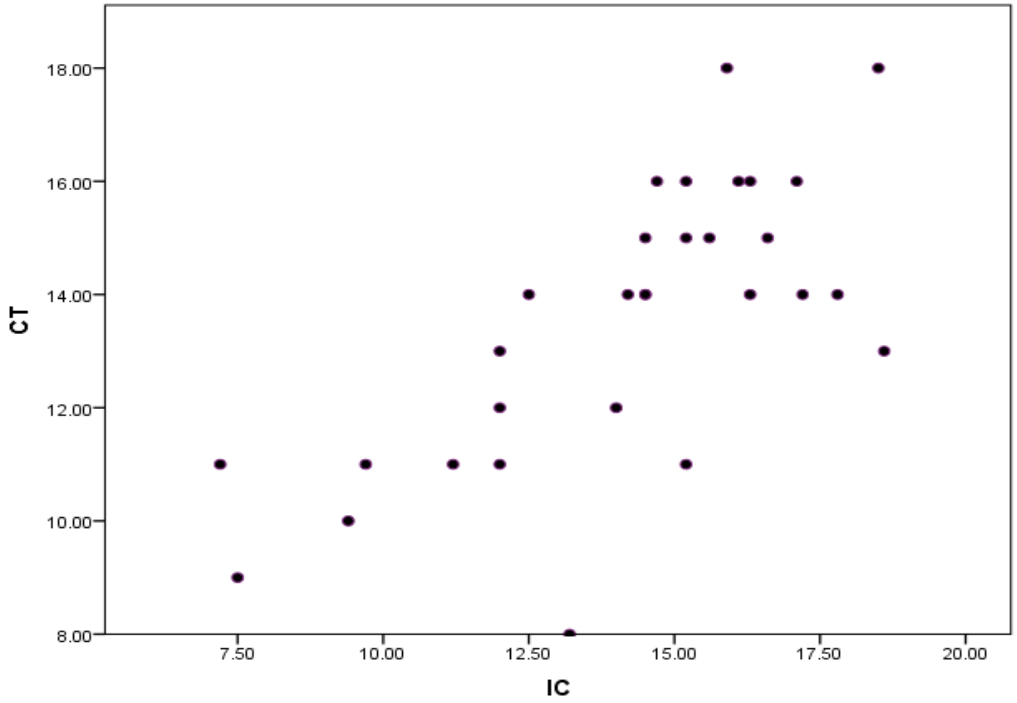


Figure 05:

Scatter Plot for the Relationship between CT and IC.

2.3 Correlation Analysis for IC and CTS

To answer the fourth research question, Pearson correlation coefficient was calculated using SPSS to probe any significant relationships between IC and the four CTS. The results are illustrated in the following table.

Table 10:

The Correlation between IC and CTS.

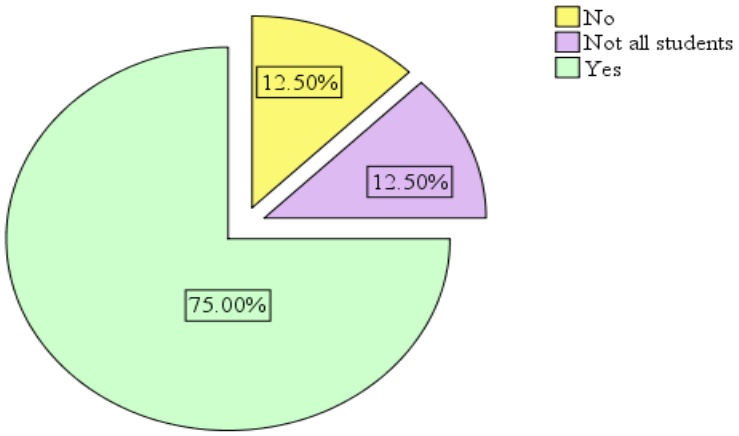
Correlations		IC
IC	Pearson Correlation	1
	Sig. (2-tailed)	
	N	30
Inferences	Pearson Correlation	.233
	Sig. (2-tailed)	.215
	N	30
Deduction	Pearson Correlation	.598**
	Sig. (2-tailed)	.000
	N	30
Evaluation	Pearson Correlation	.349
	Sig. (2-tailed)	.059
	N	30
Interpretation	Pearson Correlation	.289
	Sig. (2-tailed)	.121
	N	30

As shown in table 10, a positive average correlation, at the level p= 0.01, exists between EFL learners' CTS and IC. With the purpose of discovering which skill of CT correlates with IC. As a result, there is a statistically significant correlation between IC and deduction skill (r=0.598); however, there is no statistically significant correlation with the other CTS. This concludes that deduction skill is the key factor for a successful interpretation to ironic utterances

2.4 Analysis of Teachers' Questionnaire

The current Questionnaire consisted of seven questions and was intentionally divided into three sections, namely teachers' perception of CT, their perceptions about students' ability to think critically and the roles they play when incorporating CT in their classes. In response to the first question regarding the teachers' definition of CT, it was found that EFL teachers at M'sila University perceive CT as a process or skill that involves analysing and evaluating data to solve problems. The benefits of using CT in EFL classrooms, according to these teachers, include the development of analytical, synthesis, and metacognitive skills, problem-solving abilities, recognizing bias, logical expression of

opinions to convince others and accelerating learning achievement through active participation. In question three, all respondents affirmed applying CT in their instructional practices. When asked about the most commonly used teaching methods and tools to enhance CT among students, the participants listed techniques such as analysing and evaluating ideas, class discussions, teamwork, asking questions, critical writing tasks, focus groups, problem-based situations, brainstorming activities and presentations. Regarding whether students exercise CT, 75% of teachers confirmed its presence among EFL learners. Graph 03 below illustrates this finding.

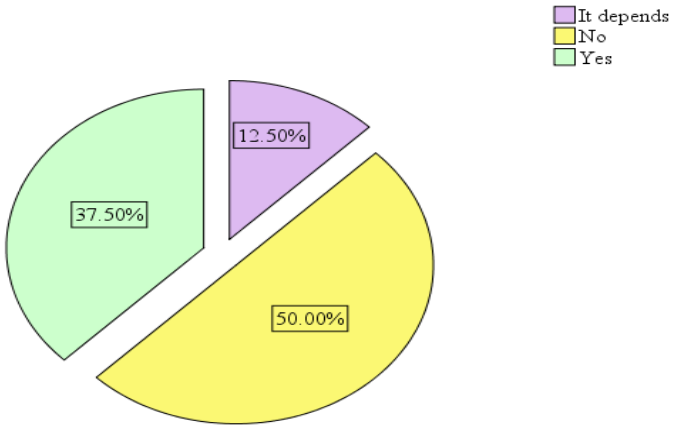


Graph 03:

Teachers' Perceptions about Exercising CT.

The teachers cited examples such as reflecting upon problems, questioning ideas, interpreting, describing and analysing, comparing and contrasting and writing. However, 12.50 % of the respondents believed that not all students practice CT, one of them commented, *"The way they answer the questions and solve problems". while* another stated: *"Not all students are thinking critically, those who are exercising CT are able to express their opinions clearly in their essays and class presentations"*. In terms of

providing students with all the information about the subject matter, 35% of teachers responded affirmatively. They emphasized the importance of enabling students to efficiently prepare themselves for discussing, evaluating and learning new ideas, additionally for brainstorming. Graph 4 presents the distribution of the responses.



Graph 04:

Teachers' Opinions about Providing Students with All Information about the Subject Matter.

However, 50% of teachers of teachers disagreed, highlighting the need to engage, surprise and motivate students by withholding some information. In this regard, one teacher remarked, *"Sometimes providing all information can fall under spoon-feeding. However, it is good to ask students to seek information by themselves".* Another teacher stated, "*The teacher should play the role of a monitor who provides the necessary guidelines*." The last question addressed the possibility of applying CT in the lessons, if required. All the teachers responded positively. One teacher commented, *"CT should be present in every type of teaching material. So it is not a question of requirement, it should be a top priority."* While another stated that: *"CT is a must for learning to take place (developing the different skills and competences)"*. The teachers highlighted the significance of promoting CT in language learning, such as integrating it in all fields, prepare students for

their professional future career, shaping positive, self-confident, open-minded society members, and making lessons appealing and interesting. One respondent accepted the adoption of CT in lessons but emphasized that its implementation requires both time and training.

2.2 Discussion of the Results

The CT quantitative findings for the first research question show that the informants are, to a great extent, unaware about the significance of developing their CTS, the statistical report has shown the average obtained values ($\bar{x}$=13.50) and (SD=2.50). It is worth mentioning that, the employed CCTST and WG test consisted of different social issues. In this vein, the participants had a chance to respond from their own experience and perception to life, this view is similar to Slameto (2014) who strongly affirms the pivotal role of CT even in everyday life. Inference skill is regarded to be the biggest challenge with zero marks in which the mean ($\bar{x}$=1.90) and standard deviation (SD=1.12) displaying that the marks are not spread from the mean. In this regard, Facione (1990) lists certain subcategories of inference skill "querying evidence, conjecturing alternatives, and drawing conclusion" (p.6). Remarkably, the used teaching methods put no attention to these subfields that boost the inferential skill. Concerning the evaluation skill, respondents' performance is acceptable ($\bar{x}$=3.70) and (SD=1.28); according to Bloom's classification (1956), evaluation skill is ranged as the most complex one. Suffice to say, the target population has an acceptable level of weighing evidence and reasoning judgements; while, the obtained values in the interpretation skill are fairly good ($\bar{x}$=3.93) and (SD=1.17).

The obtained data for the analysis of the second research question, which investigates EFL learners' levels of IC, shows that most participants have an average IC level since the mean value ($\bar{x}$= 14.15) is close to the highest mark scored in the test and the low value of the standard deviation (SD= 2.9) indicates that most data points are clustered

around the mean. In particular, the dominant dimension is irony detection with a significantly high mean value ($\bar{x}$= 8.24), compared to irony comprehension dimension ($\bar{x}$= 5.91), which is below average. According to these findings, it is clear that EFL learners at M'sila University have a basic understanding of irony and can identify when it is used in written or spoken language. However, they struggle with the nuances of irony, which can make it difficult to fully comprehend its meaning. This could be due to a variety of factors, such as differences in cultural norms and limited exposure to the English language. As Wang and Wang (2019) stress: "given the prevalence of irony in everyday communication, it is important for EFL learners to develop the ability to understand and use irony effectively in order to achieve communicative competence in the target language." (p. 1425), this necessitates that EFL learners may need additional support and instruction in order to have a thorough comprehension of irony. Overall, these findings tie well with previous studies wherein EFL learners are found to be able to recognize irony, but struggle to understand the intended meaning behind it. (Kuo et al, 2010; Wang & Wang, 2019).

The findings of the third research question, which aimed at exploring any correlation existing between CT and IC, prove that there is a strong statistically significant correlation between the two variables, reflected in the high value of Pearson correlation coefficient (r= 0.708). Thus, the researchers rejected the null hypothesis posed for this question which assumes that no correlation is to be found between CT and IC. Our results indicate that EFL learners who possess well-developed CTS are more adept at recognizing the incongruity between the literal and intended meaning in ironic statements. Thus, this research adds to the existing body of knowledge by demonstrating that CT is positively correlated with IC, as one aspect of indirectly communicated language; hence, CT is believed to be a key factor in understanding complex forms of communication that rely on

implicit meaning. In this regard, our findings are consistent with previous research that has shown that individuals with higher levels of cognitive ability are better able to comprehend irony. (Gerrig & Rapp, 2004). Furthermore, research by Gibbs and Colston (2012) provides additional support to the study at hand. They proposed the echoic reminding theory which suggests that irony comprehension relies on a cognitive process called echoic reminding. This process involves comparing the current utterance or situation to previously encountered statement or situation that shares a similar structure or theme. CTS, such as the ability to identify inconsistencies and delete hidden meanings, can facilitate this comparison process, leading to improved IC. Together, these findings from previous research provide a strong rationale for the positive correlation found between CT and IC.

As for the data analysis of the fourth research question, a moderate significant correlation (r=0,598 N= 30) is found between the deduction skill and IC. It is evident now that developing deduction skill is becoming a must in order to get rid of the ironic miscomprehension. It would be more convenient to point out what has been put forward by Halpern (1993) who supports the possibility to teach CTS explicitly. As a caveat, CTS are indispensable and none of them should be prioritized at the expense of the other, and equal significance should be given to all. If not, disparate degrees are more likely to be drawn.

Out of the research findings, it is apparent now that third year LMD English students at the Department of English language at M'sila University have showed an average level of CT. And thus, certain miscommunication troubles such as ironic miscomprehension in any cross –cultural contact will occur more extensively. To elucidate matters, ironic interaction is adequately succeeded once the CTS are continuously developed.

To answer the last research question, the findings of the questionnaire indicate a general consensus among respondents on the connotation of CT in their teaching instruction. On the light of this assumption, the learners' overall performance is expected to be good to excellent rather than being average. Apparently, the teachers are adequately acknowledgeable about the efficiency of promoting CT through various learning tools namely analysis and evaluation to the proposed ideas, class discussion, team work, asking questions, essay tasks or critical writing and other methods that allow the language learner to implicitly or explicitly reinforce their inner cognitive power. Moreover, the majority of the teachers confirmed the presence of CT among their students. In this regard, the teachers rely on learners' ability of interpreting, describing, analysing, comparing and contrasting in writing that is, according to Wade (1995), a space in which the writer can solve a problem, evaluate and make a decision objectively. For this reason, evaluation and deduction scores were marked satisfactory and met the desired level of competence due to the given opportunity to use evidence and think logically.

To conclude, the above comprehensive report revealed many results, mainly, the purpose of verifying the existence of any relationship between EFL learners' CTS and their IC, in addition to the teachers' perceptions and attitudes towards developing CT in higher education. As it stands, the results have proved that the higher the CTS the learner has the better the IC is. In other words, the null hypothesis (H0) is rejected due to the existing strong positive correlation ($r=0.708$, $n= 30$) between EFL learners' CT and their capacity to successfully generate the exact ironic interpretation, which answers the question put forward at the very beginning of this study.

3 Implications, Limitations, and Recommendations

Based on the findings of the present study, this section proposes some pedagogical implications, suggests recommendations for future research and lists the study limitations.

3.1 Pedagogical Implications

This research proves a number of pedagogical implications that can predominantly ameliorate the EFL learning in higher education:

- Teachers of the language should encourage students to think critically, instead of consuming knowledge passively, through incorporating activities that promote CTS into their instruction. Activities such as encouraging students to identify and analyse the underlying assumptions, biases and fallacies in arguments.
- Teachers can help students develop their IC skills through instructional strategies that explicitly teach the different types of irony and provide opportunities for students to practice identifying and interpreting examples for each type.
- Using multimedia resources such as videos, podcasts and cartoons that incorporate examples of irony to help student develop their comprehension skills in a more engaging and interactive way.
- The inclusion of CT has to be perceived as an integral module to raise the students' IC.
- To support the development of both CT and IC skills, educators may want to consider incorporating cross-disciplinary activities into their instruction, such as analysing examples of irony in literature, media and current events.
- It has been proved that deduction skill is correlated with IC, hence, teachers should repeatedly clarify to the learners the significance of improving this skill and vary classroom activities to effectively deal with this touchy competence.
- Educators ought to ameliorate students' awareness of the importance of developing their natural and everyday language use.
- Teachers' instruction must match CTS and ironic utterances in real life situations of the English environment.

3.2 Limitations

As with any research endeavour, the current study, exploring the relationship between CT and IC, is not immune to limitations that could impact the validity of its findings. Initially, the sample size for both correlational and descriptive studies is relatively small to make generalizations to other contexts. Additionally, the tools used to measure CT and IC may not be fully comprehensive, and there may be other factors that contribute to these constructs that were not accounted for in the study. Moreover, due to time constraints, the researchers adopted the testing of reliability and validity for CT test and questionnaire from a similar study with the same context. Furthermore, the researchers faced some unexpected obstacles on the side of participants. Surprisingly, many teachers and students were not willing to take part in this research, thus, the study did not include a pilot phase to test and refine research procedures. Apart from this, some teachers took a long time to answer the questionnaire, while others never gave it back. For this reason, the sample of the descriptive study was reduced from fifteen (15) to only eight (8) teachers, hence, the results may not be applicable beyond the specific conditions and sample characteristics examined in this study.

3.3 Recommendations for Further Research

To build upon the insights gained from the current study, we suggest the following recommendations for future research:

- It is suggested for further studies to deal with a larger sample in order to fully generalize the findings.
- It is recommended to extend the reliability and validity for both CT and IC tests.
- To enhance the reliability and validity of data, further investigations can utilize multiple data collection instruments for measuring CT and IC.

- As the current study is correlational, it is limited in its ability to establish causal relationships between CT and IC. Therefore, future researchers may consider conducting an experimental research that allows for a greater control over extraneous variables and provides a more in-depth understanding of the underlying mechanisms that govern the relationship between CT and IC.
- Based on the findings of the current study, which revealed a significant correlation between deduction and IC, it is recommended that future research can conduct a more detailed investigation into the nature of this relationship. Specifically, researchers could explore the underlying mechanisms that drive this correlation, such as the cognitive processes involved in deductive reasoning and the extent to which they facilitate IC.
- Future researchers can also investigate the potential predicators of IC, such as working memory capacity, attentional control and metacognitive awareness. By examining these factors, they can inform the development of a more effective educational interventions.

Conclusion

This practical chapter introduced the methodological framework for exploring the relationship between CT and IC among third year EFL learners at M'sila University. It provided an overview of the fundamental research concepts used in the study, such as research design, methods, population, sample and data collection tools. Moreover, the chapter presented data analysis procedures and statistical tools and discussed the main findings, in which the study revealed a strong significant correlation between CT and IC. Furthermore, the researchers proposed some pedagogical implications to improve teaching methods and promote CTS among students. Then, they listed the limitations that may have

influenced the results of the study. Lastly, they suggested a number of recommendations for future researchers, in which areas where more investigation is needed are highlighted.

General Conclusion

The recent trends in the field of applied linguistics have directed their focus toward the pivotal role of language in its natural use to create a successful communication and being able to adapt language to its context. Sometimes, it is impossible to interpret the spoken or written language literally. Indeed, the illocutions can be ironically understood.

The core endeavour of EFL learners is being relevant and aware to the communicative behaviours since they are learning language different from their mother tongue and culture. Although language and culture are greatly intertwined and despite the researchers' efforts to explore how language is used in real-life situations where cultural norms, social context are highly taken into the account; however, teaching these criteria is more challenging. For such reason, the basic aim in this research was to identify to what extent EFL learners would sound pertinent in comprehending certain ironic utterances, as well as to investigate their critical thinking as a sensitive and a widespread aspect that has attracted the practitioners' attention in higher education. Overall, this research addressed two potential pillars of applied linguistics, pragmatics and cognitive linguistics.

What is more, this research was mainly carried out to determine the correlation between irony comprehension and critical thinking skills. Thirty (30) students were selected as a sample from a wider population of third year English students at M'sila University to which the results will be generalized. For the purpose of achieving this research, three instruments of data collection were used: California Critical Thinking Skills Test &Watson-Glaser to test their critical thinking skills and Irony Comprehension Test for the ironic perception, which were submitted to EFL students at M'sila University. In addition to a questionnaire, was handed to teachers from the same department.

Throughout this research, it is validated now that there is a strong positive statistically significant correlation between the variables. In recapitulation, Students who have lower level of critical thinking skills are less able to comprehend irony; while those who have higher level of critical thinking skills are more able to detect the intended ironic meaning.

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Appendices

Appendix A: Critical Thinking Test

Dear students,
The current test aims to investigate how well you do a particular kind of thinking. We ensure you that all your provided information will be used for academic purposes. Thank you very much for your collaboration. All responses will be kept anonymous.

California Critical Thinking (CCTST), and Watson Glaser Critical Thinking Appraisal (WG)

This practice critical thinking test will assess your ability to make inferences and assumptions and to reason logically with arguments. The test comprises the following four sections:
1. Inferences
2. Deductions
3. Interpreting Information
4. Analysing arguments

Read the instructions preceding each section and answer the questions.

Section one : INFERENCES

Definition: an inference is a conclusion that is not explicitly stated and it is reached on the basis of evidence and reasoning.

Instruction: assume that the statement is correct and evaluate whether the inference is true. There are five possibilities, use one of them to decide on the degree of truth of each inference.
Definitely True – from the facts given there is no reasonable possibility of it being incorrect.
Probably True – in light of the facts given, it is more likely to be true than false.
Insufficient data to say whether or not it is true – in light of the facts given it is impossible to Say whether it is true or not.
Probably False – in lights of the facts given, it is more likely to be false than true.
Definitely False – from the facts given, there is no reasonable possibility of it being true.

Statement 01: A famous psychology experiment conducted by John B. Watson demonstrates that people, like animals, can be conditioned and trained to respond in a particular way to certain stimulations. Watson gave an eleven months old baby named Albert a soft, furry and white rat. Each time Albert tries to stroke the rat, Dr. Watson hit a metal bar with a hammer. Before long, Albert was afraid not only from white rats but also of white rabbits, white dogs, and white fur coat. He even screamed at the sight of Santa Claus Mask

Inference 1: Before the experiment, Albert was not afraid of white rats

❑True

❑Probably True

❑More Information Required

❑Probably False

❑False

Inference2: Albert had been familiar with rats before the experiment

❑True

❑Probably True

❑More Information Required

❑Probably False

❑False

Inference3: Albert became afraid of everything white

❑True

❑Probably True

❑More Information Required

❑Probably False

❑False

***Statement 2*:** **Divorce remains a taboo in the so-called Arab- Muslim societies**.

Inference 1: Religion forbids divorce

❑True

❑Probably True

❑More Information Required

❑Probably False

❑False

Inference 2: Divorced men and women are badly judged in these societies.

❑True

❑Probably True

❑More Information Required

❑Probably False

❑False

Inference 03: Good women do not divorce.

❑True

❑Probably True

❑More Information Required

❑Probably False

❑False

Section Two : **DEDUCTION**

Definition: deduction consists in drawing a conclusion, by referring to premises
Instruction: identify whether the conclusion logically follows from the statement

Statement 01: **It is a common strategy to advertise clothes and shoes as "Spanish" or "Turkish" as this is more likely to result in successful sales.**

Conclusion one: Spanish and Turkish products are more expensive

❑Conclusion Follows

❑Conclusion Does Not Follow

Conclusion two: Spanish and Turkish products are of better quality

❑Conclusion Follows

❑Conclusion Does Not Follow

Conclusion three: Clothes and shoes are more likely to be sold if they are advertised as Spanish or Turkish.

❑Conclusion Follows

❑Conclusion Does Not Follow

Statement02: It sometimes rains heavily in November. Roads are always flooded when it rains in Algerian cities. Therefore:

Conclusion one: Roads are never blocked on days when it is not raining.

❑Conclusion Follows

❑Conclusion Does Not Follow

Conclusion two: Roads are sometimes closed in November

❑Conclusion Follows

❑Conclusion Does Not Follow

Conclusion three: Sometimes roads are open in November.

❑Conclusion Follows

❑Conclusion Does Not Follow

Section three: EVALUATION /ANALYSIS of an Argument

Definition: is the ability to evaluate the strength of an argument. A strong argument is Important and directly related to the question.
Instruction: by referring to the statement, decide whether each argument is strong or weak. Assume each statement bellow is true.

Statement 01: **Is television an effective tool for building children's minds?**

Argument one: No, television shortens the attention span of the young

- ❑Strong Argument
- ❑Weak Argument

Argument two: Yes, television helps us discover the world just by sitting at one place.

- ❑Strong Argument
- ❑Weak Argument

Argument three: Yes, the different programs on television help us imagine better.

- ❑Strong Argument
- ❑Weak Argument

Statement 02: Does the change of governments depend on a change of peoples?

Argument one: yes, governments are set via democratic elections.

- ❑Strong
- ❑Weak

Argument two: No, the most governments unjustly hold power.

- ❑Strong
- ❑Weak

Argument three: Yes, the more people are aware and educated, the more they can decide their destiny.

- ❑Strong
- ❑Weak

Section four : INTERPRETATION

Definition: interpretation consists of understanding the precise meaning of a piece of information and evaluate whether the conclusion can logically follow from it.

Instruction: assume the information in the statement is true and then decide whether or not each of the proposed conclusions logically flows

Statement 01: Sports activities affect the incidence of stress.

Conclusion 1: Sport eliminates the stress.

- ❑Conclusion Follows
- ❑Conclusion Does Not Follow

Conclusion 2: Lack of sport generates stress.

- ❑Conclusion Follows
- ❑Conclusion Does Not Follow

Conclusion 3: Sportive people never experience stress.

- ❑Conclusion Follows
- ❑Conclusion Does Not Follow

Statement 02: drug addiction is a chronic disease characterized by research and use that are difficult to control, despite the harmful consequences.

Conclusion1: People who use drugs lack moral principles.

- ❑Conclusion follows
- ❑Conclusion does not follow

Conclusion2: drugs change the brain in ways that make quitting hard.

- ❑Conclusion follows
- ❑Conclusion does not follow

Conclusion3: treatments can help people recover from drug addiction.

- ❑Conclusion follows
- ❑Conclusion does not follow

Appendix B: Irony Comprehension Test

Dear participants,
You are kindly invited to take part in this research. Your contribution will be highly appreciated for the study. All the data collected through this test will be anonymously reported in the researchers' dissertation, and the provided answers will be kept totally confidential. Thank you in advance for your time and collaboration.

Section one: Irony Detection.

Read the following situations carefully. Then, indicate your answer by ticking the most suitable response for you.

- In negative irony we criticize by praising (a device for criticism).
- In positive irony we praise by criticizing (a device for praising).

Situation	Negative irony	Positive irony
1- Heather is late meeting up with Sam. When she finally arrives Sam says: "Right on time again Heather"		
2- Tom is in a restaurant with his friend. He has ordered a pasta dish. When the meal comes it is a rice dish. He says to his friend: "Hey, this just what I wanted"		
3- Martin attended a lecture given by his friend Susan. After the lecture Martin heard some nice comments about the lecture from a member of the audience. When Martin next saw Susan, he said to her: "You really know how to bore an audience"		
4- Mary was acting in a play. Simon has just read a very critical review about the play in the local newspaper. Simon says to his friend Janice: "Mary must be a great actor"		
5- Sam has just bought a new suit. It is very bright pink. Tom says to Sam: "Hey, you need a bit more colour in your clothes, you know"		
6- Martin has moved into a new apartment. His friend Angela wanted to visit him and so he gave her some simple directions. But Angela manages to lose her way. When Martin sees Angela he says to her: "You have a really great sense of direction, don't you?"		

7- Dave has just bought a new sports car and is taking his friend Sam for a drive. Dave drives crazily fast and Sam is impressed. Sam says to Dave: "This car is a bit on the slow side, isn't it"		
8- Simon is in the library looking for a book with a librarian. They found it but in in the wrong place on the shelves. Simon says to the librarian: "This is a great library, isn't it?"		
9- Martin and Simon went to see their close friend Peter playing soccer. They saw Peter scores a goal and helps his side to win. Martin said to Simon: "Peter is an absolutely useless soccer player"		
10- Peter was feeling sick but he went ahead and picked up his close friend, Chris, to take him to college as he promised. Later that day, Chris said to his friend: "You can't just trust Peter to keep his promise"		

Section two: Irony Comprehension.

To grasp a full understanding of irony, read each scenario with its context carefully. Then, write your own interpretation of the intended meaning for each underlined statement.

Scenario 1: A tourist enters a bookstore in Germany and asks for the book *Mein Kampf*. The bookseller replies: *"Mein Kampf?* Of course, it is a best-seller in this country*!"*
Context: *Mein Kampf* has very negative cultural connotations in Germany due to its association with the Nazi ideology.
Interpretation:
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Scenario 2: A man tells a friend: "Yeah, right, today's weather is horrible"
Context: the friend predicted that the weather would be terrible but it is actually nice.
Interpretation:
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Scenario 3: Phoebe: "Yeah, I'm a big surprise", remark uttered by Phoebe as a reply to Mrs. Knight's comment about how unexpected her appearance is.
Context: Mrs. Knight's appearance is shocking because she is much older than her boyfriend.
Interpretation:
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Scenario 4: Employee B to employee A: "You always seem to be chilling". A to B: "Yeah, right, I sit around doing nothing while you do all work as usual"

Context: A is a hardworking employee, and B is a lazy one.
Interpretation:
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Scenario 5: Mother to 7 years old child: "Indeed, these politicians are always so generous with us, citizens"
Context: Mother and child watching the news, they learn about one more case of corruption.
Interpretation:
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Scenario 6: Sister to brother, who has passes two courses out of ten: "Mum will be thrilled about your academic success"
Context: The brother typically fails all courses.
Interpretation:
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Scenario7: A to B: "Mary is so kind". B to A: "Yeah, right, Mary is an angel, every inch of her!"
Context: Mary is proven to be a mean person.
Interpretation:
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Scenario 8: Son to father: "Thanks a lot dad! This year's bicycle is even better than last year's"
Context: The father had promised his son to buy him a bicycle for his birthday year after year but it never happens.
Interpretation:
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Scenario 9: Mathew to Lawrence: "Remember that wonderful gesture Lillian had with mum?"
Context: The previous year, Lillian tactlessly told their mother that the prawns tasted terrible.
Interpretation:
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Scenario 10: Ross and Rachel are trying to push a coach upstairs and are having a trouble because the coach is too big. Ross tries to solve the situation by drawing a sketch, but the problem remains. Ross to Rachel: "I can't believe it didn't work". Rachel to Ross: "I know, me neither, I mean, you draw a sketch!"

Context: Ross is a character in the series "Friends" known for being too theoretical and always failing in practical life.

Interpretation:

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Appendix C: Teachers' Questionnaire about Their Perceptions of Developing Critical Thinking among Students.

Dear Teachers,
We would be so grateful if you could answer the following questionnaire that aims to examine your perceptions and beliefs about critical thinking. Your answers would be a great help for our master research and your identity will be kept anonymous. Thank you in advance for your time and collaboration.

1- What do you think critical thinking (CT) is?

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2- What are, in your opinion, the benefits of using CT in a language classroom?

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3- Do you think you could bring about CT in your classroom?

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4- What are the methods and tools that you use or could use to enhance CT among your students?

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5- Specifically, what are the things you do or could do to get your students think critically?

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6- Is it necessary to provide students with all information about the subject to teach?

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Why and why not?
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7- Do you think it is possible to apply CT into your lessons if you are required to?

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Why and why not?
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الملخص

في عالمنا المعقد والمترابط اليوم ، يتجاوز التواصل الفعّال مجرد الفهم السطحي، حيث يشمل التفسيرات المعقدة والمعاني المتداخلة. مع تداخل هذه المعاني في ساحة التواصل المتعددة الجوانب، يصبح استكشاف العمليات الإدراكية الأساسية وسيلة استقصائية جذابة. وبناءً على ذلك، تستكشف هذه الدراسة العلاقة بين مستويات التفكير النقدي لدى متعلمي اللغة الإنجليزية كلغة أجنبية في الجزائر وقدرتهم على فهم السخرية. بالإضافة إلى ذلك، تستقصي الدراسة معتقدات وآراء أساتذة اللغة الإنجليزية كلغة أجنبية تجاه تطوير التفكير النقدي لدى الطلاب. ومن أجل تحقيق هذه الأهداف، اختار الباحثون تصميمًا مختلطًا، يجمع بين الطرائق الارتباطية والوصفية. أولاً، تم إجراء الدراسة الارتباطية مع ثلاثين (30) طالبًا من السنة الثالثة في تخصص اللغة الإنجليزية كلغة أجنبية في جامعة المسيلة. في هذا الصدد، تم استخدام أداتين لجمع البيانات، وهما اختبار مهارات التفكير النقدي في كاليفورنيا (CCTST) واختبار تقييم واتسون-جلايزر (WG) بالإضافة إلى اختبار فهم السخرية (ICT). أما بالنسبة للدراسة الوصفية، تم جمع البيانات من ثمانية (8) أساتذة للغة الإنجليزية كلغة أجنبية في جامعة المسيلة باستخدام استبيان مكتوب. من خلال التحليل الإحصائي، المعالج في برنامج الإحصاءات الاجتماعية (SPSS) الإصدار 24، تظهر علاقة إيجابية قوية، بقيمة بيرسون تبلغ 0.708، بين التفكير النقدي وفهم السخرية. بالإضافة إلى ذلك، أكد معظم الأساتذة أهمية دمج التفكير النقدي في دروس تعلم اللغة الإنجليزية كلغة أجنبية. وبالتالي، تؤكد هذه النتائج أهمية تنمية مهارات التفكير النقدي في السياقات التعليمية، ولا سيما في فصول تعلم اللغة الإنجليزية كلغة أجنبية، حيث تؤثر بشكل إيجابي على القدرة على التعرف وتفسير العناصر الساخرة الموجودة في التواصل اليومي.

الكلمات المفتاحية: التفكير النقدي، مهارات التفكير النقدي، فهم السخرية، طلبة اللغة الإنجليزية كلغة أجنبية، أساتذة اللغة الإنجليزية كلغة أجنبية.

RÉSUMÉ

Dans le monde complexe et interconnecté d'aujourd'hui, la communication efficace dépasse la simple compréhension superficielle et englobe des interprétations complexes et des significations en couches. Alors que ces significations s'entremêlent dans le paysage de la communication aux multiples facettes, l'exploration des processus cognitifs sous-jacents devient un domaine d'enquête captivant. Dans cette optique, la présente étude explore la relation entre le niveau de pensée critique (PC) des apprenants algériens de l'anglais langue étrangère (ALE) et leur capacité à comprendre l'ironie. De plus, l'étude examine les croyances et attitudes des enseignants d'ALE concernant le développement de la PC chez les étudiants. Afin d'atteindre ces objectifs, les chercheurs ont opté pour une conception mixte, combinant des méthodes corrélationnelles et descriptives. Tout d'abord, l'étude corrélationnelle a été menée auprès de trente étudiants de troisième année de licence en ALE à l'université de M'sila. À cet égard, deux (30) outils de collecte de données ont été utilisés, à savoir le California Critical Thinking Skills Test (CCTST) et le Watson-Glaser Appraisal (WG) ainsi que le Irony Comprehension Test (ICT). Quant à l'étude descriptive, des données ont été collectées auprès de huit (8) enseignants d'ALE à l'université de M'sila, à l'aide d'un questionnaire écrit À travers une analyse statistique, traitée dans le logiciel statistique pour les sciences sociales (SPSS) version 24, une forte corrélation positive, avec une valeur de Pearson de 0,708, est révélée entre CT et compréhension de l'ironie (IC). De plus, la plupart des enseignants ont souligné l'importance d'intégrer la CT dans les cours d'anglais langue étrangère (EFL). Ces résultats soulignent donc l'importance de favoriser les compétences de pensée critique (CTS) dans les contextes éducatifs, en particulier dans les salles de classe d'EFL, car elles ont un impact positif sur la capacité à reconnaître et interpréter efficacement les .éléments ironiques présents dans la communication quotidienne

Mots-clés : Pensée critique, Compétences de pensée critique, Compréhension de l'ironie, Apprenants d'EFL, Enseignants d'EFL.