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USING LANGUAGE TASKS TO ENHANCE LEARNERS' CRITICAL THINKING

The Case of First Year Students at l'Ecole Normale Supérieure de Constantine

A Thesis Submitted to the Department of Arts and the English Language in Candidacy for the Degree of Doctorat 'ES-Sciences' in Applied Linguistics and Language Teaching

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Dedication

To the late *Mohamed Tahar Asses*

A rare and unique human being whose fierce critical eye I immensely admired

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Over the years, several people have supported my journey through their encouragement, mentoring, and modelling. I would like to give special thanks to them.

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I would like to express my deepest appreciation to the ones for whom I do everything, the ones who matter to me more than I matter to myself, the ones who always loved me in their own ways: my parents and my siblings.

It would be very remiss of me not to mention my dear friends, colleagues, and students at the ENSC; the eight years I spent with you will be etched in my memory, forever.

Abstract

Incorporating critical thinking instruction in higher education seems, more than ever before, a requirement to prepare the younger generation for the challenges of today's digitalised world. The present research aims to adapt the first-year English oral skill course at l'Ecole Normale Supérieure de Constantine (ENSC) to make it task-based and critical-thinking-geared via finely-tuning the usual activities. It is hypothesised, first, that if first year oral skill teachers at the ENSC had a positive attitude towards critical thinking, they would be willing to incorporate it in their lessons. Second, if they infused critical thinking in their lessons, they would develop learners' communicative competence and their critical thinking. Last, if their learners received critical thinking instruction via a task-based course, their critical thinking skills would improve. A questionnaire is administered to the teachers about their classroom practices, and their attitudes towards critical thinking. Then, two first-year English ENSC groups participated in the experiment, a control group and an experimental one. The former received regular instruction whereas the latter took the adapted course. They both sat for a critical thinking test prior to the treatment and another one subsequently. The results show that the teachers have a positive attitude towards critical thinking and its incorporation in the oral skill course. They show that the course *can* be modified to make it task-based and critical-thinking-directed without altering the course content or the objectives. They also reveal that critical thinking can be taught and measured and that the experimental group learners' critical thinking improved significantly. Henceforth, the incorporation of critical thinking instruction is recommended through some guidelines provided to teachers, learners, university pedagogical authorities, material designers, and decision makers.

Keywords: activity, critical thinking, critical thinking instruction, critical thinking test, oral skill, task, task-based teaching

List of Abbreviations

CG: Control Group

CLT: Communicative Language Teaching

COPTS: Communication Oral Peer Work Tasks

EFL: English as a Foreign Language

ENSC: Ecole Normale Supérieure de Constantine

ExG: Experimental Group

1TC2: First Year Group Two

1TC4: First Year Group Four

MCQ: Multiple Choice Questions

P21: Partnership for 21st Century Skills

SD: Standard Deviation

SLA: Second Language Acquisition

SPSS: Statistical Package For Social Sciences

TBLT: Task-based Language Teaching

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GENERAL INTRODUCTION

General Introduction

Background of the Study

Universities are sites to learn citizenship; they prepare students to be active citizens within civil society. As such, "higher education is seen as engaged in the transformation of the participant, in two senses, one that effects changes in the participants and thereby enhances them, the other, which empowers them" (Brockbank & McGill, 2007, p.56). Studies done by governmental agencies such as the National Commission on Excellence in Education, and the U.S. Department of Education, however, have found that most students at all levels are unable to think effectively and cannot understand challenging texts or complex issues (Bandyopadhyay & Szostek, 2019, p.260). Students' reasoning is said to be illogical; they do not critically assess arguments, and they solve problems in a rote manner (ibid.). Because of these reasons, and many others, today's youth are suffering from a high rate of unemployment, especially in third work countries and the region of North Africa (British Council, 2016, p.1).

Because the challenge of higher education is to truly prepare students for the workplace, arming students with mere knowledge and abilities no more suffices. In this day and age, a dichotomy is established between 'hard' skills (technical subject knowledge, and practical abilities) and 'soft' skills', which can encompass practically anything from a range of skills and abilities related to an individual's emotional intelligence and personality traits, to motivations and preferences that are valued in the labour market (Heckman & Kautz, 2012; Pritchard, 2013; as cited in British Council, 2016, p.5). Though people might disagree regarding the skills and abilities most needed in the workplace, what matters is that there exists a general conviction on the part of the employers that soft skills in general and critical thinking in particular are essential for an employee's ability to effectively carry out their job (Caudron, 1999, as cited in British Council, 2016, p.5). Therefore, the ability to think critically should be a cornerstone of higher

education (Atkinson, 1997; Davidson, 1998; Thompson, 2002; Day, 2003, as cited in Thadphoothon, 2005, p.7). If being able to think critically and reflectively is a desirable outcome of learning, incorporating critical thinking in higher education seems to be the right thing to do in order to satisfy the labour market on the one hand, and produce active, responsible citizens on the other.

Critical thinking is defined as "reflective thinking that is focused on deciding what to believe or do" (Ennis, 1987, p.10). It is the ability to communicate one's and/or others' ideas, argue for them, and ultimately make decisions. The decisions that result from critical thinking are reflected in the change in one's opinions, attitudes, and behaviours, thus making individuals 'change agents' who participate in the economic, social, and environmental development and sustainability.

Statement of the Problem

In the USA, critical thinking became part of the syllabus during the last decade of the 20th century. In Algeria, however, things were different. In her book entitled *The Algerian School from Ibn Badis to Pavlov*, Greffou blames the school for hindering any attempt by the child to have a healthy and productive cognitive development, preventing him from describing a situation or simply imagining it (Ab, 2017). Critical thinking did not figure among the aims of education (Organisation of Education and Training Ordinance 1976) till the second reform (Orientation on National Education Act 2008) which took place in 2003/2004. It is then that 'developing intellectual abilities' of learners (section 4), their 'observation, analysis, reasoning, and problem-solving skills' (section 45), and their critical thinking skills (Ministry of Education, n.d.) were cited in the general aims of education. With this change in perspective came a change in the approach. Algeria moved to a competency-based approach to teaching; the aim of which was to "teach students how to communicate, to be integrated in a globalised world, and to perform different activities related to their professional life" (Bellour, 2017, p.18).

Whether this approach has been successful is, to say the least, doubtful; many Algerian researchers (Benzerroug, 2012; Bellour, 2017; Djerouane & Bensafi, 2022) affirm that it has been a major failure. The problem of students' lack of soft skills in general and critical thinking in particular remains as "data suggests that the education system in Algeria is failing to provide appropriate skills to higher education graduates" (British Council, 2016, p.27). Additionally, with the technological development the world has known, internet has provided learners with information at their fingertips; "the real work lies in the ability to organize information and use sound reasoning to solve problems" (Hohmann & Grillo, 2014, p.37). Therefore, more than ever, it has become mandatory to teach learners how to make the best use of the information available. This could be achieved "if one learns to read, hear, or view them critically" (Paul & Elder, 2008b, p.16).

The answer to this conundrum lies in the infusion of critical thinking instruction at university level. Many courses at the ENSC could serve this aim. The ENSC provides the educational system with qualified teachers for both middle and secondary school. Courses are elaborated with the aim of developing language skills during the first two years and introducing pedagogical subjects during the third, fourth, and fifth years (Hamada, 2007). Of all the courses in the ENSC, the present research makes use of the oral skill course since, with 135 hours of annual volume and versatile content, it allows for the implementation of a critical-thinking-based instruction. Because there exists a number of critical thinking models and a myriad of methods can be used to teach it, a specific framework needed to be adopted. It is common knowledge that "tasks should ideally involve learners in reasoning –making connections between pieces of information, deducing new information, and evaluating information" (Ellis, 2003, p. 7); an oral skill task-based course that develops learners' critical thinking all while developing their communicative competence and presentation skills was therefore settled on.

Aims of the Study

The present study aims to shed light on the importance of critical thinking in today's world and the necessity to incorporate it in higher education. Perfectly aware of the intricacy to teach critical thinking formally -as a separate module-, the main objective of this work is to infuse critical thinking instruction in already-established modules at university. In the English department at l'Ecole Normale Supérieure de Constantine (ENSC), the oral skill course provides an excellent opportunity to infuse critical thinking instruction. This research work, then, aims at adapting the oral skill course, with a view of making it task-based, in order to enhance learners' critical thinking. This being said, the newly designed course should, in many ways, be similar to the already established one in order to avoid resistance to it from learners, teachers, and university pedagogical authorities.

Research Questions

The present work is motivated by many questions. Can critical thinking be taught to learners? In case the answer is yes, how? Can it be infused in the oral skill course? In case the answer is yes, would a task-based instruction meet this aim without altering the objectives and the content of the course? How would the oral skill teachers perceive such an infusion? What is their perception of critical thinking and its importance in higher education? Is the outcome of critical thinking infusion observable and hence measurable? What are the challenges of incorporating critical thinking in higher education? How good is learners' critical thinking? Does the incorporation of critical thinking instruction help develop learners' critical thinking? Answering these research questions will provide an insight on ways to improve the quality of university graduates and to prepare them to cooperate and compete in the job market, as well as to function as active and effective citizens in society.

Research Hypotheses

The present research is based on presenting first year English ENSC learners with language tasks that aim at developing their communicative competence and presentation skills while at the same time prompting their critical thinking. In light of that, the researcher hypothesises that:

1. If teachers had a positive attitude towards critical thinking, they would be willing/disposed to incorporate it in their lessons.
2. If first year oral skill teachers at the ENSC infused critical thinking in their lessons, they would develop learners' communicative competence and communication skills in addition to their critical thinking.
3. If first-year English ENSC learners received systematic, purposeful critical thinking instruction via a task-based oral skill course, their critical thinking skills and traits would improve and their thinking errors would considerably abate.

Research Methodology and Tools

To answer the aforementioned research questions and test its hypotheses, the research applies a quasi-experimental design which combines quantitative and qualitative data gathering tools each utilised for a specific purpose. A questionnaire was addressed to first year English oral skill teachers at the ENSC to unveil their views of and attitudes towards critical thinking and its incorporation in higher education. The questionnaire also aims at delineating their classroom practices. The findings of the questionnaire are used to guide the adaptation and implementation of the oral skill course with the view of making it as similar to the old one as possible. A critical thinking pre-test is then used to measure first year ENSC English learners' critical thinking prior to the experiment. Right after taking the pre-test, the sample starts receiving instruction. The control group is taught in the usual way whereas the experimental group is taught following the new adapted oral skill course. Instruction, lasting six weeks, is followed by a critical thinking post-test that measures learners' improvement. A comparison is

then carried between the pre-test and post-test results to check the validity of the second and third research hypotheses. It is worth noting that there is a dearth of critical thinking tests, and that the ones available are costly. For that reason, the researcher resorted to designing her own critical thinking test.

Population and Sampling

In order to check the research hypotheses, first year oral skill teachers at the ENS and first year English students at the ENSC make the population of the study. The choice of those students is basically dictated by the fact that the first-year oral skill course is versatile and flexible. Its eighteen hours per month grant both the time and learners' accessibility needed in any work of this kind. From the target population, a sample of two first year English groups is chosen randomly. The sample is classified under an experimental group i.e., the one receiving the treatment and a control group (taught in the traditional way). The two groups are treated exactly alike except for the independent variable (critical thinking instruction).

Structure of the Study

The present work is divided into eight chapters, four of which are theoretical and the rest practical. The first chapter sheds light on critical thinking, its definition, components, benefits, models, and some of its concepts. The second chapter gives an insightful account of the critical thinking teaching process in terms of objectives, content, and assessment. The third chapter provides background knowledge about tasks in language pedagogy. It looks at their components, characteristics, types, and classifications. The fourth chapter portrays the design, and integration of tasks in language syllabi, and their benefits in terms of learners' cognitive achievement. In the practical part, chapter five is dedicated to the description of the research approach, method, tools, and data analysis procedures. The sixth chapter centres on a description of the teachers' questionnaire and an analysis of its data. Chapter seven provides a

detailed description of the experiment along with the results of the two tests administered to the subjects. The last chapter includes pedagogical implications and recommendations made by the researcher.

CHAPTER ONE: CRITICAL THINKING

Chapter One: Critical Thinking

Introduction

Though early traces of critical thinking principles and practices can be found in the works of Socrates (Elder & Paul, 2009), it was not until the 1970s that critical thinking made its formal appearance in the USA (Sproule, 1987). For a long time though, critical thinking continued to be a mystifying notion; researchers and scholars in philosophy, psychology, and, later on, pedagogy made numerous attempts to bring this puzzling concept to the light. Recently, critical thinking has gained so much attention and popularity that there is an abundance of literature regarding it. This chapter provides an overview of critical thinking. It opens with its definition, components, and importance in addition to the critical thinking process, and some critical thinking models. Characteristics of critical thinkers and their qualities are then displayed, followed by some critical thinking concepts. The chapter then moves to the relationship between thinking, cognition, metacognition, and critical thinking, highlights the role of Bloom's taxonomy in critical thinking, and closes with barriers to critical thinking.

1.1. Definition of Critical Thinking

"There is no consensus on a definition of critical thinking" (Fasko, 2003, p.8). This is due to the fact that critical thinking is "a mystified concept" (Minnich, 1990, as cited in Dunn et al., 2008, p. 51) in the sense that many people claim to know what it is but rare are those who can provide a tangible definition. Consequently, during the last two decades, many scholars in the fields of psychology and education have tried to define it.

Etymologically speaking, the word 'critical' derives from two Greek roots: kriticos which means discerning judgement and criterion which means standards (Paul & Elder, 2007b, p.71). 'Critical' then means discerning judgement based on standards.

Some scholars emphasise the idea of scepticism while defining critical thinking. Lipman, for instance, defines critical thinking as "healthy scepticism" (1991, p.2), and McPeck agrees with this notion and adds that critical thinking refers to the "propensity and skills to engage in an activity with reflective scepticism" (McPeck, 1981, p. 7). Accordingly, critical thinking requires having a tendency to take nothing for granted, and to question everything one sees, reads, hears...

Scholars such as Baron and Stenberg (1987), Edman (2000), and Halpern (1998) emphasise the idea that critical thinking must lead to successful outcomes (Dunn et al., 2008, p. 36). Halpern, for instance, defines critical thinking as "the use of those cognitive skills or strategies that increase the probability of a desirable **outcome**…thinking that is **purposeful**, reasoned, and **goal-directed**" (Halpern, 2003, p.6) (Emphasis added).

Other scholars highlight the evaluative aspect of critical thinking. Some focus on taking charge of one's own thinking before evaluating the thinking of others; hence, critical thinking is seen as the ability of individuals to "develop appropriate criteria and standards for analysing their own thinking" (Shirkhani & Fahimi, 2011, p.111) whereas others maintain that critical thinking involves "the careful examination and evaluation of beliefs and actions" of oneself and the others (Gambrill & Gibbs, 2009, p.4). For Bensley, critical thinking involves "the evaluation of evidence relevant to a claim so that a sound conclusion can be drawn from the evidence" (Bensley, 1998, p.5). Diestler (2001) agrees with this definition, but specifies that specific criteria need to be used to achieve this (Diestler, 2001, p.2). Criteria, in Levy's words, refer to "an active and systematic cognitive strategy to examine, evaluate, understand events, solve problems, and make decisions on the basis of sound reasoning and valid evidence" (Levy, 1997, p.236).

The Critical Thinking Workbook adopts a different perspective of critical thinking and calls attention to the fact that critical thinking is about "improving thinking by analysing, assessing,

and reconstructing how we think" (The Critical Thinking Workbook, n.d., p.1). In other words, critical thinking is a constant process of self-correction with the ultimate aim of improving one's own thinking.

Mason (2008, p.2) classified the definitions of critical thinking in the literature according to their authors. He specified five different types of definitions.

1.1.1. Robert Ennis (1996, as cited in Mason, 2007): Ennis defends a conception of critical thinking based primarily on particular skills such as observing, inferring, generalising, reasoning, evaluating … (Mason, 2007, pp. 340-341). He maintains that the skills associated with critical thinking can be learned independently of specific disciplines and transferred later from one domain to another. For him, the process of critical thinking is deductive; it involves applying the principles and skills of critical thought to any particular discipline as long as the learner has a certain minimum competence in his/her discipline.

Ennis's definition was criticized on the basis that his conception of critical thinking focuses only on skills (Mason, 2007, p.341). More recently, Ennis defined critical thinking as "reflective thinking that is focused on describing what to believe or do" (Ennis, 2001, p.10). By reflective, Ennis relates critical thinking more to open-ended problems than straightforward ones, and by focusing it on what is describable, he directly links it to the thinking that is manifested in opinions/views concerning our surroundings, the aims we set in our lives, and the means we choose in order to achieve them (Hunter, 2009). In other words, for Ennis, critical thinking is consequential (Dunn et al., 2008, p.1) reasonable thinking in the sense that our views and decisions are based on rules and standards, and our decisions go through a thorough reasonable decision process (Lau, 2011).

1.1.2. Richard Paul: Like Ennis, Paul emphasizes the skills associated with critical thinking (Mason, 2007, pp.340-341), but distinguishes between critical thinking in the weak sense (the

ability to think critically about others' positions) and critical thinking in the strong sense (the ability to think critically about one's positions). For Paul, critical thinking in the strong sense goes beyond the skills to include humility and courage, which are essential to gain a deep knowledge of oneself. For Paul, strong critical thinking manifests itself during dialogues when an individual is confronted with people from different worldviews and cultural backgrounds. It is only then that the individual learns to see the bigger picture and to model thinking accordingly. For Paul, critical thinking is, after all, aimed at spreading tolerance and overcoming "egocentric and sociocentric thinking" (Mason, 2007, p.341).

1.1.3. John McPeck (1981): McPeck argues that critical thinking is specific to a particular discipline, and that it depends on a thorough knowledge and understanding of the content and epistemology of the discipline (what constitutes the truth of premises and the validity of arguments in that discipline, how one would apply them, what the criteria for the use of technical language in the field in argumentation are, and the like) (Mason, 2007, pp.340-341). For McPeck (1981), the process of critical thinking is inductive, in the sense that it involves inducing the principles of critical thought by generalisation, and cannot be taught independently of a particular subject matter, so one cannot be a critical thinker in the domain of nuclear physics if one knows very little about nuclear physics (Mason, 2007, pp.341-342).

1.1.4. Harvey Siegel: Siegel, for whom critical thinking means to be appropriately moved by reasons, defends both a reason assessment component in the skills domain, and a critical attitude component in the dispositional domain (Mason, 2007, pp.340-341). For Siegel, critical thinking is all about believing and acting on the basis of reasons. Critical thinking, then, has two components: the critical attitude component, which entails accepting the importance and force of reasons, and the reason assessment component, which entails abiding by the principles and skills of critical thinking.

1.1.5. Jane Roland Martin (1992): Martin, who emphasises the dispositions associated with critical thinking, suggests that critical thinking is motivated by and founded in moral perspectives and particular values (Mason, 2007, pp.340-341). In other words, even if we reach a conclusion by brilliant critical thinking, it does not follow that the conclusion is morally acceptable. Martin maintains that any question about the purpose of critical thinking should be motivated by a concern for a more humane and just world and that critical thinking needs a moral anchor. For Martin, the purpose of critical thinking is morally grounded; it is the development of a better world (Mason, 2007, p.343).

Each of the authors above defends one feature that s/he deems the most important aspect of critical thinking. For some, it is skills such as conceptualising, applying, analysing, synthesizing, or evaluating information gathered from or generated by observation, experience, reflection, reasoning, or communication (Paul & Nosich, 1993); for others, it is the dispositions such as scepticism, and the tendency to commitment; yet for others, it is knowledge of a certain domain. The truth is that critical thinking is 'analytical and deliberate' thinking (Stobaugh, 2013, p.2) that is made up of all these components: the skills of critical reasoning, a critical attitude, a moral orientation, knowledge of the concepts of critical reasoning, and knowledge of a particular discipline (Mason, 2008, p.6).

More recent definitions of critical thinking highlight the four language skills in critical thinking. For Cohen (2015), listening and speaking critically constitute an important aspect of critical thinking. After all, "in order to communicate your own ideas and views effectively, and to appreciate and analyse those of others, you need to interact with people, hearing what they are saying and responding clearly" (Cohen, 2015, p.217). Paul and Nosich ascertain that all forms of communication rely on critical thinking standards: "essays and interpretation of essays, utterances and interpretation of utterances" (Paul & Nosich, 1993, p.8).

1.2. Components of Critical Thinking

Critical thinking definitions differ in that each one of them highlights specific kinds of components. Siegel, for instance, distinguishes between the pure skills concept, and the skills plus tendencies concept. The former is based on the abilities and skills typically taught in schools and evaluated in exams to assess statements; the latter encompasses such skills/abilities, and adds the tendency to use them outside school walls in everyday life (Rezaei et al. 2011, p.2).

Paul and Elder speak of three kinds of components and maintain that critical thinking encompasses elements of thought, universal intellectual standards, and intellectual virtues (Paul & Elder, 2008a). Gambrill and Gibbs (2009) share Paul and Elder's view and sustain that critical thinking involves the use of standards in addition to skills.

Dunn et al. (2008) suggest two separate components of critical thinking. They include propensity components, and cognitive components. Propensity components refer to students' tendency towards critical thinking (critical thinking takes effort, so unless students are sufficiently motivated, teaching critical thinking will lead nowhere). Cognitive components are divided into foundation skills which refer to the cognitive level of students: higher level skills as described in Bloom's taxonomy, complex skills which include formal criticism, decision making and collaborating, and metacognitive skills (Halonen, 1995; Halpern, 2002).

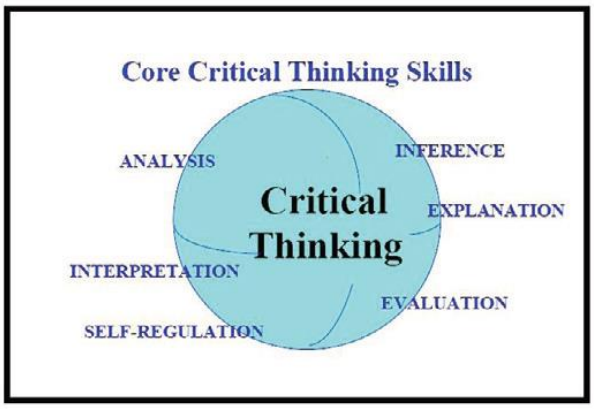
1.2.1. Skills Related to Critical Thinking

Critical thinking "involves the exercise and development of various skills aimed at bridging the gap between a current and a desired state" (Halpern, 2003, p.163). Consequently, scholars argue that critical thinking is constituted by particular skills (Mason, 2008, p. 2) that are required to "recognise, analyse and evaluate arguments" (Schlecht, 1989, p.133). Critical thinking skills are central to making sound decisions and acting on them (Paul & Nosich, 1993).

Many of them are considered “normative tenets of good thinking” (Dunn et al., 2008, p. 36). Paul and Nosich offer a whole range of critical thinking skills such as “clarifying issues, transferring insights into new contexts, analysing arguments, questioning deeply, developing criteria for evaluation, assessing solutions, refining generalisations, and evaluating the credibility of sources of information” (Paul & Nosich, 1993, p5). Gambrill and Gibbs specify evaluating evidence, considering alternative views, detecting differences and similarities, critically evaluating arguments and claims, and devising tests of claims, in addition to identifying patterns, making accurate inferences, and synthesising data (Gambrill & Gibbs, 2009, pp.4-14). Dunn et al. include the abilities to interpret texts or other forms of communication, analyse the issues and arguments presented in those texts, evaluate those arguments in the light of contextuality and methodologically appropriate criteria, discern the implications of the arguments and presuppositions upon which the arguments are based, regulate and evaluate one’s own thinking processes while doing this thinking (Dunn et al., 2008). For Halpern (2003), critical thinking, which “involves a willingness to consider evidence and alternative sources of information before drawing conclusions” (Halpern, 2003, p.117), entails skills such as assessing evidence for an assertion, applying concepts to new examples, recognising gaps in knowledge, and recognising fallacies in arguments (Halpern, 2003, p.101). Figure 01 gathers those skills as suggested by Saadati, et al. (2010).

Figure 01

Critical Thinking Skills



Note: Critical thinking skills are components of critical thinking. From *Assessing critical thinking for post-graduate students,* by Saadati, F., Tarmizi, R. A., & Bayat, S., 2010, *Procedia Social and Behavioral Sciences, 8,* p. 545 (https://doi.org/10.1016/j.sbspro.2010.12.075)

Chun (2008, p.42) specifies nine skills that constitute critical thinking:

*The first skill is related to bias, and refers to the ability to recognise potential sources of personal bias.

*The second skill is related to relevance, and is the ability to determine whether or not information is relevant to a situation.

*The third skill has to do with credibility, and refers to the ability to recognise when a source of information is not credible or reliable.

*The fourth skill, which is related to errors, refers to the ability to identify statistical or methodological errors in personal information.

*The fifth skill concerns generalisability, and entails the ability to determine whether or not information can be generalised and/or applied to other situations.

*The sixth skill has to do with missing information. It is about the ability to recognise when there is a lack of information.

*The seventh skill concerns the evaluation of connections, and highlights the ability to evaluate whether or not information is connected, and if so, whether or not the data is conflicting or complementary.

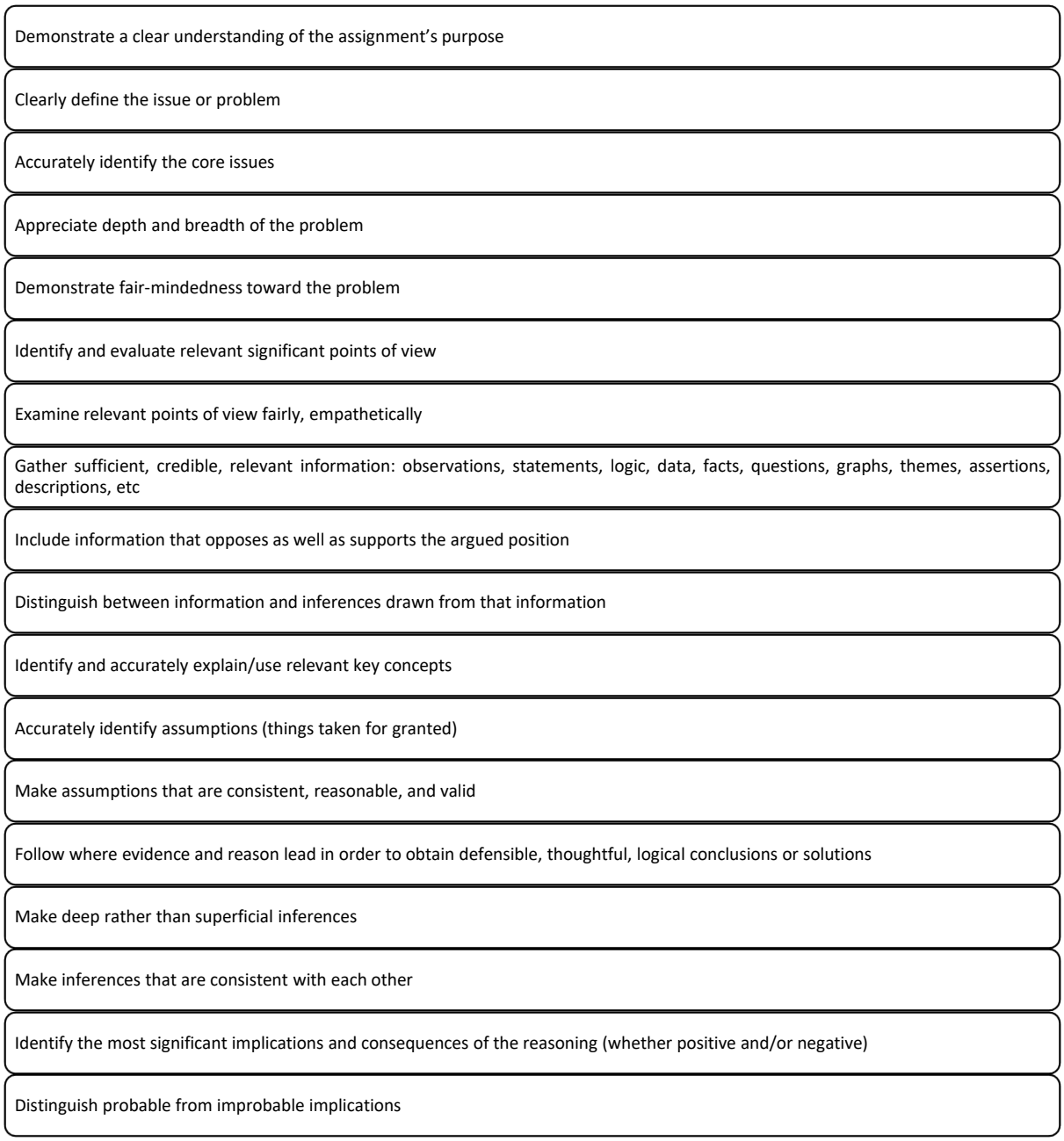
*The eighth skill is all about the evaluation of support, and refers to the ability to evaluate whether or not information supports or contradicts an argument.

*The ninth skill regards the use of evidence. It entails the ability to draw on valid evidence when formulating a decision.

The Foundation for Critical Thinking (n.d.) provides a list of all the skills related to critical thinking. Figure 02 represents those skills.

Figure 02

Cognitive Skills that Underlie Critical Thinking



Note: The critical thinking skills as suggested by the Foundation for Critical Thinking. From *Criteria for Critical Thinking Assignments*, by The Foundation for Critical Thinking, n.d., (https://www.criticalthinking.org/files/Criteria%20for%20CT%20Assignments.doc)

1.2.2. Knowledge Related to Critical Thinking

Some scholars such as Mason (2007) and Gambrill and Gibbs (2009) argue that critical thinking is constituted by substantial knowledge of particular content. For Mason, knowledge covers concepts in critical thinking such as premises, assumptions, or valid arguments (Mason, 2007). For Gambrill and Gibbs, however, knowledge is of three types: self-knowledge (which is related to being aware of one's own reasoning process, being able to evaluate one's thinking, and knowing one's strengths and weaknesses); critical thinking knowledge which encompasses Mason's view of knowledge and domain specific knowledge (Gambrill & Gibbs, 2009, p.14).

1.2.3. Elements of Thought Related to Critical Thinking

Elements of reasoning refer to "the parts of thinking embedded or pre-supposed in all reasoning" (Elder & Paul, 2009, p.25). According to Paul and Elder (2018), elements of thought include eight components: point of view, purpose, question at issue, information, interpretation and inference, concepts, assumptions, and implications and consequences.

1.2.4. Universal Intellectual Standards Related to Critical Thinking

Universal intellectual standards are "standards which should be applied to thinking to ensure its quality" (Paul & Elder, 2018, p.8). They are necessary for "making sound judgements or for reasoning well, for forming knowledge, for intelligent understanding, for thinking rationally or logically" (Elder & Paul, 2008a, p.16). For Gambrill and Gibbs, universal intellectual standards include clarity, accuracy, relevance, and completeness **(**Gambrill & Gibbs, 2009). Elder and Paul (2008a, p.7) postulate that there are "at least nine intellectual standards important to conducting affairs of everyday life". These are clarity, precision, accuracy, relevance, depth, breadth, logicalness, significance, and fairness. Accurate means being free from errors/mistakes/distortions, precise means exact to the necessary level of detail, relevant means relating to the matter at hand, deep means containing complexities, broad means encompassing

multiple viewpoints, logical means that the parts make sense together, significant means having importance, and fair means free from bias (Elder & Paul, 2008a, pp.8-11). Intellectual standards are used to analyse one's and others' thinking.

1.2.5. Traits of Mind Needed in Critical Thinking

Some scholars argue that critical thinking is most importantly related to a critical attitude or disposition, a critical orientation, or some inherent attributes (Mason, 2007). Intellectual virtues refer to "the traits of mind and character necessary for right action and thinking" (Elder & Paul, 2009, p.43); they appeared early in history in Aristotle's Nicomachean Ethics (Cohen, 2015, p.81) where he enumerated intellectual virtues such as recognising salient facts, open-mindedness in collecting and appraising evidence, fairness in evaluating arguments, and the ability to contemplate potential objections and alternative views. In Paul and Nosich's words, traits of mind encompass: independence of thought, the willingness to see objections and to recognize one's own egocentricity or ethnocentricity, intellectual humility, intellectual courage, intellectual empathy, intellectual autonomy, intellectual integrity, intellectual perseverance, confidence in reason, curiosity and fair-mindedness (Paul & Nosich, 1993, p. 5). The last two components are called open-mindedness by Gambrill and Gibbs which refers to a desire to be well informed, a tendency to think before acting, and curiosity (Gambrill & Gibbs, 2009, p.17). "The hallmark of the strong-sense critical thinker is the embodiment of and deep commitment to these intellectual virtues" (Elder & Paul, 2009, p.43).

Russell gathered most of the critical thinking components in one equation (Saadati et al., 2010, p.544): *thinking skills + knowledge + attitude = intelligent thinking*. This equation guarantees benefitting from critical thinking fully.

1.3. Benefits of Critical Thinking

Generally speaking, "people who disdain critical thinking often jump to conclusions, fail to recognize biases, and are unwilling to consider various perspectives" (Stobaugh, 2013, p.2). In other words, people who lack critical thinking skills and/or dispositions often fail to understand and organise information while addressing an issue, or even worse, they focus on trivial information instead. They lack courage to admit one's own mistakes and perseverance to go through problems. A critical thinker, on the other hand, is able to understand the world around him/her and make sound decisions (Stobaugh, 2013, p.9). S/he is able to "derive greater meaning from texts, make informed choices and formulate personal responses to social stimuli" (Jeevanantham, 2005, p. 121). Such skills/dispositions are imperative for professional development (Stobaugh, 2013, p.6) as "employers expect that their employees use reasoned judgment" (Stobaugh, 2013, p.6).

On a larger scale, critical thinking skills/dispositions are supposed to "ennoble us as human beings" (Jeevanantham, 2005, p. 121). They are "vital in sustaining a democratic government" (Stobaugh, 2013, p.4) in the sense that "citizens can effectively examine various candidates for election, decide how to act if they disagree with government measures, and carefully review opposing evidence …and make a sound decision based on facts" (Stobaugh, 2013, p.4). By producing well informed citizens able to make sound decisions, and helping to sustain societies, critical thinking definitely makes the world a better place. All those benefits reflect the importance of critical thinking in education and in life as a whole.

1.4. Importance of Critical Thinking

In the contemporary world where information is available at the click of a mouse, "one needs to become a critical consumer of the news" (Paul & Elder, 2008b, p.21). Consequently, being

critical about one's own thinking and the thinking of others is of paramount importance. Critical thinking, in this sense, enables individuals to:

1. Increase their chances of gaining knowledge; knowledge that is defined by Hunter as "justified, true belief" (Hunter, 2009, p.21).
2. Ensure that they have good reasons to believe or do what they believe or do and prevent them from doing and believing wrong or silly things (Bowell & Kemp, 2015, p.23).
3. Become autonomous and better at finding the truth (Lau, 2011, p.3).
4. Cultivate emotions, values, and personal relationships by accepting that they do not have to be right all the time. When people are right, we agree with them, but our agreement will be based on evidence not some other considerations (Lau, 2011, p.3).

1.5. The Critical Thinking Process

In order to enhance one's critical thinking skills, Watson and Glaser (1994) introduced a five-step process of critical thinking.

1. *Step One*: the first step is based on interpretation or weighing evidence and deciding if generalisations or conclusions based on the given data are warranted.
2. *Step Two*: this step involves deduction in order to determine whether certain conclusions necessarily follow from information in given statements or premises. A premise is "a proposition upon which an argument is based or from which a conclusion is drawn" (Elder & Paul, 2009, p.57).
3. *Step three*, which requires evaluation, aims to distinguish between arguments that are strong and relevant and those that are weak or irrelevant to a particular question at issue.
4. *Step Four*: addresses inferences and aims at discriminating among degrees of truth or falsity of inferences drawn from given data.

5. *Step Five*: the final step has to do with recognising unstated assumptions or presuppositions in given statements or assertions.

Taking into consideration some, or many, of the components of the critical thinking process as suggested by Watson and Glaser (1994), scholars developed a number of critical thinking models.

1.6. Critical Thinking Models

Scholars developed a number of models that facilitate the teaching and learning of critical thinking. These are:

1.6.1. The RED Model

The RED model of critical thinking (Mistry & Sharp, 2017) is made of three components: recognising assumptions, evaluating arguments, and drawing conclusions. Recognising assumptions refers to the ability to notice and question assumptions in order to separate fact from opinion. This ability helps to reveal gaps or unfounded logic to achieve a richer perspective on topics. The second component of the RED model has to do with the ability to evaluate information and arguments in order to avoid information bias. Finally, drawing conclusions encompasses the ability to arrive at conclusions that logically follow from the available evidence. According to the RED model, reaching an appropriate conclusion is tightly linked to recognising assumptions and evaluating arguments.

1.6.2. The Paul-Elder Model

Paul and Elder provide a model for critical thinking that is based on three dimensions: the affective dimension, the macro cognitive abilities, and the micro cognitive skills (Elder & Paul, 2016, pp.10-11). For a start, Paul and Elder proclaim that "all thinking is defined by the eight elements that make it up" (ibid. p.5). These elements are gathered in the following statement:

> Whenever we think, we think for a *purpose* within a *point of view* based on *assumptions* leading to *implications and consequences*. We use *concepts, ideas, and theories* to *interpret data, facts and experiences* in order to answer *questions*, solve *problems*, and resolve *issues*. (Elder & Paul, 2016, p.8)

In order to evaluate thinking (one's own or other people's), one needs to understand and apply intellectual standards (accuracy, clarity, relevance, logicalness, precision, depth, breadth, significance, and fairness). Finally, Paul and Elder call the final segment of their model intellectual traits. "These traits are the 'why' of thinking critically and are what individuals should strive for in becoming critical thinkers" (Hohmann & Grillo, 2014, p.39). Intellectual traits (also called dispositions or virtues) are important because they "determine with what insight and integrity we think" (Paul & Elder, 2015, p.36).

1.7. Characteristics of Critical Thinkers

Popper (1966) claims that our knowledge is 'fallible' and that the only way there is to detect our mistakes is through criticism. Fallibilism and criticism represent two main characteristics of knowledge. However, our criticism should be based on critical rationalism, which is defined by Mason as "an attitude of readiness to listen to critical arguments and to learn from our mistakes" (Mason, 2008, p. 93). Another characteristic of critical thinking is 'flexibility in thinking' which is defined as "the ability to use different strategies and to recognise when to use them" (Boostrom, 1992, p.35); such strategies entail gathering facts, examples, and ideas; seeing in different ways, and having an organising procedure such as trial and error (Boostrom, 1992, pp. 36-42).

These are not the only characteristics of a critical thinker though. Ferrett, for instance, developed an inventory that gathers fifteen attributes/behaviours, which indicate critical thinking activity (Halpern, 2003, p.156). For Gambrill and Gibbs (2009), a critical thinker is

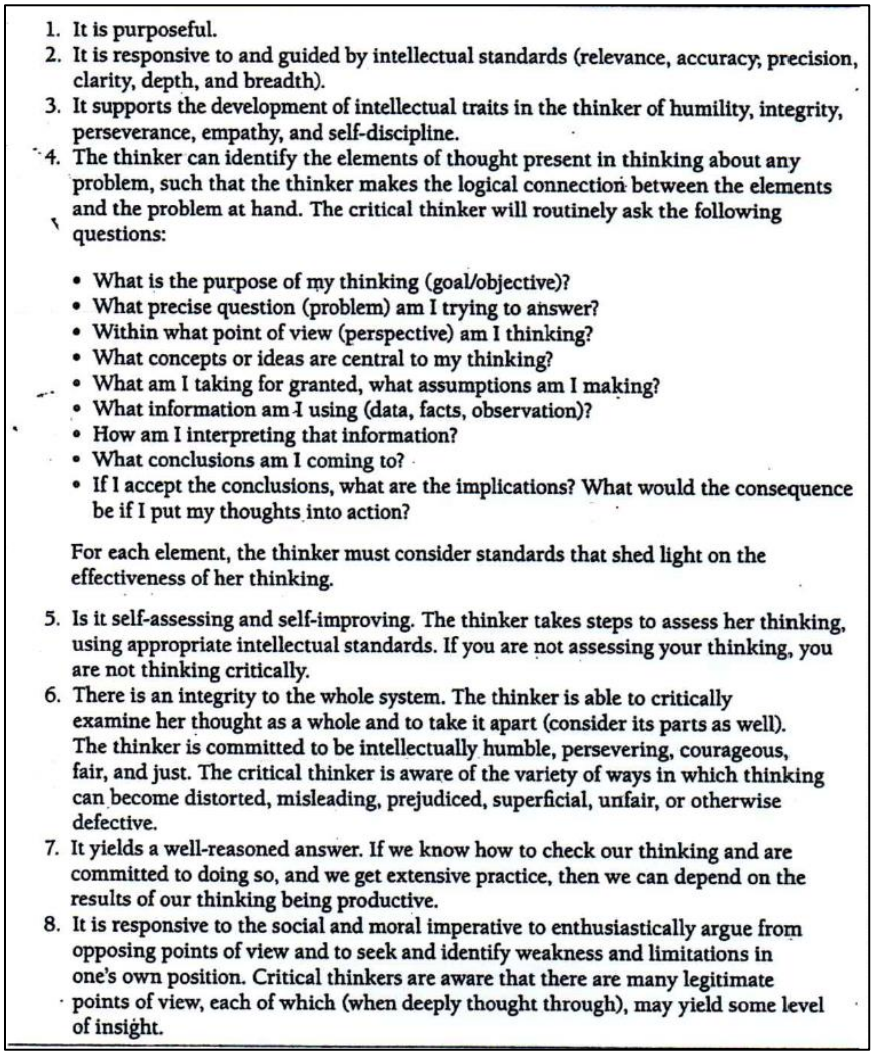
marked by eight characteristics (figure 03). As for Lau (2011, p.2), a critical thinker is someone who is able to do the following:

- Understand the logical connections between ideas.
- Formulate ideas succinctly and precisely.
- Identify, construct, and evaluate arguments.
- Evaluate the pros and cons of a decision.
- Evaluate the evidence for and against a hypothesis.
- Detect inconsistencies and common mistakes in reasoning.
- Analyse problems systematically.
- Identify the relevance and importance of ideas.
- Justify one's beliefs and values.
- Reflect on and evaluate one's thinking skills.

These characteristics empower critical thinkers and arm them with qualities that distinguish them from non-critical thinkers.

Figure 03

Characteristics of Critical Thinkers



1. It is purposeful.
2. It is responsive to and guided by intellectual standards (relevance, accuracy, precision, clarity, depth, and breadth).
3. It supports the development of intellectual traits in the thinker of humility, integrity, perseverance, empathy, and self-discipline.
4. The thinker can identify the elements of thought present in thinking about any problem, such that the thinker makes the logical connection between the elements and the problem at hand. The critical thinker will routinely ask the following questions:

   - What is the purpose of my thinking (goal/objective)?
   - What precise question (problem) am I trying to answer?
   - Within what point of view (perspective) am I thinking?
   - What concepts or ideas are central to my thinking?
   - What am I taking for granted, what assumptions am I making?
   - What information am I using (data, facts, observation)?
   - How am I interpreting that information?
   - What conclusions am I coming to?
   - If I accept the conclusions, what are the implications? What would the consequence be if I put my thoughts into action?

   For each element, the thinker must consider standards that shed light on the effectiveness of her thinking.

5. Is it self-assessing and self-improving. The thinker takes steps to assess her thinking, using appropriate intellectual standards. If you are not assessing your thinking, you are not thinking critically.
6. There is an integrity to the whole system. The thinker is able to critically examine her thought as a whole and to take it apart (consider its parts as well). The thinker is committed to be intellectually humble, persevering, courageous, fair, and just. The critical thinker is aware of the variety of ways in which thinking can become distorted, misleading, prejudiced, superficial, unfair, or otherwise defective.
7. It yields a well-reasoned answer. If we know how to check our thinking and are committed to doing so, and we get extensive practice, then we can depend on the results of our thinking being productive.
8. It is responsive to the social and moral imperative to enthusiastically argue from opposing points of view and to seek and identify weakness and limitations in one's own position. Critical thinkers are aware that there are many legitimate points of view, each of which (when deeply thought through), may yield some level of insight.

Note: The characteristics that distinguish critical thinkers from non-critical thinkers. From *Critical thinking for professionals: A skill-based workbook* (p.5) by Gambrill and Gibbs, 2009, Oxford University Press.

1.8. Qualities of Critical Thinkers

Thinkers are of three types (Cohen, 2015, p.17): *sticklers* or those who stick to their original beliefs/ideas no matter what; *followers* or those who respect anyone/anything that presents itself as an authority; and *system builders* or those who accept new information as far as it reinforces what they already believe in; otherwise, they reject it. The true critical thinker, however, "wants

solid evidence, weighs claims coolly, and resists appeals to prejudices" (Cohen, 2015, p.68); S/he imposes standards and criteria on the thinking process and uses them to construct and reconstruct thinking, is able to challenge the accuracy of what they hear and read (Ennis, 1993), and "considers the setting in which information is obtained" (Bandyopadhyay & Szostek, 2019, p.260). According to Halpern (2003), the qualities of critical thinkers demonstrate skills and behaviours readily apparent in the situations that require problem solving. Those are:

- Being able to accurately explain their decisions by choosing the words that clarify what they have in mind
- Being able to give alternative explanations for any state of affairs. This entails keeping an open mind and accepting the truth no matter where arguments lead.
- Being able to restrain their emotional reactions to others' arguments. Showing one's emotions in discussions by raising one's tone and using demeaning language towards interlocutors is perceived in many cultures as a sign of weakness of arguments.
- Being able to decide on the truth or falsity of assumptions by referring to logic and the power of proof even if that means rejecting one's own assumptions.
- Being able to develop and present reasoned and persuasive arguments. Having strong, persuasive arguments and well presenting them are two different things. One needs to be able to organise thoughts and present them in a manner apprehensible to his/her interlocutors.
- Being able to discern the primary from the secondary sources of information.
- Being able to discern credible from non-credible sources of information by being objective and verifying one's sources every time.
- Being able to distinguish opinion from fact even if it means taking a course that explicitly teaches the difference between fact and opinion.
- Being able to draw inferences and understanding how one assumption leads to another.

- Being able to formulate and ask appropriate questions as asking questions is an important step in any thinking process.
- Being able to collect the needed data for any problem solving or decision making. This entails recognising one's own limits and knowing how to bridge the gap between what one has and what one needs.
- Being able to determine preconceptions about important issues. Many people do not even know their own conceptions until they start asking themselves questions.

1.9. Nine Questions to Ask When Thinking Critically

Halpern (2003, p.119) proposes a set of questions to be asked whenever one attempts to think critically. Those questions allow the thinker to distinguish between the behaviours that lead to critical, valid thinking and those that lead to biased or invalid thinking.

Q 1. What is fact and what is opinion? Distinguishing facts from mere opinions is the founding ground of critical thinking; facts are to be adopted and followed whereas opinions are open to discussions and hence provide opportunities for fruitful thinking.

Q 2. Where do the facts come from? This question leads to looking for sources of information and pushes one to discuss the strengths and weaknesses of those sources. By so doing, one avoids bias and subjective views.

Q 3. What cause/effect relationships are proposed? Cause/effect relationships are a window to the different links that exist between the various topics suggested; they allow for a deeper understanding of the topics at hand.

Q 4. Are there faulty generalisations? This question saves one from taking information out of its context and using it wrongfully. It is the starting point of a detailed analysis of both the source and use of information.

Q 5. Is the issue oversimplified? By asking this question, one would learn to always look for alternative explanations; this improves the ability to look -and think- outside the box.

Q 6. Is propaganda being used? Questioning the intent of the author opens the door for recognising bias and identifying propaganda.

Q 7. Is the information distorted? This question completes the former questions as it encourages critical thinking about information through identifying biases and avoiding generalisations and over-simplifications.

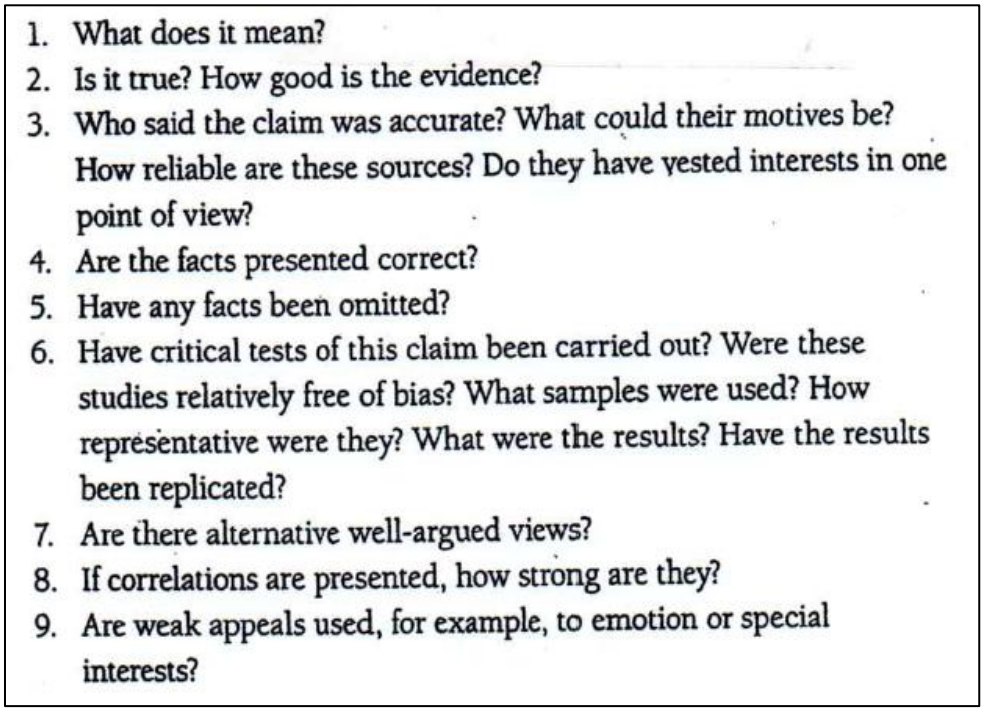
Q 8. Is deception being used? This question is especially helpful in training thinkers to keep a sceptical eye toward the information they come across. In other words, it helps develop a sceptical evaluation of material.

Q 9. Is stereotype or ethnocentric thinking being employed? The last question is more related to cultural and social issues. In countries where there is diversity of race, religion, and ethnicity, biases related to such aspects have got to be avoided.

Questions such as these have been raised by other scholars such as Gambrill and Gibbs (2009). Their list (figure 04) contains nine questions as well, but is less exhaustive.

Figure 04

Critical Thinking Questions



1. What does it mean?
2. Is it true? How good is the evidence?
3. Who said the claim was accurate? What could their motives be? How reliable are these sources? Do they have vested interests in one point of view?
4. Are the facts presented correct?
5. Have any facts been omitted?
6. Have critical tests of this claim been carried out? Were these studies relatively free of bias? What samples were used? How representative were they? What were the results? Have the results been replicated?
7. Are there alternative well-argued views?
8. If correlations are presented, how strong are they?
9. Are weak appeals used, for example, to emotion or special interests?

Note: These questions help thinkers make their thinking more critical. From *Critical thinking for professionals: A skill-based workbook* (p.4), by Gambrill and Gibbs, 2009, Oxford University Press.

1.10. Critical Thinking Concepts

The nine questions raised by scholars revolve around concepts that are tightly linked to critical thinking. This section gathers some of these concepts and provides a definition to each of them.

1.10.1. Thought

A distinction is made between true thought and everyday thought. The latter is subject to many social, emotional, and other error-inducing influences (Moore, 1973, p.09). In contrast, true thought bears certain characteristics and is described by Aristotle as “the reflection of

logical laws" (ibid.). In other words, thought is tightly linked to logic which is defined as an "axiomatization of reasoning" (ibid.) and is considered as "a purely formal discipline" (ibid.).

1.10.2. Fact vs. Opinion

A fact is "the thing that is known to have occurred, to exist, or to be true; verifiable by empirical means; distinguished from interpretation, inference, judgement, or conclusion" (Elder & Paul, 2009, p.30). Something is a fact "if for example we can observe it, test it, or check it against some evidence" (Nukui & Brooks, 2007, p. 06). Unlike facts, opinions represent "something which someone thinks is true" (ibid.). Accordingly, opinions are subjective and need to be backed by facts in order to be accepted by others.

1.10.3. Assumption

Assumptions are "the taken-for-granted beliefs about the world and our place within it that guide our actions. In many ways we *are* our assumptions" (Brookfield, 2017, p.5). Assumptions are usually unconscious in the sense that we do not know they are there, but use them to figure things out (Paul & Elder, 2009). Assumptions are of three types: paradigmatic, prescriptive, and causal (ibid.). Paradigmatic assumptions refer to the "structuring assumptions we use to order the world into fundamental categories" (Brookfield, 2017, p.5). Prescriptive assumptions are "assumptions about what we *think* ought to be happening in a particular situation" (Brookfield, 2017, p.6). Causal assumptions are "assumptions about how different parts of the world work and about the conditions under which these can be changed. They are usually stated in predictive terms" (Brookfield, 2017, p.7). Assumptions need to be examined in order to see if they make sense or not (Paul & Elder, 2009).

1.10.4. Inference

"All thought requires the making of inferences" (Elder & Paul, 2010, p.6). An inference is "what the mind does in figuring something out" (Paul & Elder, 2009, p.25); it is "a step of the

mind, an act of the intellect by which one concludes that something is so in light of something else being so, or seeming to be so" (Elder & Paul, 2009, p.36). Though, ordinarily, inferences are the conclusions one reaches after thinking, the assumptions one has lead him/her unconsciously to the inferences s/he makes (Paul & Elder, 2009); consequently, inferences may be "logical or illogical, justifiable or unjustifiable" (Elder & Paul, 2009, p.36).

1.10.5. Primary vs. Secondary Sources

Primary sources are original materials taken from the period involved; they are not filtered by interpretation or evaluation. Secondary sources, on the other hand, encompass books written about someone's opinion, research, or writing. Another important concept related to sources is their reliability; something is said to be reliable when it provides accurate evidence more often than it does not (Cohen, 2015). In all cases, sources should be read "critically, carefully analysed and assessed, and used as vehicles for intellectual independence, as sources for part of the truth, not the vehicle of the truth" (Paul & Elder, 2008b, p. 24).

1.10.6. Reasoning

Critical thinking is reflective and reasonable; it is reflective because it requires paying careful attention to the acceptability, strength, and sufficiency of reasons, and it is reasonable because it is based on reason and evidence. Though formulating reasons in words is not part of the thinking process itself, basing thinking on reasons is fundamental. Reasons are of five types. First, there are producing reasons, which are the reasons that make us believe something in the first place. Second, there are sustaining reasons, or the reasons upon which our belief is based on now. Third, there are emotional reasons such as shame, guilt, satisfaction...Fourth, we find pragmatic reasons such as believing in something which is easier/more practical. Finally, there are epistemic reasons which are the reasons that indicate that what we believe is true. Epistemic reasons have to do with facts; they are at the heart of critical thinking. Reasoning is drawing

conclusions based on reasons (The Foundation for Critical Thinking, 1999). There are two types of reasoning.

1.10.6.1. Inductive Reasoning is based on making inferences; it is drawing conclusions from facts (Boostrom, 1992, p.208). Inductive reasoning begins with premises and ends with conclusions. E.g., you smell something burning in the kitchen; you conclude that the bread in the oven is burnt.

1.10.6.2. Deductive Reasoning is based on logic; you reach conclusions based on a number of statements. There are three kinds of deductive reasoning: syllogism, chains of syllogisms, and 'if then' statements (Boostrom, 1992).

1.10.6.2.1. Syllogism: a syllogism is a deductive argument that states how three terms (two premises and a conclusion) are related to one another. Syllogisms are seen as "configurations of two premises and a conclusion" (Wagemans, 2019, p.60). A famous example of syllogism is the following: all men are human; all humans are mortal; therefore, all men are mortal.

1.10.6.2.2. Chains of Syllogisms: they are made up of two syllogisms or more. The conclusion of one syllogism makes the premises of the following until reaching a final conclusion (Boostrom, 1992).

1.10.6.2.3. The 'if then' Statements: 'if then' statement express that certain inferences may be made, and hence they represent valid deductive arguments as well. There are two ways to draw a valid conclusion in an 'if then' argument (Boostrom, 1992, p.226). One way is to state in the second premise that the 'if part' of the first premise is true. The second way is to state in the second premise that the then part of the first premise is false, then you conclude that the 'if part' of the first premise is also false.

1.10.7. Argument

"Critical thinking is used to understand and evaluate arguments" (Nukui & Brooks, 2007, p.05). Arguments generally occur in contexts where there is opposition, for example, in the houses of parliament, in a court of law, or in debates. In debates, writers/speakers use arguments to persuade. An argument is a "set of propositions of which one is a conclusion and the remainder are premises" (Bowell & Kemp, 2015, p.10) which "give evidence to support the conclusion" (Nukui & Brooks, 2007, p.10). The conclusion is "the statement that is doubted" (Wagemans, 2019, p.60) and the premises are the statements that "take away that doubt" (ibid.). In order for the premises to perform their function of "rendering the conclusion (more) acceptable", they should share "exactly one common term with that conclusion" (ibid.).

An argument may be either explicit or implicit. Explicit arguments can be easily spotted as they often end up with 'in conclusion', 'therefore', 'thus', and 'it can be seen' (Cohen, 2015, p.187). Implicit arguments, on the other hand, are harder to spot as they come in many ways and forms to imply that something is good/bad. A valid argument means that "if the starting assumptions are true, then the conclusion must be true" (Cohen, 2015, p.79); that is why, one should try to reconstruct the arguments and evaluate them before deciding whether they are valid or not (Bowell & Kemp, 2015, p.8). In contrast, an argument is unsound if there is something wrong with its logical structure, it contains false premises, or it is irrelevant or circular (Gambrill & Gibbs, 2009, p.9).

1.10.7.1. Types of Arguments

According to Nukui and Brooks (2007), arguments can be of three types.

1.10.7.1.1. Valid arguments: an argument is valid when the conclusion follows logically from the premises. Henceforth, arguments may be valid but not true (Lau, 2011, p.75).

1.10.7.1.2. Sound arguments: the conclusion absolutely follows from the premises. It is deductive (working from general to specific)

1.10.7.1.3. Strong arguments: the conclusion does not necessarily follow from the premises, but if the premises are strong enough, the conclusion is likely to be true. It is inductive (working from particular to general)

Whether an argument is valid, sound, or strong is determined after its analysis. Eemeren and Grootendorst talk of three main components that any argument analysis should comprise: the analysis of argumentative discourse, the identification of fallacies, and the evaluation of argumentation (Eemeren & Grootendorst, 1987, pp.60-61). Lau (2011, p.110) developed a checklist to help analyse arguments. The checklist comprises three steps:

1. Clarify the argument by identifying its premises and conclusions.
2. Evaluate the argument by deciding whether it is valid and then suggest counterexamples.
3. Think about further relevant issues.

1.10.7.2. Attacking an Argument

In debates or situations where persuasion is intended, people make use of three strategies: *ethos* which refers to using one's charisma to convince, *pathos* which entails using anecdotes based on people's experiences to play on others' emotions and feelings, and *logos* which comprises facts and figures joined together using logical arguments (Cohen, 2015, pp.276-277). While the first two are far from logical and critical thinking, the last strategy is at its heart. The only way to address someone who uses logos is by attacking the argument itself. According to Lau (2011, p.109), there are four ways one can attack an argument:

1. Attack the argument by attacking the premises.
2. Attack the argument by attacking the conclusion.
3. Attack the argument by attacking the reasoning (proving that the argument is invalid)

4. Give an analogous argument that is obviously bad.

Finally, when confronted with a counterexample, one should either show that it is not a genuine counterexample or else revise the argument to include/exclude examples of that kind.

1.10.8. Fallacies

When reasoning, people make two types of errors (Cohen, 2015, p.76), motivational illusions which refer to the influence of emotions/personal interests upon reasoning, and cognitive illusions which refer to errors in reasoning itself. In many situations, nonsense is dressed up to look reasonable (Boostrom, 1992). This happens when the information presented is unclear, vague, or ambiguous; when the argument is presented without all its premises; or when the conclusion that is supposed to be proved is simply assumed (Boostrom, 1992, pp. 230-231). People make errors in thinking because when they reason, their premises are often false assumptions (Potter, 1974, p.232). Some other times, the person just ignores exceptions (ibid.). Another mistake while reasoning is reaching wrong conclusions (ibid.). One arrives at a wrong conclusion if the premises are wrong or if the conclusion fails to follow from the premises; e.g. all dogs have four feet. My cat has four feet. Therefore, my cat is a dog (ibid.). Errors in thinking are called *fallacies* (Paul & Elder, 2012; Gambrill & Gibbs, 2009). Though "it is not possible to create an exclusive and exhaustive list of fallacies" (Paul & Elder, 2012, p.9), Potter (1974, pp. 226-232) provides a number of situations/practices in which errors in thinking occur. Those are:

- **Post Hoc Ergo Ter Hoc**: this is a very common error in thinking. It is generally explained by the following statement: after the fact, therefore, because of the fact, or in Hunter's (2009) words: because one event precedes the other, we assume it is its cause.
- **Argumentum AD Hominem**: literally translated as argument to the man. This error is based on attacking an idea by denouncing a man connected with it.

- **Argument from absurd extremes**: this error entails carrying a reasonable opinion to the point of absurdity. In other words, it refers to taking a reasonable opinion and imagining the worst things that can happen if this opinion/argument is true.
- **False analogy**: also known as reasoning by analogy (Hunter, 2009). An analogy is a statement that two relationships are alike in some respects, not in every one. Consequently, they should be used to clarify and explain; using them as arguments is considered an error in thinking.
- **Faulty syllogism**: a syllogism is a time-honoured form of argument with two premises and a conclusion (e.g., all men are mortal. Socrates is a man. Therefore, Socrates is mortal). Syllogism becomes faulty when the conclusion does not follow logically. e.g., a woman should someday be president. I am a woman. Therefore, I should someday be president.
- **Faulty contradiction**: this fallacy happens when there are two different statements and one of them is proved wrong. The error lies in considering the second statement right just because the first one is wrong.
- **Guilt by association**: also called correlation confusion (Cohen, 2015, p.322). This error happens when we associate A with B because they often go together. By association, if A is guilty, B is considered guilty as well, for instance.
- **Begging the question**: these are examples of situations where the conclusion is one of the premises (Cohen, 2015, p.320), e.g. I like this book. Why do you like it? Because it is interesting. Interesting means 'I like it', so where is the evidence? What we state as evidence, preceded by 'because' should be real evidence (Potter, 1974).
- **Argument from definition**: definitions are of two types (Lau, 2011, p.12): literal meaning which provide the dictionary definition, and conversational implicatures which are what one wants to convey. The argument from definition fallacy happens when each one of the interlocutors has one definition of the term/concept/idea discussed. A similar fallacy is

"equivocation" which means using the same word but meaning different things. In this case, interlocutors will be talking one past the other (Hunter, 2009). Equivocation could be lexical (word level), referential (unclear context), or syntactical (grammatical confusion) (Cohen, 2015, pp.321-322). Such errors usually lead to linguistic pitfalls (Lau, 2011, p.41) which are defined as the inappropriate use of language that hinders accurate and effective communication.

Hunter (2009) added other fallacies to Potter's list. He included "denying a disjunct" which is a principle whereby one starts by stating all the possibilities then rules them out one by one until s/he is left with one that would be considered the correct answer; badly framing a question which happens when tricky questions are asked such as: have you stopped cheating on your exams? (a yes means that one used to cheat and a no means that one still does); errors related to sampling such as reasoning by sample which means trying a sample and generalising the judgment to the whole population, and self-selected samples whereby the members choose to be part of the sample; and errors related to conditionals such as the "bi-conditionals" i.e., when we use "if and only if" (Hunter, 2009), and "counterfactual conditionals" i.e., the use of examples contrary to facts when discussing about history to discover what the real cause is (e.g. if Hitler had not invaded Poland, WW2 would not have happened). Lau (2011, pp.33-34) added to the errors related to conditionals sufficient conditions and necessary conditions; the former mean that the occurrence of X guarantees the occurrence of Y, and the latter mean that the occurrence of X is necessary for the occurrence of Y.

Cohen (2015) provided yet another list of fallacies. His list includes:

- Confirmation biases: the tendency of people to focus on evidence that confirms their existing views and ignores what challenges them (Cohen, 2015, p.79).
- Egocentric biases: these are "distortions due to people having an inflated opinion of their own work or importance" (Cohen, 2015, p.80).

- Genetic fallacy: it happens when people draw assumptions about something by tracing its origins back (Cohen, 2015, p.320).
- False dichotomy: also called black and white thinking. It happens when the arguer gives only two options when other alternatives are possible (Cohen, 2015, p.321).
- Resorting to double standards: some people allow themselves to do certain things because they are such and such, but other people are forbidden from doing them (Cohen, 2015, p.323).
- Thinking wishfully: this refers to the fact of assuming conclusions just because one wants them to be so (Cohen, 2015, p.323).
- Using Red Herrings: this fallacy is related to using irrelevant topics/arguments to divert attention so that the real issue goes unexamined (Cohen, 2015, p.324).
- The straw-man fallacy: this practice is related to attacking one's opponent by misrepresenting or paraphrasing their ideas/arguments to make them sound untrue, wrong, or ridiculous (Cohen, 2015, p.325).

In their list, Gambrill and Gibbs (2009, pp.9-10) include, in addition to the aforementioned fallacies, sweeping generalisation, using emotional appeals, creating confusion by excessive wordiness, and corruption of evidence by misrepresenting positions, deceptive use of the truth, presenting opinion as fact, deliberate omissions…

1.10.8.1. Avoiding Fallacies

"To protect ourselves, we need to be able to recognise when people are trying to manipulate us with fallacious appeals" (Paul & Elder, 2012, p.49). In some cases, avoiding fallacies is simply a matter of paying extra attention to one's practices. In "denying a disjunct" fallacy for instance, one needs to make sure that the disjunction is a correct one by making it exhaustive (Hunter, 2009). Some other times, however, avoiding fallacies is not as easy as it seems since such errors might be deeply rooted in one's thinking. To avoid making them, Potter (1974) suggests the use of three laws: the law of identity (if anything is A, it is A), the law of contradiction (nothing can be both A and not A), and the law of the excluded middle (a thing must be either A or not A). Cohen (2015, p.80) proposes four rules to avoid making thinking errors:

Rule One: do not stop your opponents from advancing a new position or challenging yours.

Rule Two: both sides must defend and justify their positions when asked to.

Rule Three: do not attack positions that no one has put forwards.

Rule Four: use only arguments to advance new positions.

1.11. Thinking, Cognition, Metacognition, and Critical Thinking

The mind has three functions: thinking, feeling, and wanting (The Foundation for Critical Thinking, 1999, pp. 1-2). What distinguishes thinking from the rest of the functions of the brain is that it is careful, and aims at making sense (Boostrom, 1992, p.3). "Thinking controls our emotions and decisions" (Elder & Paul, 2015, p.10). In its broadest sense, "thinking is whatever goes inside your head" (Boostrom, 1992, p.1). In a narrower sense, thinking is "an expression of beliefs based on evidence" (Boostrom, 1992, p.2). However, there is the kind of thinking that "you do when you are looking for reasons for believing one thing instead of another. …you

look not for any evidence, but for good evidence" (Boostrom, 1992, p.2); that is critical thinking.

Cognition is seen as "an individual, in-the-head, phenomenon" (Block, 2004, p. 19). It is derived from the Latin word *cognoscere,* to learn, which in turn is based on *gnoscere,* to know" (Hollnagel, 2003, p.6); that is why, cognition is used to "describe the psychological processes involved in the acquisition, organisation, and use of knowledge" (Hollnagel, 2003, p.6). Since its appearance in psychology, cognitivism witnessed three waves; each viewed thinking from a different perspective. First-wave cognitivists such as Piaget define thinking in terms of developmental stages and mental operations (Mason, 2008, p. 14). Second-wave cognitivists such as Shannon compare the mind to a computer (Mason, 2008, p. 14) whereas third-wave cognitivists such as Gardner and Churchlands study thinking in terms of brain states (Mason, 2008, p. 14). Cognition meets critical thinking because they are both associated with judging, reasoning, problem solving, and decision making (Dörnyei, 2009, p.202).

Metacognition requires an individual to reflect on his or her thinking process (Hohmann & Grillo, 2014, p.38); it is thinking about thinking to make that thinking better (Dunn et al., 2008, p. 45). It encompasses many skills such as learning how to learn, knowledge management skills, entrepreneurial skills and social skills like team-building (Mason, 2008, p. 13). In that sense, critical thinking is a metacognitive process (Hohmann & Grillo, 2014, p.38) because it requires stepping back and reflecting in order to break down and reorganise one's thoughts, which can help in developing a sound strategy for effective questioning and reasoning" (Hohmann & Grillo, 2014, p.38). i.e., when one is thinking critically to solve a problem for instance, s/he is at the same time critiquing his/her own thinking. In other words, s/he is working on his/her own thinking while checking and rechecking his/her assumptions, inferences, arguments, and conclusions. This being said, critical thinking is more than just thinking about thinking; it is

also about decision making and changing attitudes, behaviours…(Corporate Training Materials, n.d.).

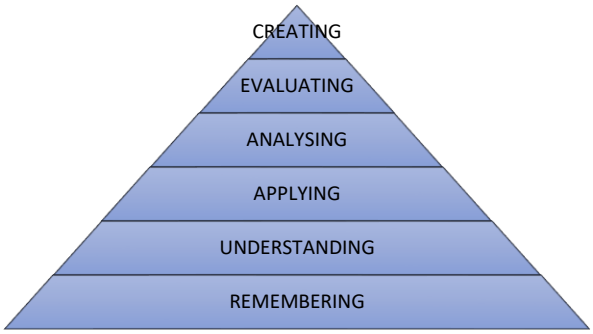
1.12. Bloom's Taxonomy and Critical Thinking

Bloom (1956) identified three domains of learning (Brockbank & McGill, 2007, p.49); they cover the three aspects of education: the cognitive aspect (also referred to as knowing), the conative aspect (doing), and the affective aspect, which has to do with feelings and attitudes (ibid.). The cognitive aspect was also divided into six subcategories and became known in educational settings as Bloom's Taxonomy of educational objectives.

Appleby (2006) proposes six skills of a critical thinker that are based on Bloom's taxonomy; those skills include retention, comprehension, application, analysis, synthesis, and evaluation (Halpern, 2003, p.89). While retention refers to one's ability to remember the things encountered, comprehension encompasses the ability to understand the meaning that one remembers. Application entails the ability to use the information learned to solve problems. Analysis and synthesis are more complex; to analyse means "to decompose into constituent parts" (Elder & Paul, 2009, p.7), and hence analysis involves the ability to examine the components of a whole and understand the way they are organised, whereas synthesis involves the ability to gather these component parts and create new wholes. Following Bloom's logic, evaluation figures as the most complex skill and embraces the ability to critique information in order to assess the validity of knowledge in general and arguments in particular. Those skills "reflect a progression of skills that move from a superficial to a deep level of thinking and knowledge" (Halpern, 2003, p.89). According to Halpern (2003), critical thinking abilities refer to the person's thinking competencies. They are also what Bloom and other researchers refer to as skills.

Figure 05

The New Bloom's Triangle



Note: The revised taxonomy of Bloom. From *Critical thinking skills for dummies* (p.168), by Cohen, 2015, John Wiley and Sons, Ltd.

Bloom's taxonomy of educational objectives (figure 05) was revised by the cognitive psychologist (who was no other than Bloom's student) Anderson (Cohen, 2015, p.168). Anderson updated the pyramid by changing the names of the six categories from nouns to gerunds, and rearranging the hierarchy (ibid.).

In the first level (remembering), the cognitive processes included are recognising and recalling. In the second level, the cognitive processes included are interpreting, exemplifying, classifying, summarising, inferring, comparing, and explaining. In the third level, the cognitive processes included are executing, and implementing. The fourth level includes differentiating, organising, and attributing. The fifth level includes checking, and critiquing, whereas the final level (creating) includes generating, planning, and producing (Stobaugh, 2013). Though Stobaugh (2013, p.43) includes inquiry and problem-solving within the sixth level because they involve generating options, planning a solution to solve the problem, decision-making, and then implementing a solution, many scholars such as Lewis and Smith distinguish between higher order thinking on the one hand, and critical thinking and problem solving on the other (Lewis & Smith, 1993, p.131). Bissell and Lemons meet them both half way and declare that "the two

first categories of Bloom's taxonomy do not require critical thinking but the last four all require the higher order thinking that characterises critical thought" (Bissell & Lemons, 2009, p. 2).

1.13. Barriers to Critical Thinking

Despite the many advantages of critical thinking, some scholars point out to obstacles that stand in the way of using it effectively in society. The first obstacle is the absence of shared beliefs and preferences in any society (Jeevanantham, 2005, p. 120); this renders critical thinking use difficult as there is no common ground upon which to base thinking. The other obstacle is "the postmodernist epistemological view, which accepts the legitimacy of the existence of multiple realities" (ibid.).

Other scholars such as Gambrill and Gibbs (2009) list a number of obstacles to using critical thinking. These obstacles are referred to as blocks and are of six types.

I.13.1. Motivational Blocks: such obstacles have to do with arrogance, lack of curiosity and zeal, cynicism, valuing winning over discovering approximations to the truth, having a vested interest in an outcome, and having unrealistic expectations (Gambrill & Gibbs, 2009, p. 364).

1.13.2. Emotional Blocks: emotional blocks include fatigue, anger, anxiety (e.g., regarding social disapproval), low tolerance for ambiguity/uncertainty… (Gambrill & Gibbs, 2009, p. 364).

1.13.3. Perceptual Blocks: perceptual obstacles are seen in stereotyping: when one defines problems too narrowly, overlooks alternative views, judges instead of generating ideas, and sees what s/he expects to see (Gambrill & Gibbs, 2009, p. 364).

1.13.4. Intellectual Blocks: people with intellectual blocks rely on questionable criteria to evaluate claims. They fail to critically evaluate beliefs, and use inflexible problem-solving strategies. They are also characterised by failing to get accurate information concerning

decisions, and their disdain for intellectual rigor. Instead, they use a limited variety of problem-solving languages such as words, illustrations, and models (Gambrill & Gibbs, 2009, p. 364).

1.13.5. Cultural Blocks: cultural blocks are seen in the fear that the competition of ideas would harm the social bonding functions of false beliefs, and valuing the thinking characterised by strong pro/con positions with little reflection (Gambrill & Gibbs, 2009, p. 364).

1.13.6. Expressive Blocks: such obstacles are reflected in social anxiety, and having inadequate skill in writing and speaking clearly (Gambrill & Gibbs, 2009, p. 364).

1.14. Criticism to Critical Thinking

Critical thinking has been criticised for being confrontational (Lau, 2011, p.3). It is said to be a purely destructive force since it is based on criticising others all the time, and this is not constructive (ibid.). In addition to that, in real life, people do not act upon critical thinking; they refer to emotions, interests, and personal relationships instead (ibid.).

In a nutshell, and despite the criticism and obstacles, critical thinking is no longer seen as a luxury in human life nowadays; it is a necessary prowess. A famous quote by Stuart Mill comes to mind when critical thinking usefulness is weighed:

> To question all things, never to turn away from any difficulty; to accept no doctrine either from ourselves or from other people without a rigid scrutiny by negative criticism; letting no fallacy or incoherence, or confusion of thought step by unperceived; above all, to insist upon having the meaning of a word clearly understood before using it, and the meaning of a proposition before asserting to it. (Boostrom, 1992, p.12)

That is the heart of critical thinking. It is documented as a 21st century skill (Mistry and Sharp, 2017) that "has little to do with *what* we think, but everything to do with *how* we think" (Mulnix, 2012, p.466).

Conclusion

Critical thinking is more than a mere phenomenon; it is a well-established concept. Despite its acceptance and integration in various fields, its full grasp continues to roil researchers all over the world. The abundance of definitions and components attributed to it testifies of its momentousness. This being said, the scholars that attempted to discern its secrets all concluded that it is a combination of various components: knowledge, skills, standards, and traits. These components are organised in models that were developed in order to facilitate the understanding of critical thinking and to make the task of applying the critical thinking process easier. When one applies critical thinking, its benefits can be seen throughout daily life: at home with parents and siblings, at school with teachers and classmates, and outside when facing life's ups and downs. If one knows how to distinguish between fact and opinion, assumption and inference, valid and invalid argument, and most importantly knows how to recognise fallacies and avoid them, it is certain that there will be some change in one's behaviours, attitudes, and life as a whole to the best. When aiming for this though, one must first be aware of the criticism attributed to critical thinking, and acknowledge the challenges that come with it. The most important of which is training oneself to think critically either through explicit or implicit instruction. Therefore, this chapter provided a synopsis of critical thinking and paved the way for the next chapter that investigates teaching this fundamental skill.

CHAPTER TWO: TEACHING CRITICAL THINKING

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Introduction

For a long time, higher education has been regarded as the preparer of the youth for the workplace (O' Halloran, 2001; Cohen, 2015). However, forecasting the demands of the workplace is not an easy task and graduates often find themselves in situations for which they were not prepared. One way to address this is to prepare graduates to think for themselves. For that reason, critical thinking is among the eight broad goals for schooling in the United States (Bandyopadhyay & Szostek, 2019, p.260), and the Partnership for 21st Century Skills (P21) identified four skills, also referred to as the 4 Cs, essential to survive in the 21st century among which is critical thinking (Mistry & Sharp, 2017). In addition to that, more than any time before, globalisation, technological changes, and communication technologies made teaching critical thinking a must. Consequently, critical thinking is nowadays considered as one of the most important outcomes of a university education (McMillan, 1987; Dunn et al., 2008; Lau, 2011; Rezaei, et al., 2011; Stobaugh, 2013; Hohmann & Grillo, 2014; Schendel & Tolmie, 2017) and most employers expect it to be mastered by graduates (Bandyopadhyay & Szostek, 2019, p.259).

This chapter explores education without critical thinking, and sheds light on both the importance of teaching it and its benefits. It then discusses the teachability of critical thinking and provides some guidelines of thinking-based pedagogy and ways and approaches to teach critical thinking. After that, the chapter draws attention to some barriers to teaching critical thinking, and ways to address them. It lists activities to promote critical thinking and highlights ways to infuse it in curricula, especially the listening and speaking course. Finally, the chapter closes with ways to assess critical thinking.

2.1. Education without Critical Thinking

In traditional brick and mortar schools, education suffered from a narration sickness (Freire, 1970). Students learned "long lists of facts that 'every adult should know' and standardised tests produce robots adept at Trivial Pursuit but unable to think for themselves or to innovate for the future" (Reich, 1989, p. 100). Inside the classroom, the relationship between the teacher and the learners had a fundamentally *narrative* character with a narrating subject (the teacher) and patient, listening objects (the students) (Freire, 1970); the contents were lifeless and the student's only job was to record, memorise, and repeat without perceiving (Freire, 1970, p.71). This is known as the 'banking' concept of education wherein education is "an act of depositing, in which the students are the depositories and the teacher is the depositor" (Freire, 1970, p.72). The outcomes of such an education have proved its inefficacy as the results of the studies conducted to determine what employers look for in graduates show that students are "unprepared to think critically when they arrive in the workforce" (Hohmann & Grillo, 2014, p.37) and "the specific facts and skills explicitly taught in degree courses are relevant to only about 50 % of vacancies, and in most cases graduate recruits require further training" (Cohen, 2015, p.224). The answer to this predicament is the teaching of critical thinking.

2.2. Importance of Teaching Critical Thinking

Critical thinking is important in facilitating learning (Dunn et al., 2008, p. 23) as it allows one to reason well and to adopt reasonable rather than simply comfortable positions (Mulnix, 2012, p.473). By encouraging critical thinking, the teacher does not teach the student what s/he thinks is right, but encourages the student to "scrutinise the evidence and judge independently the rightness of … claims" (Siegel, 1980, p.17). Students may use critical thinking "to plan for the future, to perform well in their careers, and to continue liberal learning throughout their lives" (Dunn et al., 2008, p. 2). In other words, engaging the minds of students in critical thinking helps them separate the wheat from the chaff, take important decisions about their

lives, achieve vocational success, and -above all- move on towards better thinking. In addition to that, critical thinking helps learners learn better by adopting new attitudes towards what they receive, and hence develop new perspectives (Dunn et al., 2008, p. 17). For that reason, critical thinking "should be infused into daily instruction to adequately prepare students for school assessments, rigorous college expectations, employers' demands, and complex life situations" (Stobaugh, 2013, p. ix).

2.3. Benefits of Teaching Critical Thinking

Critical thinking is "a seminal goal which, done well, simultaneously facilitates a rainbow of other ends" (Paul & Nosich, 1993, p.6). "As students learn to think more critically, they become more effective readers, writers, speakers, and listeners" (ibid.). Equipping students with critical thinking skills "enables them to reason effectively, make rational judgments and decisions, and solve problems" (Stobaugh, 2013, p. ix). Critical thinking protects the students from sloppy and conformist thinking (Mulnix, 2012, p.473). It caters for autonomy (Mulnix, 2012, p.473) and liberates students as it renders them self-sufficient (Siegel, 1980, p.17). Critical thinking also increases students' mastery of content because all content is embedded in a system of understanding which must be reasoned through, helps students become more proficient in a variety of modes of thinking, increases self-confidence, and consequently, helps the students develop many skills, abilities, and traits of mind (Paul & Nosich, 1993).

Additionally, critical thinking expands the learning experience and makes it more meaningful for students. This is especially true because if learners take charge of their own thinking, they can monitor their own ways of learning more successfully (Shirkhani & Fahimi, 2011, p.113).

Finally, the benefits of critical thinking instruction are seen after graduation. Students with good critical thinking skills are rated by their supervisors as having good analysis and problem-

solving skills, good judgement and decision-making, creativity, good overall performance, and the potential to move up in their career (Mistry & Sharp, 2017).

2.4. Teachability of Critical Thinking

Though many scholars agree on the importance of critical thinking, incorporating it in courses does not seem to present a priority. For many teachers, critical thinking skills do not have to figure among course objectives because they are automatically acquired through time as learners move from one stage to another. For others, critical thinking, albeit a desirable outcome, cannot be explicitly taught to learners because one cannot teach what one cannot observe and hence assess. Mulnix responds to such claims by insisting that "we do not live in a *Matrix* world where information and skills can just be effortlessly uploaded into our brains. In order to become proficient in any skilled domain, we need to practice that skill" (2012, p.476) (sic.). After all, "learning requires thinking, critical thinking" (Hiler & Paul, 2006, p.3).

Following Mulnix's view, researchers such as Halpern (2007), Mason (2008), Dunn et al. (2008), Klein (2011), and Stobaugh (2013) ascertain that critical thinking can be taught to learners. The question is how and when to teach critical thinking. There is one big debate in the field between "those who view critical thinking as a generic skill (e.g., Ennis 1985) and those who see it as discipline-specific (e.g., Moore 2004)" (Schendel & Tolmie, 2017, p.674). Halpern (2007), for instance, based her claim on the assumption that there are clearly identifiable and definable critical thinking skills that students can be *explicitly* taught to apply; Klein (2011) joins Halpern and describes critical thinking as a "trainable skill" (Klein, 2011, p.210) that can easily be taught to learners. Potter argues that words not only "make thinking possible" (1974, p.224), but also "warp thought" (ibid.); consequently, critical thinking manifests itself via language use and language classes should represent opportunities to teach it. After all, when one holds a view, explains it, and/or defends it, s/he is using language to think critically.

2.5. Thinking-based Pedagogy

Bateson (1973) spoke of a typology of three levels in learning. First order learning is confined learning; learning that is factual, where facts or skills are defined. Second order learning is contextual and transferrable from the classroom to the real world. It can be achieved through learning by doing. Finally, third order learning is learning that is reflective. It involves discovering the ability to doubt the validity of previously held perceptions. This typology, which is also highlighted by Rezaei et al. when they explain the three steps to help teachers incorporate critical thinking (2011, p.5), can be applied in any classroom. The first step entails making explicit to students the significance of critical thinking, its components, and main concepts such as "names for argument patterns" (Mulnix, 2012, p.475) (factual learning). The second step calls for engaging students in different critical thinking processes such as analysis of ideas, evaluation of arguments, recognising fallacies… (contextual learning). The third step is based on discussions and reflections through writing/speaking (reflective learning).

It is important to note that teachers must "intentionally plan cognitively demanding experiences in order for students to practice and develop their thinking capacities" (Stobaugh, 2013, p.125). However, such experiences alone would not suffice; Dewey identified four essentials for learning: experience, data for reflection, ideas, and fixing what has been learned (Brockbank & McGill, 2007, p.21). While data and reflection are addressed in the three-step learning, fixing can be achieved through repetition. Repetition is central because critical thinking is a skill and "all skills need extensive amounts of deliberate and varied practice to be developed, honed and maintained" (Mulnix, 2012, p.477)

2.6. Teaching Critical Thinking

As Halpern explains it, "teaching critical thinking must be planned in order to be maximally effective" (2003, p.53) because, like other skills, critical thinking requires some condition for

its development. The conditions are learning the theory, deliberate practice, and adopting the right attitudes (Lau, 2011, p.3). Learning the theory entails learning the rules and facts necessary (Lau, 2011, p.4) such as meaning analysis (well defining one's terms and concepts), logic (analysing arguments and evidence), the scientific methods (experiments/tests/statistics…), decisions making, and fallacies and biases in order to avoid them. Practice entails putting into action those rules and facts (Lau, 2011, p.5) via applying the fourfold path to good thinking (figure 06). The aim is to make critical thinking a way of life, not something one does occasionally. Attitude is important because having a positive attitude makes practice effective and sustainable, on the one hand, and some attitudes conduct towards critical thinking such as: independence of thought, open-mindedness, cool-headedness and impartiality, an analytical and reflective attitude on the other (Lau, 2011, pp.7-8).

To sum up, in order to design a critical thinking course, one should first begin by setting course objectives. A good question to begin with is: what is meant by critical thinking? Another idea is to teach the different cognitive taxonomies such as Bloom's taxonomy of 1956 and Bloom's revised taxonomy by Anderson et al. in 2001. The teacher may begin from the fact that critical thinking does not figure in any of these taxonomies though its elements are there. Instructors might then put those elements together to get something that fulfils their own definition of critical thinking and then they specify the course and unit objectives.

Figure 06

The Fourfold Path to Good Thinking.

Question	Issues to think about
What does it mean?	Are the keywords and the main concepts clear? Can the ideas be made more precise? How is it related to other things? Any examples to illustrate what is meant?
How many supporting reasons and objections?	List the reasons for and against the claim. Count and evaluate these reasons. Think about both sides of an issue. Any counterexamples to the claim?
Why is this important or relevant?	What are the major consequences? How does it affect people? Is it useful? Is it surprising? Have I learned something new and interesting?
Which are the other possibilities to consider?	What other information might be relevant? Any similar cases to think about?

Note: The fourfold path contains questions that can be adopted while discussing any issue; they help develop learners' critical thinking. From *An introduction to critical thinking and creativity: Think more, think better* (p.5), by Lau, 2011, A John Wiley and Sons, INC.

2.6.1. Establishing a Critical Thinking Classroom Culture

Stobaugh (2013, p.139) calls for the establishment of a classroom culture that nurtures critical thinking. He suggests some necessary elements to be taken into account. These are:

*Physical environment: the use of visual cues such as posters and questions posted on the wall, in addition to a good organisation of the room, promote thinking.

*Establish the importance of critical thinking skills: early in the school year, the teacher should ensure that his/her students could clearly state the reasons for critical thinking.

*Communicate expectations for thinking: the teacher has to explain grading criteria for thinking tasks to students and show them some models of student work. That way, students can both self-evaluate their work and assess their peers' work based on thinking criteria.

*Routines and structures for thinking: thinking structures are taught and regularly practiced.

*Teacher modelling: the teacher should provide a good model for learners to follow; s/he should model thinking.

*Thinking opportunities: students are given many opportunities to refine their thinking abilities; they are invited to question each other and apply thinking skills in multiple contexts. The curriculum should focus on deep understandings, and the teacher should allow for choice, consider learners' abilities while determining classroom practices, and welcome divergent opinions and thoughts using activities that appeal to students' learning preferences and curiosity.

*Supportive relationships and interactions to promote thinking: the relationship between teacher and students is based on interaction wherein the students are encouraged to ask questions and involved in the classroom decision-making process, and the teacher supports learning from mistakes and provides feedback when needed.

To establish this critical thinking classroom culture, Halpern (2003) explains that practitioners need to plan their teaching well. This planning goes through three stages.

2.6.1.1. Before the Academic Term Begins

Before the term begins, the teacher needs to make sure that his/her teaching tool kit includes the appropriate supportive materials that reflect the approach adopted. These materials comprise activities that promote critical thinking. The teacher also needs to have a supply of examples that s/he can use while teaching; these examples help bring teaching to life and relate it to the everyday life of learners. For more consolidation, the teacher has to present learners with problem-solving scenarios; those scenarios should be interesting, challenging, and related to the subject matter.

2.6.1.2. First Week of Class

During the first week, the teacher is supposed to introduce the concept of critical thinking, and explain the objective and attributes of critical thinkers. This will guarantee good understanding of critical thinking and will pave the way for learning. Learners need to understand, right from the start, that critical thinking can be, and is, applied in daily situations.

2.6.1.3. Throughout the Academic Year

Because students struggle when asked to apply new concepts, application exercises help determine whether their understanding is deep or superficial (Halpern, 2003, p.89). Making application exercises a daily routine will guarantee achieving thinking-related goals. Another strategy is to give learners assignments on critical thinking and review them in class. Finally, the teacher can present problem-based scenarios that engender deep and good quality discussions periodically.

In a nutshell, in order to promote learners' critical thinking, some practices need to be adopted inside the classroom. This calls for a change in the teachers' role inside the classroom.

2.7. Role of the Teacher in a Critical Thinking Classroom

Teaching critical thinking necessitates readiness from both teachers and learners. "Teachers… should employ classroom strategies that produce active rather than passive learners" (Mason, 2007, p.339). Instructors need to learn how to teach critical thinking because if teachers use appropriate instructional methods and curriculum materials, students will improve their critical thinking skills (Young, 1980). This could be achieved through reading, attending workshops, planning, but most importantly by trial and error in the classroom. The teacher adopts and adapts some classroom practices and waits for the results. If there is improvement, the practice should become a classroom habit; otherwise, it should be overlooked.

In order for teachers to make their classrooms a space for promoting critical thinking, they should first provide thought-provoking materials, the materials being visual or oral/aural. In addition, teachers should provide opportunities to practice critical thinking by adopting different activities inside the classroom and assignments for learners to do at home. Finally, and in order to provide a good role model for learners, teachers should model critical thinking in their classrooms (Stobaugh, 2013) by "thinking aloud in front of the students and letting them hear you puzzling your way through problems in the subject" (Hiler & Paul, 2006, p.7).

To sum up, in the classroom where critical thinking is tackled, the role of the teacher has to change. The teacher becomes less of a lecturer and more of a facilitator. S/he turns into an ally that encourages any thinking endeavour from learners instead of being an authority. First and foremost, the teacher needs to provide a role model for learners by applying critical thinking skills. Second, before diving into critical thinking activities, the teacher needs to provide hand-outs that explain the theory behind critical thinking. Afterwards, the teacher should provide students with opportunities to apply critical thinking principles. Finally, s/he needs to make sure to practice as often as possible and include critical thinking in tests so that studying it makes sense to learners.

2.8. Approaches to Teaching Critical Thinking

"Becoming a critical thinker is not a simple task. It does not happen in a flash oversight" (Halpern, 2003, p.137); "learning critical thinking takes time, practice, and deliberate effort from both students and their teachers" (ibid.). According to Rezaei et al. (2011), approaches to the teaching of critical thinking can either be based on teaching students trainable and assessable reasoning skills and processes, or teaching students trainable and assessable reasoning skills as well as cultivating in them the dispositions and awareness associated with critical thinking (Rezaei et al. 2011, p.4). Following is a categorisation of approaches to teaching critical thinking; the first two are of the former type whereas the third one is of the latter.

2.8.1. Separate vs. Infused Approach

According to McGuiness (2005), there are two approaches to teaching critical thinking: separate (enrichment) approaches and infused (infusion) approaches. Enrichment approaches are specialised critical thinking courses whereas infusion approaches contextualise critical thinking within a curricular/content area.

2.8.2. Implicit vs. Explicit Approach

Gray (1993, as cited in Halpern, 2003, p.137) proposes two general approaches to provide critical thinking instruction: the implicit and the explicit approach. The implicit approach does not require direct critical thinking instruction. In the implicit approach, teachers guide students through discussions and activities that are designed to infuse and elicit critical thinking; the teachers do not draw attention to the thinking processes themselves. While explicitly teaching critical thinking, however, teachers include instruction about critical thinking, on the one hand. On the other hand, they monitor students' critical thinking development through the adoption of different critical thinking activities.

2.8.3. Dispositional Theories of Critical Thinking

"Teaching students a set of thinking skills does not seem to be enough" (Dunn et al., 2008, p. 36) because learners often fail to transfer those skills outside the classroom. The failure of skills-based approaches to critical thinking led to the emergence of a new approach called *dispositional theories of critical thinking*.

2.8.3.1. Definition of Dispositional Theories of Critical Thinking

Because it is not enough to teach students critical thinking skills, as they may just ignore them outside the classroom, a new approach was suggested that is based on developing learners' essential thinking dispositions. These dispositions are traits that learners should manifest throughout their learning journey. They include truth-seeking, intellectual curiosity, intellectual humility, open-mindedness, trust of reason, and intellectual maturity (Dunn et al., 2008, p. 37).

2.8.3.2. Teaching Thinking Dispositions

To check whether these traits can actually be taught to learners, many researchers carried experiments and case studies to observe learners' thinking dispositions' progress throughout their years in college:

2.8.3.2.1. Personal Epistemology

Personal epistemology refers to the study of how individuals develop conceptions of knowledge. It began with the work of Perry in the 1970s (Dunn et al., 2008). The aim behind this study was to find out the nature of a person's knowledge, the manner in which it is generated, and its acquisition. Many criteria affect one's conceptions such as the social, economic, and religious background. This study led to the development of tests of personal epistemology to assess learners' development; one of these tests is Schommer-Aikins and Hutter's questionnaire of epistemological beliefs (2002). This study develops learners' truth-seeking and intellectual curiosity.

2.8.3.2.2. Developmental Theories

Developmental theories were also started by Perry in 1970 (Dunn et al., 2008). During the 1950s and 1960s, Perry studied Harvard undergraduates with the aim of observing any change in their conceptions and views of knowledge. Perry concluded that students undergo changes

that affect the way they see knowledge. He claims that as learners become more advanced, they grow more open-minded and truth-seekers.

2.8.3.2.3. Reflective Thinking Model

This study was carried by King and Kitchener in 1994, 2002, and 2004 (Dunn et al., 2008). King and Kitchener's reflective judgement model focuses on justification for belief. They studied learners' epistemological development and concluded that to understand students' epistemological development, the teacher needs to focus on the explanations provided by students for their answers and not the answers themselves (Dunn et al., 2008, p.38). According to them, answers provide shortcuts to the truth whereas explanations provide a detailed route toward the truth; they include assumptions, understandings, analysis, evaluation…

2.8.3.2.4. Reflective Judgement Interviews

According to Dunn et al. (2008), this study consists of an experiment whereby students, in a one-hour interview, answer ill-structured problems and try to justify their answers. According to the Online Business Dictionary, ill-structured problems are situations in which the existing state and the desired state are unclear and, hence, methods of reaching the desired state cannot be found. During their attempt to solve the problems, students discuss with their teacher possible alternatives, and possible corrections, so they develop open-mindedness, trust of reason, and intellectual maturity.

2.8.3.2.5. Reflective Thinking Levels

King and Kitchener (1994) identify seven stages of learners' thinking. They show how learners possess thinking dispositions in various degrees and how they progress as they move forward in their educational journey. Those in stages one and two see knowledge as certain and absolute. There is always right and wrong for them. They take knowledge from authorities whom they trust (like teachers for instance) then memorise it. In stage three, however, one still

believes in knowledge but holds that in some areas, knowledge is temporarily uncertain. Hence, what is known is "an opinion" that can be given by anyone and therefore is as good as any other opinion (Dunn et al., 2008). During stage four and stage five, students recognise that uncertainty is part of the knowing process. Their beliefs begin to be derived from their own thinking and experience and not accepted from authorities. Their intellectual maturity is shown in their awareness and acceptance of alternative approaches and perspectives. At stage six and stage seven, learners constantly use evidence and reason to support judgements. They no longer take things for granted and look for justification in all what they meet and hold.

According to King and Kitchener (1994), then, all along their path, learners move from "absolute knowers for whom knowledge is certain and received from authority figures to contextual knowers for whom knowledge is constructed and evaluated via evidence" (Dunn et al., 2008, p.41). It is the duty of teachers to accompany them during their learning and to facilitate their transition from one stage to another.

2.9. Barriers to Teaching Critical Thinking

Despite the fact that "critical thinking is a fundamental component of academic life in the western world …it is rarely taught explicitly" (Nukui & Brooks, 2007, p.03). As Dunn et al. put it: "…getting students to think in a sophisticated manner -to ask questions, define terms, examine evidence, analyse assumptions, avoid emotional reasoning, resist oversimplification, consider alternative interpretations, and tolerate uncertainty is still an uphill battle" (2008, p. 11). Many obstacles face those who wish to incorporate critical thinking in their courses such as class size; "in general, large classes are simply not as effective as small classes with critical

thinking" (McKeachie, 1970, p. 2). Such obstacles have led to resistance from both learners and teachers.

2.9.1. Learners' Resistance

According to Halpern (2003), many students show signs of resistance to incorporating critical thinking into their courses. This resistance can be explained by:

- The fact that some students -if not the majority- are used to being told what to do and when to do it. In other words, they are used to being taught 'what to think' rather than 'how to think' (Smith, 2003). Consequently, they consider incorporating critical thinking as a burden.
- Being afraid of taking responsibility for the decisions made. If students lack self-confidence and are afraid of the consequences of their actions and decisions, then they prefer letting other people make the decisions and be responsible for them.
- Low self-esteem and considering one's opinions/decisions inferior to other people's ones especially the older, wiser, and distinguished people around them. Some students underestimate themselves, their decisions, and the consequences of their decisions.
- The fact that many students think in terms of true and false and ignore the grey shades that exist in between. Accordingly, critical thinking makes them uneasy as it presents many grey areas.
- The fact that many students are used to memorisation, are satisfied with its 'sure' results (good grades), and are afraid of thinking because of its uncertain outcomes.

- Critical thinking learning may be time consuming and challenging since most of the activities undergone require presentations, carrying assignments, analysis, synthesis …
- Some students lack the necessary background to understand, analyse, integrate, and apply what they are learning.
- Cognitive laziness as some students expect to be spoon-fed and hence do not like thinking activities.

2.9.2. Teachers' Resistance

Though teachers speak in favour of critical thinking, they "continue to struggle with how to engage students in critical thinking activities" (Bandyopadhyay & Szostek, 2019, p.260). For that reason, incorporating critical thinking does not figure on the teachers' wish list. Teachers who show signs of resistance to teaching critical thinking (Halpern, 2003) generally relate it to:

- Their fear of the never-tried-before. As some teachers do not know how to teach critical thinking, incorporating it in their classrooms presents a challenge.
- The fact that some teachers are not comfortable with critical thinking. They claim that their lack of understanding of critical thinking makes it impossible for them to teach it to others.
- Time restraints as teachers are divided between many tasks.
- The fact that the outcome of teaching critical thinking is not always visible and there is no easy way to assess it.
- The fact that some students resent critical thinking; hence, some teachers avoid it in their attempt to look for contentment that raises learners' motivation.

- The teaching content vs. teaching critical thinking dilemma. For some teachers, teaching content leaves no room for teaching critical thinking, and teaching critical thinking means ignoring course content.
- The lecture habit, which is a hindrance to critical thinking. Lecturing does not help in teaching critical thinking, as it requires no analysis, no evaluation, and above all no questioning of the presented data.
- The curse of coverage, as all the teachers are expected to cover a certain amount of knowledge before the end of the term; teaching critical thinking can be time consuming and hence decreases the time allocated to content. As Halpern puts it, "on the one hand, covering all the material in a course could consume the entire term, leaving no time for critical inquiry. On the other hand, critical thinking requires thinking about something, and thus has to be introduced in terms of appropriate content" (Halpern, 2003, p.101).

To this long list, Stobaugh (2013, pp.58-60) adds familiarity and comfort with low level tasks, lack of understanding of Bloom's taxonomy, and the fact that tasks that are high level are more demanding in terms of time and effort to prepare and assess.

Teachers' resistance and misunderstanding of critical thinking lead to many mistakes:

2.9.3. Teachers' Mistakes Regarding Critical Thinking

Stobaugh (2013, pp.51-54) gathered a number of teachers' malpractices inside the classroom that, though meant to promote critical thinking, lead to opposite results.

a. The first mistake has to do with teachers' use of Bloom's verbs thinking they directly link to a particular thinking level. For example, the use of the verb 'explain' is automatically related to the second level whereas the use of 'create' is linked to the highest level of Bloom's

taxonomy. This is, in fact, inaccurate. The verb used by the teacher when stating objectives or writing instruction has little, if anything, to do with the thinking level.

b. The second mistake is related to the assumption that difficult activities mean a high-level task. This, however, is not always true; some activities are hard (remembering details for instance), but they are at the bottom of Bloom's taxonomy.

c. The third mistake is assuming that all students work at the same thinking level. The truth is even when teachers assign the same activity to learners, there are some who work on one level (e.g., create) and others who work on another (e.g., remember).

d. The last mistake has to do with assessment tools. Sometimes, teachers use the same assessment tools multiple times, and eventually, learners' responses become a matter of remembering instead of high-level thinking.

2.10. Addressing the Teachers' and Learners' Resistance

To overcome these issues, a number of measures can be taken.

- Teachers might use activities that foster critical thinking in addition to their usual content. These activities can be a novelty or just an adaptation to the already existing ones.
- Changing course format and replacing lectures by activities. Though this might be challenging, the outcome is worthwhile.
- Using alternative teaching methods like interteaching. Interteaching is a new method of classroom instruction; its roots go back to the work of Skinner and his operant conditioning (Halpern, 2003). In its simplest form, it consists of a mutually probing, mutually informing conversation between two people (ibid.). Applied in the classroom, it creates a learning atmosphere where both students and teacher continually interact with one another; by so doing, the

teacher can reinforce some of the behaviours that s/he hopes to see in the students (ibid. p.155).

Broadly, the issues related to familiarity and comfort with low-level tasks can be solved by embedding interpretive exercises (Stobaugh, 2013, p.60). Interpretive exercises are defined as "items or assessment tasks that require the student to use reading materials, graphs, tables, pictures, or other material to answer the items" (Nitko & Brookhart, 2007, p. 514). In practice, interpretive exercises begin with introductory materials like graphics, quotes, or scenarios. Then, students analyse the introductory materials and use them "to complete the instructional task or assessment" (Stobaugh, 2013, p.60). Such exercises develop critical thinking because "students must make connections between the introductory materials provided and their prior knowledge, which might include facts and terms to answer the question" (Stobaugh, 2013, p.61). Interpretive exercises are incorporated in the classroom, through scenarios, real-world examples, and authentic tasks (Stobaugh, 2013, p.65):

- A scenario is a sequence of events or "a fictional description of an action or events" (Stobaugh, 2013, p.65). Scenarios provide a way of assessing students' application of knowledge in context. They provide a way to "assess thinking … while maintaining higher-level thinking" (Stobaugh, 2013, p.66).
- Real-world examples provide connections between the content and real-world situations. Through real-world examples, "students become aware of the extension of their learning in realistic circumstances" (Stobaugh, 2013, p.66) because they "provide a way for students to see the content applied in a meaningful, real way" (Stobaugh, 2013, p.66).
- Authentic tasks "simulate job challenges, requiring research and multiple steps to create the solution or product" (Stobaugh, 2013, p.67).

After providing solutions to the obstacles of teaching critical thinking comes the next step, which is incorporating critical thinking skills in curricula. This is done through instructional methodologies.

2.11. Instructional Methodologies

According to Halpern (2003), instructional methodologies are strategies, and techniques used inside the classroom to increase students' critical thinking. Such strategies include defining concepts, reasoning elements, concept mapping, systems thinking, producing argument analysis… Two important aspects are to be considered; first students must be taught the use of those strategies, and second, students must be assessed about them.

Before they begin instruction, teachers must first choose the level of critical thinking appropriate for the course; this might depend on course content, learners' age, their linguistic level, and their needs. The next step is to choose the instructional methods that suit that level. At last, teachers have to choose course activities, assignments, and -finally- exam formats. With each activity, assignment, or exam, teachers need to specify the critical thinking abilities involved. The complexity of the critical thinking abilities progresses through time.

2.11.1. Strategies to Teach Students to Think Critically

As Hiler and Paul (2006) put it, "although bringing critical thinking into the classroom ultimately requires serious, long-term development, you do not need to sweat and slave to begin to make important changes in your teaching. Many simple straightforward, yet powerful, strategies can be implemented immediately" (p.2). Rezaei et al. (2011, pp.6-7) suggest a number of strategies to encourage critical thinking in class.

- Provide hand-outs containing information about critical thinking techniques (evidence, fallacies, assumptions…).
- Bring everyday examples to the class that show presence/absence of critical thinking.

- Provide students with problems to analyse and solve.
- Provide opportunity to practice critical thinking skills.
- Test critical thinking.
- Set the example.

2.11.2. Techniques to Teach Students to Think Critically

As Halpern puts it: “if there is one skill that college should teach students, it is how to apply what they learn in their classes to their lives” (2003, p.51). This could be achieved through incorporating techniques that promote learners’ critical thinking. Some of the techniques that lead to the development of critical thinking (Halpern, 2003) are:

- Developing a sceptical approach to problem solving and decision-making as it helps learners ask questions that lead to more elaborate and more rational answers.
- Breaking down problems into their simplest components.
- Maintaining a vigilant attitude toward personal biases, assumptions, and values that may interfere with making an objective decision. Learners have their own views of things that are affected by their surroundings and backgrounds; teaching them to check their assumptions and personal biases takes them a step forward towards being objective and more rational.

Rezaei et al. (2011, p.7) suggest other techniques to make teaching/learning more thinking-oriented; these include media analysis, problem solving activities, and self and peer-assessment assignments, debates, forums, and discussions with controversial, relevant, and interesting topics presented in advance to provide enough time for learners to think and express their opinions.

2.12. Activities to Promote Critical Thinking

Many teachers consider incorporating critical thinking a challenge because activities that promote it are more difficult to design, implement, and grade. Some even perceive this investment to be too costly in terms of time and effort (Dunn et al., 2008, p. 24). However, before integrating critical thinking in any course, teachers need first to have a comprehensive conception of critical thinking and make its role and importance explicit to students. Then, the teacher can move towards the cognitive skills, starting from the bottom. This does not mean dealing with one skill at a time, but the activities presented to learners can target one cognitive skill in particular and focus on its promotion. Many examples of such activities exist. Among such activities are:

- defining key terms in one's own words;
- asking students to distinguish between an inference and a behaviour;
- using examples from cartoons or media (Halonen, 1995);
- incorporating media summaries, explanations, and critiques in the course;
- writing summaries of lectures or reading materials, as it helps students to reorganise information and put it in their own words (Halpern, 2002);
- and asking the learners to draw connections between theoretical knowledge and their everyday life by keeping a journal…

Generally speaking, the activities undertaken inside the classroom are of two types (Mason, 2007): reasoning activities and learning activities. In learning activities, "the pupil is understood as a passive recipient of habits of mind and action, acquiring these habits by mimesis rather than by reasoning" (Mason, 2007, p.347). Reasoning activities, on the other hand, involve "considerable mental activity on the part of the pupil, who, using her own capacity to reason, has to work out what to think and do" (ibid.). Critical thinking activities are reasoning activities that obey certain characteristics.

2.12.1. Characteristics of Critical Thinking Activities

According to Halpern (2003), there are certain criteria that activities should obey in order to truly promote critical thinking in learners. The activities should explicitly teach the skills of critical thinking, develop the dispositions for effortful thinking and learning, direct learning activities in ways that increase the probability of transcontextual transfer, and make metacognitive monitoring explicit and overt (Halpern, 2003, p. 14).

Gardner (2005) claims that any activity that aims to promote critical thinking should be divided into three phases. The first phase consists of previewing the topic; in this phase, students discuss an issue related to the topic. The aim of this phase is to encourage students to examine personal and cultural beliefs. The second phase focuses on reflecting on content. During the second phase, students think critically about major issues, relating them to their own knowledge and experience. The final phase is a discussion that aims at searching for connections between ideas.

According to the Foundation for Critical Thinking, faculty should design critical thinking assignments obeying four criteria (The Foundation for Critical Thinking, n.d.). First, assignments should be substantive and meaningful and address fundamental and powerful concepts. Second, they should require students to use appropriate cognitive skills. Third, they should hold students' thinking to intellectual standards. Finally, assignments should ask questions requiring reasoned judgement within conflicting systems or complex questions requiring evidence and reasoning within one system.

2.12.2. Examples of Critical Thinking Activities

Examples of activities that promote critical thinking are varied. The following are some of them.

2.12.2.1. Critical Thinking Exercises

Some of these exercises are designed by Peden and Keniston (1991). They all share the same format: multiple choice assay questions. The learners first read an essay, then they are given a number of statements and are asked to recognise the assumptions, inferences, and observations made there.

2.12.2.2. Debates

Debates help learners view issues from multiple perspectives. They obviously develop learners' communicative competence (Ur, 1981), but also promote their critical thinking skills (Dunn et al., 2008, p. 25) and teach the students arguing which is referred to, by some scholars, as the fifth skill (Suzuki, 2019, p.1). In successful debates, "everyone listens closely, responds thoughtfully, clarifies statements and justifies their thinking" (Cohen, 2015, p.222). While debating, we first need to elicit knowledge. "Knowledge elicitation is the set of methods used to obtain information about what people know and how they know it" (Crandall et al., 2006, p.10). After elicitation, there comes enlarging one's knowledge. This can be achieved through questions and answers because "the growth of knowledge depends entirely on disagreement" (Cohen, 2015, p.217). While debating, learners develop competencies such as perceiving and understanding questions from different perspectives, understanding the different forms of logic, knowing and understanding the structure of argument forms, in addition to researching the topic, recording and organising information, presenting one's case, listening carefully, detecting any weaknesses, persuading, etc. (Suzuki, 2019, p.6).

2.12.2.3. Self-Assessment Assignments

According to Carroll and Peden (2007), self-assessment assignments are considerably beneficial to learners. By undertaking them, learners recognise their strengths and weaknesses

and assess how well they met the course goals which will later help them develop their humility and truth-seeking.

2.12.2.4. Audio-visual Assignments

Series and films take the lion's share in learners' lives. Turning this watching into a classroom activity will certainly raise learners' motivation and make them more engaged. The aim of this activity is to make students watch and then evaluate, either orally or in writing, the accuracy of the portrayals and depictions in the audio-visual material (Rezaei et al, 2011, p.7). This works on learners' precision, depth, and breadth.

2.12.2.5. Internet Assignments

The internet offers inexhaustible sources of information; those resources are not always valid and useful though. The usefulness of information depends on whether one reads, hears, or views them critically (Paul & Elder, 2008b, p.16). As an assignment, learners can be asked to critique information found on the Internet and determine their validity.

2.12.2.6. Service Learning

"Service-learning seeks to engage individuals in activities that combine both community service and academic learning" (Furco, 2002, p.25). In this type of activity, learning takes place outside the classroom. It is based on the concept of learning course concepts through active service in the community. It presents learners with real life opportunities to discuss and analyse course material (Halpern, 2003, p.175).

2.12.2.7. Responding to Articles

Responding to newspaper/internet articles is a way to promote learners' critical thinking (Dunn et al., 2008, p. 25). Generally speaking, this activity consists of reading an article, responding to it, and then creating a poster. Halpern (2003, p.264) suggests a set of steps to

follow in order to make this activity more beneficial. The steps focus on how to respond to the article.

- First, the students should list the reasons for believing the claim is true.
- Then, the students should list the reasons for believing the claim is not true.
- The next step is to decide the extent to which evidence is presented in the article.
- Finally, the students decide the extent to which the evidence provided is convincing.

2.12.2.8. Problem Solving Tasks

Problem-solving is "a 21st century skill which is essential for learning, work, and daily life" (Yang, 2012, p.366). Problem solving is "a major use in critical thinking and critical thinking is a major tool of problem solving" (The Foundation for Critical Thinking, 1999, p. vii). In order to solve problems, Boostrom (1992, p.144) suggests the big into little strategy i.e., to break the problem down into smaller problems. Plenty of problem solving tasks are available in the literature; all the teacher has to do is 'pick and choose'.

2.12.2.9. Language Games

The term game has been used in language teaching "to cover a wide range of classroom activities" (Byrne & Rix, 1979, p. 7). "Game playing is integral to learning and human development" (Yang, 2012, p.365). However, teachers should keep in mind that "…there must be an objective if the game is to have any motive power" (Byrne & Rix, 1979, p. 8). In addition to that, the game in question should have a goal that, more or less, interacts with the initial learning goal (Weitze, 2014, p.227). Moreover, games are not only used for their fun part; they represent an assessment tool through which teachers are "able to investigate if the student has achieved the learning objectives while playing the game" (Weitze, 2014, p.242). They also help develop critical thinking skills (Gambrill & Gibbs, 2009) since solving a game/puzzle and critical thinking share areas of similarity (Cohen, 2015, p.93). Byrne and Rix (1979) suggest a

number of information exchange games that help develop learners' critical thinking. Such games include 'describe and draw', 'describe and arrange', 'describe and construct', 'find the difference', 'complete it', 'ask the right question', 'compare and check' (also called flag games), 'picture dominoes', 'happy families games', 'board games', 'the gift game', 'travel games', 'whole class games', 'find your partner', 'where are they?', 'the detective game', 'collage'…etc. (Byrne & Rix, 1979, pp. 18-75). These games develop skills such as finding patterns, detecting relationships (especially in language special use like metaphors and allusions), and following the cause/effect relationships.

Overall, it is important to note that the type of activity undertaken is not the most important aspect in teaching critical thinking, but it is rather how the teacher and then the students handle it. As Dunn et al. put it, "the way instructors frame their assignments determines whether the technique will build foundation, higher level, or complex skills" (Dunn et al., 2008, p.28) and "the way an instructor conducts certain class activities is vital to whether that activity encourages critical thinking" (Dunn et al., 2008, p. 24).

2.13. Infusing Critical Thinking in Courses

One of the barriers to teaching critical thinking is time constraints. Teachers are bound by time. If teachers want to include critical thinking instruction in their courses, this might mean giving less time to their real content. The answer to this lies in infusing critical thinking in course content. The first step before infusing critical thinking in any course is to weave critical thinking objectives into the fabric of a course. Promoting learners' critical thinking should become one of the teacher's priorities. The second step would be to model critical thinking throughout the school year or what is called 'demonstration teaching' (The Foundation for Critical Thinking, 1999, p. viii). Inside the classroom, "teachers should initially model for students whatever it is they wish those students to do" (Brookfield, 2017, p.3). Furthermore, the teacher might adopt ignorance questions while teaching any course content. Ignorance

questions are questions asked by the teacher to which no answers can be found either in the lecture or in the textbook. The aim behind asking such questions is to promote curiosity and critical thinking in learners. Finally, the 'Name a Flaw' challenge represents a good way to infuse critical thinking in courses. During presentations, learners usually make mistakes. After presentations, learners are asked to detail the flaws in their own presentations or the presentations of others. This develops learners' analysis and evaluation skills and their humility and open-mindedness. Dunn et al. (2008, p. 25), for example, suggest a framework which gathers a number of activities to develop critical thinking while doing any piece of research for any course subject. These are reviewing a journal article, engaging in debates, writing a research paper, submitting discussion questions for class, and evaluating case studies. Overall, infusing critical thinking instruction starts with some teachers' practices and ends with assessment, going through a number of activities.

2.13.1. Infusing Critical Thinking in the Listening and Speaking Course

In order to make the *Listening and Speaking* course more critical, teachers should redesign the lessons so that "they involve students in the development of critical thinking, i.e., to adapt content, language tasks, learning strategies in cognitive and affective domains" (Vdovina & Gaibisso, 2013, p.5).

In a typical *Listening and Speaking* course, teachers aim to develop learners' communicative competence. In a thinking-based *Listening and Speaking* course, teachers aim to develop -in addition to communicative competence- students' seminar skills (Cohen, 2015, p.230). Seminar skills cover five categories: communication skills, comprehension skills, contextualisation skills, reflexivity skills, and cooperativeness (ibid.). Communication skills entail being succinct, clear, and relevant in one's contribution. Comprehension skills refer to the ability to see the core ideas. Students should learn to listen to what others say and be open to different points of view. Contextualisation skills concern depth and breadth of view; they include seeing

beyond boundaries, remaining objective, considering practical applications, making new connections, and being original. Reflexivity skills encompass the skills to reflect on one's own thinking and on how well one communicates/expresses ideas. Finally, the skill of cooperativeness refers to the ability to work with others.

2.13.1.1. Critical Thinking in Speaking

"Speaking is a powerful tool in learning" (Paul & Elder, 2016, p.31). A regular speaking course generally includes speaking activities, communication strategies, and speaking strategies. Speaking activities are of three types (Dendrinos, n.d., pp. 23-25): controlled, guided, and creative. The first type includes activities that are accuracy-based, and controlled by the teacher, where learners listen individually or in a group and then repeat. Guided activities encompass model dialogues, guided role-play and the like. Creative activities are fluency-based. In such activities, the scenario is created by the teacher, but the content is not. Examples include free role-play, discussions, debates, simulations, communication games … Communication strategies are used to prevent breakdowns in communication (Dendrinos, n.d., p. 18) such as not knowing a word or not understanding the speaker (Dendrinos, n.d., p. 21). Such strategies include message adjustment, avoidance, paraphrase, approximation, appeals for help, asking for repetition, clarification, giving an interpretive summary, etc. (Dendrinos, n.d., p. 22). Speaking strategies guarantee effective communication; they include turn taking, giving opinions, keeping a conversation going, disagreeing politely, persuading, and so on (Frank, 2013, p.9). Starting from a typical speaking course, teachers can 'adapt' their practices to make the speaking course more thinking-directed, or they can 'adopt' one of the following two models.

2.13.1.1.1. The Elaboration Likelihood Model

This model is based on the assumption that students are motivated to examine arguments more carefully when issues are important to them (Cook et al., 2004). Hence, in order to promote learners' critical thinking in speaking classes, the teacher needs to make students analyse material that is relevant to their life to maximise motivation and effort. Topics might rise from students' current areas of interest that could be found by a simple click to browse the 'buzz of the week', or through administering a needs analysis at the beginning of the academic year that details learners' likes and dislikes.

2.13.1.1.2. The Socratic Method

Socrates and Plato are two great figures of western philosophy. Plato advocated a lecture-based approach to learning whereas his master, Socrates, favoured an interactive, debating style in which he engaged people in conversation (Cohen, 2015, p.225). Socrates (c.470-399 BC) believed that "the best way to teach and learn was through disciplined, rigorous questioning" (Elder & Paul, 2009, p.68). This method of teaching became known as the Socratic Method. The Socratic Method is a constructivist theory concerned with "how learners build their own mental structures through interaction with their environment" (Brockbank & McGill, 2007, p.17). Over the centuries, the Platonic approach prevailed. Recently, though, the Socratic Method made its reappearance in the teaching/learning scene in an attempt to democratise the learning environment (Cohen, 2015, p.228). The modern version of the Socratic Method is based on the notion of dialogue in the sense that the latter "is conducive to the potentiality of reflective learning" (Brockbank & McGill, 2007, p.67). Brown (n.d.) maintains that dialogues differ from debates in that they are collaborative and about finding solutions together; they foster open-mindedness and lead to learning. They can be among any number of people (Brockbank & McGill, 2007, p.67), and hence make a convenient activity in any speaking class as they work on learners' communicative competence. Critical thinking can also be fostered

through dialogues because, as Freire puts it, “true dialogue cannot exist unless the dialoguers engage in critical thinking” (Freire, 1970, p.92). Such dialogues, or Socratic discussions, may be of three types: spontaneous, exploratory, and focused (Paul & Elder, 2007b, p.50). Spontaneous discussions provide models of listening critically as well as exploring beliefs, exploratory discussions help when teachers want to find out what students know about a variety of issues, and focused discussions are held to probe an issue or concept in depth (ibid.).

The first step to incorporate critical thinking in dialogues is to teach students to ask good questions and follow out the implications of thought; implications are “claims that follow from other claims. They represent logical relationships between ideas or things” (Elder & Paul, 2009, p.34). The role of the teacher at this stage is to teach learners how to ask significant questions. In order to achieve this aim, the teacher may present learners with excerpts from Socratic dialogues to help learners identify all types of questions. The second step is to teach the students to value clarity, accuracy, and precision of thought on the one hand and relevance, depth, and breadth on the other hand. The teacher should make sure the students apply those standards, and hence, present them with strategies to facilitate their command of the questioning process and their intellectual traits in the long run. Finally, because practice makes perfect, the teacher should practice the Socratic dialogue as often as possible. After all, one only learns to dialogue Socratically by doing it a lot.

2.13.1.1.2.1. Topics in the Socratic Method

The known Socratic dialogues discuss topics that were, back in the time, controversial because they dwelled upon moral issues that shaped the Greek society. Examples of Socratic dialogues include Laches (about courage), Theaetetus (about knowledge), Charmides (about self-control), Symposium (about love), Ion (about art), Euthyphro (about temperance), Gorgias (about truth), Hippias Major (about beauty), Meno (about excellence), Gorgias, The State (about justice) … (Britannica, n.d.). Generally speaking, the Socratic Method is based on the

idea that questions that lead to one correct answer are not fruitful as they bring discussions to an end quickly. The best topics to choose in Socratic dialogues, then, are moral and controversial issues. The latter engender disagreement and hence push the discussion to go on. Contemporary topics that can be adopted in speaking classes include: What is respect? What is authenticity? What is autonomy? What is helpfulness? What is fame? What is competence? What is politeness? What is willingness? What is modesty? What is civilisation? (De Maeyer, n.d.).

2.13.1.1.2.2. Types of Questions in the Socratic Method

The starting point in any Socratic conversation is a 'starting question'. Starting questions can be specifical (whereby the students are asked to find a concrete example in which the question played a role), conceptual (wherein there is no need to consult an authority or other sources; the question can be answered with thinking), or controversial (something that makes learners wonder, not something to which the answer is already known) (De Maeyer, n.d.). However, as the Socratic Method is based on asking question that lead to further questions; one has to have a wide range of questions to ask in order to carry on with the discussion. Learners should be taught to ask questions about things instead of taking them for granted (Boostrom, 1992, p.11). Questions that are used in Socratic dialogues are arranged as follows:

2.13.1.1.2.2.1. Definitional Questions

They revolve around the fact that "Truth is always a matter of perspective or opinion" (Lau, 2011, p.53); consequently, definitional questions aim at clarifying one's concepts. As the Socratic Method usually deals with moral and controversial issues, participants need to define their own concepts or views of terms. Unless an understanding of terms and concepts is reached, the discussion can turn into chaos. Definitional questions usually begin by 'what is X?'

2.13.1.1.2.2.2. Questions about Knowledge

Questions about knowledge tend to focus on explaining the term/concept even more; they look for the origin of one's beliefs. Typical questions about knowledge look like this: how do you know X means this? How did you come to this understanding? (University of Nebraska–Lincoln, n.d.).

2.13.1.1.2.2.3. Explanatory Questions

Explanatory questions look for the reasons behind things; the reasons why what one believes in is true (University of Nebraska–Lincoln, n.d.).

2.13.1.1.2.3. Role of the Teacher during Socratic Dialogues

During Socratic dialogues, the role of the teacher is intensified. S/he is supposed to ask questions of course, but also make suggestions and encourage students to participate. When the debate is heated, the teacher needs to look for common ground and finally ask for feedback when the debate is over.

2.13.1.2. Critical Thinking in Listening

It is common knowledge that "Much human listening is passive, associational, uncritical, and superficial" (Paul & Elder, 2016, p.31). Poor listening leads "not only to incomplete internalization, but also to blatant misunderstanding" (ibid.). Critical thinking can be infused in listening classes through training learners to listen actively. Listening actively is not limited to hearing what the speaker is saying but is "a two-way process involving both sender and receiver skills" (Brockbank & McGill, 2007, p.245). In addition to the messages the sender conveys, the active listener needs to pay attention to body messages. As Brockbank and McGill put it, "active listening also includes listening to what a person's non-verbal messages are saying" (2007, p.245). Non-verbal messages convey meanings that are as important as verbal messages. In listening classes, the teacher should frequently ask students to summarise each other's speech; "this encourages students to actively listen to each other" (Hiler & Paul, 2006, p.6) leading

them to develop their critical listening. Critical listening is "a mode of monitoring how we are listening so as to maximise our chances of accurately understanding what another person is saying" (Elder & Paul, 2009, p.14). The aim of developing learners' critical listening is to help them enter "sympathetically and analytically into the perspective of others" (ibid.). To help students develop critical listening abilities, Paul & Elder (2003, p.9) suggest structures such as calling on students regularly and unpredictably and inviting them to ask questions, summarise, elaborate, give examples…

2.14. Assessing Critical Thinking

Alderson and Wall (1993, p.115) ascertain that "tests are held to be powerful determiners of what happens in the classroom"; this is referred to as the washback effect which is described as the influence of testing on teaching and learning. Consequently, testing affects teaching and vice versa. Since critical thinking made its manifestation in language curricula, the question of assessing it has dominated academic debates; "if one of our primary goals is that students become…critical thinkers, then a primary goal in assessment is to determine the extent to which students are learning how to assess and improve their own thinking and learning" (Paul & Elder, 2007a, p.20). As Halpern puts it, "assessing critical thinking is a difficult task because the construct is not easy to define…. we strive to assess different components of this construct" (2003, p.77). In other words, one assesses critical thinking by assessing its different components.

There exists a myriad of approaches and tools that can be used to assess critical thinking. Reed (1998), for example, suggests three main approaches: research or instruction designed assessments, teaching students to assess their own thinking, and commercially available

standardised general critical thinking tests. To begin with, to design assessment tools based on research or instruction, the teacher needs to adopt certain basic classroom practices that help him/her discern critical thinking in the students. For example, as part of their homework, students submit a page that requires evidence of critical thinking. This could be shown in learners' use of examples, arguments /counterarguments, or their generation of questions. In addition, as critical thinking is highly shown in writing activities, the teacher may have a specific critical thinking writing activity that all students complete regularly, and while reviewing them, the teacher looks for evidence of critical thinking. Another way to assess critical thinking is via teaching students to assess their own thinking. The teacher can train the students to self-assess. Simple questions such as 'what is the best feature of your project/test/performance?' What aspects of performance would you improve upon if you had more time?' …help learners think of their own thinking and help teachers assess learners' critical thinking. Self-reflection exercises are a good way to train learners to think critically; the teacher might use them as a way to assess critical thinking. Finally, there are the commercially available standardised critical thinking tests (Reed, 1998). These, in addition to other assessment tools, are discussed in the next section.

2.14.1. Standardised Tests of Critical Thinking

The teacher may use standardised critical thinking tests (Norris & Ennis, 1989) to assess learners' critical thinking. The commercial standardised tests are generally found online. They are used by professionals and company directors to assess their employees' cognitive abilities, in general, and their critical thinking skills, in particular. All standardised critical thinking tests come in multiple-choice questions (MCQ), multiple ratings, or essay form. Generally, the MCQ form assesses critical thinking skills such as identifying assumptions, recognising an author's purpose, selecting the most defendable inferences… Such tests provide options like

‘reasonable, probably reasonable, probably unreasonable, clearly unreasonable’, or ‘reliable, probably reliable, probably not reliable, and unreliable’. The multiple rating form tests provide more open-ended abilities. Among these are thinking within opposing points of view, the willingness to suspend judgement and the ability to synthesise data into a logical scheme. The essay form addresses critical thinking abilities and traits e.g., the ability to construct an interpretation, to make a logical outline, to figure out ways to gather information, to take an unclear and complex real issue and to reformulate it…

A number of tests exist in the market that promise to test learners’ critical thinking and offer final scores that might be used for both academic and professional decisions. Existing critical thinking assessment tools include the Cornell Class Reasoning Test, Form X (1964), the Cornell Conditional Reasoning Test, Form X (1964), the Cornell Critical Thinking Test, Level X (1985), the Cornell Critical thinking Test, Level Z (1985), the Ennis-Weir Critical Thinking Essay Test (1985), the Judgment Deductive Logic and Assumption Recognition (1971) test, the Logical Reasoning test (1955), the New Jersey Test of Reasoning Skills (1983), the Ross Test of Higher Cognitive Processes (1976), the Test on Appraising Observations (1983), the Test of Enquiry Skills (1979), the California Critical Thinking Disposition Inventory (CCTDI), and the Watson-Glaser Critical Thinking Appraisal (1988) (Stein et al., 2003, appendix). The last two are the most currently used ones.

2.14.1.1. The California Critical Thinking Disposition Inventory: one of the main critical thinking tests in the field is the California Critical Thinking Disposition Inventory (CCTDI) developed in 1992 by Peter and Facione (Dunn et al., 2008, appendix). It targets college age, adults, and professionals (ibid.) and consists of 75 Likert type questions that represent seven critical thinking constructs (Stein et al., 2003).

2.14.1.2. The Watson-Glaser Critical Thinking Appraisal, Forms A and B: this test is in MCQ form and was developed by Pr. Goodwin Watson and his student Edward Glaser (Watson

& Glaser, 1980). Its main aim is to assess the cognitive ability of professionals; consequently, it was first used in graduate, professional, and managerial recruitment. The Watson-Glaser test is considered one of the main evaluating tools for cognitive abilities in professionals; it measures the critical skills that are necessary for presenting one's opinions in clear, structured, well-reasoned way and convincing others of one's arguments. It includes sections on induction, assumption identification, deduction, judging whether a conclusion follows beyond a reasonable doubt, argument evaluation plausibility, reasonableness, and realism of student responses; it is graded on the basis of the number of responses judged successful (Dunn et al., 2008, appendix).

Table 01.

Current Critical Thinking Tests, Types, and Weaknesses

Test	Type	Weaknesses
Academic Profile	Objective (different measure for humanities, social science, and natural science)	-Lacks sensitivity from freshmen to seniors. -Proficiency levels change across various skills. -Does not measure improvement in critical thinking from coursework
California Critical Thinking Dispositions Inventory (CCTDI)	75 Likert scale items	-Not a measure of critical thinking ability or skills
California Critical Thinking Skills Test (CCTST)	34 multiple choice items	-Low reliability -Low item-total correlations -principle component analysis did not support item classification. -Some indications of cultural bias.
Collegiate Assessment of Academic Proficiency (CAAP)	32 multiple choice items	-Limited to ability to analyse, clarify, evaluate, and extend arguments.
College Outcome Measures Program (COMP)	60 multiple choice items	-DIF favours whites for often. -single factor according to factor analysis.
Cornell Critical Thinking Test (CCTT)	50 multiple choice items	-Gender DIF analysis found three items favoured males, while one favoured females. -issues of validity.
Critical Thinking Assessment Battery (CTAB)	Combination essay and objective	-No validity studies.
Measure of Intellectual Development (MID)	Single essay	-Low reliability

Test	Type	Weaknesses
ETS Tasks In Critical Thinking	Nine essay/short answer	-Low reliability -No longer available. -Bias in scoring guide
Problem Solving Inventory (PSI)	35 Likert statements	-Not sensitive across academic levels. -This is a test of confidence and attitude toward problem solving (not skills based).
Reflective Judgement Interview (RJI)	Standardised probe questions	-Gender-biased. -Limited range of critical thinking covered.
Watson-Glaser Critical Thinking Appraisal (WGCTA)	80 multiple choice items	-Possible test bias. -Lack of cross-validation studies. -Six low item correlations with total

Note: The most commonly used standardised critical thinking tests. From *Assessing Critical Thinking Skills* (appendix), by Stein, Haynes, & Unterstein, 2003, retrieved from

Table 01 gathers current critical thinking tests and specifies their type and weaknesses. If the teacher is not satisfied with all of them, s/he can opt for alternative tools to assess learners' critical thinking.

2.14.2. Assessment of Critical Thinking Using Behavioural Checklists

This kind of assessment was used in James Madison University; it comprises a scale of ninety questions with ten skill areas (including critical thinking) relevant to the goal of the course at hand (Dunn et al., 2008). Each question describes a specific behaviour; respondents are supposed to choose one of two possible answers (applies to me/does not apply to me) (ibid.). One of the areas covered in this test is critical thinking/problem-solving. This area includes three sections: evaluating research study, evaluating costs/benefits, and considering human biases when making decisions. Each of the sections has three items. For instance, in the first section (evaluating research study), one of the items is 'I have written a critique of a published research study' and respondents are supposed to choose whether this item applies to them or not. The range of this scale is 0-9, with higher numbers reflecting that the student has engaged in more of those activities (ibid.).

2.14.3. Assessment of Critical Thinking Using Student Reflections

According to Dunn et al. (2008), this kind of tests focuses on the students themselves and looks for their own evaluation of their learning journey. In its form, the test comprises a number of learning goals. The students state whether they have achieved those goals after completing the course.

2.14.4. Nonverbal Critical Thinking Tests

Raymond Cattell, a psychologist, divided intelligence into two types: fluid and crystallised (Kent, 2017). Fluid intelligence refers to the ability to be adaptable and solve problems even in unfamiliar situations whereas crystallised intelligence gathers those who make use of acquired knowledge or information. Nonverbal critical thinking tests test fluid intelligence (IQ Test). The test-taker is presented with patterns and s/he is supposed to find the missing ones. Examples of such tests include Raven's Progressive Matrices (Jaarsveld et al., 2010).

Conclusion

Critical thinking is considered one of "the most important learning outcomes of a university education" (Schendel & Tolmie, 2017, p.673). Teaching it, however, continues to spill ink since not all researchers deem it a top priority and advance arguments that, notwithstanding its benefits, speak of the difficulty of incorporating this skill in classrooms. Though incorporating critical thinking in curricula is, without the shadow of a doubt, a challenging task, teachers and course designers should bear in mind that the ultimate gains outweigh the challenges. Moreover, following the approaches, activities, and practices suggested by scholars such as Young (1980), Halpern (2003), Gardner (2005), Lau (2011), Dendrinos (n.d.) and many others will certainly ease the difficulty of making critical thinking a regular component of courses. Perhaps the best way to convince designers, teachers, and learners to infuse critical thinking in lessons is by

incorporating it in evaluation as well. If critical thinking skills figure among test questions, all the aforementioned parties would eventually demand its inclusion in instruction. Finally, it is worth noting that despite the fact that assessing critical thinking is yet more challenging than teaching it, there exists a number of standardised tests that could be used by teachers until their understanding of critical thinking reaches a mature level and they become capable of designing their own tests. This chapter, dedicated to teaching this fundamental skill, opens with drawing a clear distinction between education with and without critical thinking; then it deals with the teachability of such a skill. Next, it explores thinking-based pedagogy and highlights approaches to teaching critical thinking. The chapter concludes with activities to promote critical thinking and tests to assess it.

CHAPTER THREE: TASKS IN LANGUAGE PEDAGOGY

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Introduction

English as a global language (Nunan, 2004) continues to attract the attention of millions of learners worldwide. Researchers, designers, and teachers have been attempting to develop approaches, methods, and techniques to make English language learning easier and more straightforward. One of the innovations in the field has been the use of tasks in classrooms. Tasks have been used in foreign language classrooms since at least the mid-1970s (Hai-Yan, 2014, p.64), and their applications in classrooms have proved their efficacy since the Bangalore Project (Nunan, 2004). In this theoretical framework, a brief description of the evolution of tasks in language learning and teaching is presented in addition to some authors' insights on that concept along with their characteristics, components, and types. Afterwards, classifications of tasks and criteria for their choice and analysis are displayed. The chapter closes with concepts such as task sequencing and planning, task phases, repetition, and authenticity.

3. 1. Towards a Task-based Teaching

A hardly deniable truth is that "Since the time of Sophocles almost two and a half millennia ago, it has been recognized that most successful learning is based on experience rather than just teaching or training" (Race, 2000, p.335). This view was brought back into the light around 1913 in "Dewey's views about the importance of experience, relevance, and intelligent effort for effective learning" (Ellis, 2009, p.222) and has continued to attract the attention of researchers and educators especially since "Candlin and Murphy's (1987) seminal collection of papers" (Ellis, 2009, p.221). As a consequence, in recent years, applied linguistics has seen a "move away from a linguistic syllabus to one built around the sequencing of real-life, communicative tasks" (Burrows, 2008, p.11) and language teaching "has changed to incorporate a higher proportion of meaning-based activities" (Skehan, 1998, p. 268).

Nowadays, tasks are considered as “the most obvious means for organising teaching” (Ellis, 2003, p. IX) and are “widely used in language classrooms around the world under various guises” (Association for Language Learning, 2013, p.247). Put differently, one of the most effective ways to teach a language is by engaging learners in language tasks which require authentic language use, but what is a task?

3.2. Definition of Task

Over the years, many definitions have been given to ‘task’. Those definitions differ quite widely in scope and formulation (Harper & Widodo, 2018; Thomas & Reinders, 2010; Van den Branden, 2006) to the extent that no agreement has been reached among researchers on one definition (Mann, 2006, p.220). This has made the concept of task “a somewhat fuzzy one” (Littlewood, 2007, p. 5). The many definitions differ according to the “purposes for which tasks are used” (Bygate et al., 2001, p.11). Literally speaking, a task is defined as “any piece of work that has to be done and, as such, every task has a goal” (Hollnagel, 2003, p.19). In the literature, a task means way more than that. Following is a chronological description of the literature available.

In his early works, Nunan defines task as “a piece of classroom work which involves learners in comprehending, manipulating, producing or interacting in the target language while their attention is principally focused on meaning rather than form” (1989, p.10). This definition is the most basic one as it emphasises two main aspects of tasks: language use, and focus on meaning rather than form.

Compared to Nunan’s definition, the definition provided by Coughlan and Duff seems rather simplistic as they look upon task as a “kind of ‘behavioural blueprint’ provided to subjects in order to elicit language data” (1994, p. 174). In other words, Coughlan and Duff view tasks only as a means to generate language use; accordingly, any classroom practice could be considered a task.

Just like Nunan, Willis emphasises language use, but adds two important aspects to his definition of tasks. For him, tasks are 'activities where the target language is used by the learner for a communicative purpose (goal) in order to achieve an outcome' (Willis, 1996, p.23). What distinguishes a task from any other classroom activity, then, is language use that is triggered by a communicative purpose to achieve an outcome.

Bygate combined Nunan's and Willis's definitions and offered a core definition of the term task. For him, "a task is an activity which requires learners to use language, with emphasis on meaning, to attain an objective" (Bygate, 2001, p. 11).

Two years later, Ellis presented his definition of task that specifies that a task seeks to develop the target language proficiency through communicating; it seeks to engage learners in using language pragmatically rather than displaying language; and it requires a primary focus on meaning (Ellis, 2003, p. 9). In other words, Ellis agrees with the established definitions, but he goes further and adds another dimension. For him, a task "requires the participants to function primarily as 'language users' in the sense that they must employ the same kind of communicative process as those involved in real-world activities" (2003, p. 3). i.e., Ellis adds an important element in the definition of task: resemblance to real-world activities.

Van den Branden (2006), in a more recent attempt, presents a rather broad definition of task. For him, "a task is an activity in which a person engages in order to attain an objective, and which necessitates the use of language" (Van den Branden, 2006, p.4). Put differently, a task is a goal-directed activity that requires language use for its performance.

In the latest literature available, tasks are viewed as classroom activities in which learners use the target language 'pragmatically' to achieve an outcome, while keeping their eyes on one objective, that of learning the target language (Bygate, 2016; Liu et al., 2018).

The above-mentioned definitions have one thing in common; they all highlight that tasks are classroom activities that obey specific characteristics.

3.3. Characteristics of Tasks

The definitions above seem to agree that tasks are activities that promote language learning, but then, many classroom practices share this criterion. In order for an activity to be labelled a task, certain characteristics have to be considered. What makes tasks unique is:

1. Focus on meaning (East, 2017; Ellis, 2009; Ellis 2003; Nunan, 2004; Skehan, 1998; Weideman, 2006; Westhoff, 2009): a task involves a primary focus on meaning rather than merely displaying language. i.e., while performing the task, the concern is to convey meaning rather than to manipulate form.

2. Link with real-world activities (Ellis, 2003; Skehan, 1998; Weideman, 2006; Westhoff, 2009): tasks involve real-world processes of language use; they should be life-like and functional in the sense that there is some sort of resemblance or relationship to real-world activities.

3. Communication (Nunan, 2004; Skehan, 1998; Weideman, 2006): during task performance, communication must take place. Communication involves learners in comprehending, manipulating, producing, or interacting in the target language.

4. Completion (Ellis, 2009; Nunan, 2004; Skehan, 1998; Weideman, 2006): completion embodies two aspects. First is the fact that task completion has priority and second, the fact that the task should have a sense of completeness in the sense that it can stand on its own with a beginning, middle, and an end.

5. Outcome (East, 2017; Ellis, 2009; Ellis, 2003; Nunan, 2004; Skehan, 1998; Weideman, 2006; Westhoff, 2009): a task should have a clearly defined communicative outcome in that, during its performance, the language is not used for the sake of mere language practice but because it

is a means to an end. This criterion also entails that any task is outcome-evaluated i.e., its success is assessed by the completion of its outcome(s).

6. The presence of a gap (Ellis, 2009): the tasks used should present learners with a gap; while performing the task, learners negotiate meaning and engage in interaction in order to bridge that gap.

7. Learners' reliance on their own resources (East, 2017; Ellis, 2009; Ellis, 2003; Skehan, 1998; Westhoff, 2009): while performing tasks, teachers should induce learners to employ their own linguistic and cognitive resources instead of telling them what to say and do.

Ellis (2003) adds other characteristics of tasks. He begins by stating that a task is a work plan that leads to an outcome that may or may not match the intended plan (Ellis, 2003, p.9). Also, he insists that a task engages many cognitive processes and can involve any of the four language skills (Ellis, 2003, pp.9-10). These characteristics put together make what Ellis (2003) refers to as the ***taskness*** of the task.

3.4. Task, Activity, and Exercise

In many of the definitions of tasks, researchers begin by saying that a task is an activity that is such and such. It implies then that any task is an activity, but the opposite does not hold true since tasks are activities with certain characteristics. As Skehan puts it, sometimes "it may be difficult to decide whether an activity merits the label 'task'" (Skehan, 1998, p.96). In many classroom scenarios, the line between a task and an activity is a blurry one. If students, for instance, were asked to perform a role play and the language used is predetermined -fully or partially- by the teacher, then what learners would be performing is a communicative activity, not a task. Another practice that comes to mind when dealing with classroom proceedings is exercise. Exercises are "activities that call for primarily form-focused language use" (Ellis, 2003, p. 3). Though the defining feature of an exercise is its focus on form, it is not always so simple. In many cases, what distinguishes a task from an exercise is "not 'form' as opposed to

'meaning' but rather the kind of meaning involved" (Ellis, 2003, p. 3). Ellis explains that "a task is concerned with pragmatic meaning…an exercise is concerned with semantic meaning" (Ellis, 2003, p. 3). This opinion is shared by Chou who states that "a task is viewed as different from an exercise in that, while propositional content and pragmatic communicative meaning are primary in a task, linguistic form and semantic meaning are stressed in an exercise" (Chou, 2017, p.52). Form, though of primary importance, is not the only distinctive feature between a task and an exercise; there is also learners' use of the language. By definition, "a task requires the participants to function primarily as language users…, an exercise requires the participants to function primarily as learners" (Ellis, 2003, p. 3). In other words, tasks differ from exercises in the sense that "learners do not have to prove that they perfectly know how to apply a specific procedure or can (re)produce particular facts of knowledge" (Van den Branden, 2006, pp.103-104) while exercises are practice-oriented and are concerned with language display (Skehan, 1998, p.95).

In the trichotomy task/activity/exercise, "communicative activities represent a kind of half-way house between language exercises and tasks" (Nunan, 2004, p.24). On the one hand, communicative activities are similar to exercises in that "they provide manipulative practice of a restricted set of language items" (Nunan, 2004, p.24). On the other hand, they are similar to tasks in that "they have an element of meaningful communication" in them (Nunan, 2004, p.24).

3.5. Components of a Task

Tasks should contain the following elements:

Aim: the aim is an important component of tasks (Rozati, 2014). It is the first thing the teacher/designer thinks of when creating a task. The aim, also called 'goal' by Nunan (2004), refers to "the pedagogical purpose of the task" (Ellis, 2003, p. 8), the intentions behind the task. So, for instance, if a teacher is asked about why learners are undertaking a particular task, the answer would be a goal/aim statement (Nunan, 2004, p.41). The aim might be communicative, affective, or cognitive (Nunan, 2004, p.42).

Input: input represents another component of tasks (Candlin, 1987; Nunan, 2004). Input refers to "spoken, written, and visual data that learners work with in the course of completing a task" (Nunan, 2004, p.47), and hence, it could be written, visual, or aural (Robinson, 2011, p.7). When input entails language, it is referred to as verbal input (for instance, a dialogue); when it does not, it is called non-verbal input (e.g., a picture). The input can be provided either by the teacher, the textbook or any other source such as learners themselves. One thing to keep in mind is that the input should be authentic. Authenticity in this concept refers to "the use of spoken and written material that has been produced for purposes of communication, not for purposes of language teaching" (Nunan, 2004, p.49).

Procedures: also referred to as 'actions' (Candlin, 1987), procedures are the most important component of tasks (Nunan, 2004). They represent what learners will do with the input, steps to take in performing the task (Robinson, 2011, p.7). Procedures should be either skill getting or skill using (Nunan, 2004, p.54), i.e., they either need the use of one of the language skills in their performance or aim to develop one of the skills. They either focus the learners on developing accuracy or fluency (Nunan, 2004, p.56). Procedures are controlled by the teacher most of the time, but they can also be controlled by the learners (Nunan, 2004, p.56). While thinking of the procedures to follow, procedural authenticity is important. The designer should

make sure that what learners would do with the input should be authentic in the sense that it should "mirror communicative performance in the real world" (Nunan, 2004, p.53).

Roles: roles represent another component of tasks (Nunan, 2004, p.41). They refer to the relationships between the participants in a task (Candlin, 1987). This component focuses on the role of the teacher during the task at hand, but also on the roles of the learners e.g., information-giver or information-receiver (Robinson, 2011, p.7)

Outcomes: outcomes are important components of tasks (Rozati, 2014, p.1277). They are the end result of the task at hand (Candlin, 1987). Outcomes refer to "what learners arrive at when they have completed the task" (Ellis, 2003, p. 8). They may be oral, written, and/or behavioural (Robinson, 2011, p.7)

Setting: the setting refers to where the task takes place; it could be inside or outside the classroom (Candlin, 1987; Nunan, 2004; Robinson, 2011).

Monitoring: in its simplest sense, monitoring refers to the supervision of the task by the teacher (Candlin, 1987; Robinson, 2011).

Feedback: feedback refers to the evaluation of the task (Candlin, 1987). It can be done by the teacher or by peers (Robinson, 2011, p.7).

3.6. Typologies of Tasks

According to Long (1985), the concept 'task type' was developed to overcome the problem of clustering and classifying tasks. A task type is "the result of clustering several language tasks …that share a number of linguistic and non-linguistic features" (Van den Branden, 2006, pp.30-31). Many researchers have attempted to classify tasks according to specific features; this resulted in the following dichotomies.

3.6.1. Real-world vs. Pedagogical Tasks

In the literature, a distinction is often made between real-world tasks and pedagogic tasks (Benson, 2015; Nunan, 2004; Willis & Willis, 2007). Real-world tasks are also called target

tasks because they represent what the learners will eventually do in the target language on exit from instructional programs (Knight, 2005; Robinson, 2011). They are "like macro-functions" (Bruton, 2005, p.56) of language. Nunan specifies that target tasks are "the hundred and one things we do with language in everyday life, from writing a poem to confirming an airline reservation to exchanging personal information with a new acquaintance" (Nunan, 2004, p.19).

Long (1985) extends Nunan's definition to include actions with non-linguistic outcomes. He defines a target task as

> A piece of work undertaken for oneself or for others, freely or for some reward. Thus, examples of tasks include painting a fence, dressing a child, filling out a form, buying a pair of shoes, making an airline reservation, borrowing a library book, taking a driving test, typing a letter, weighing a patient, sorting letters, making a hotel reservation, writing a cheque, finding a street destination and helping someone across a road. In other words, by 'task' is meant the hundred and one thing people do in everyday life, at work, at play, and in between. (p.89)

From Long's definition, one might conclude that target tasks have three main characteristics. First, they may have a non-linguistic outcome (a painted fence, a pair of shoes, the weight of a patient…). Second, target tasks may not involve language use at all. Finally, target tasks are seen as macro-structures that can be divided into mini sub structures (the case with dressing a child or taking a driving test for instance).

Pedagogical tasks, in contrast, are the tasks teachers and students work on in the classroom (Knight, 2005; Robinson, 2011). They "approximate the target tasks" (Knight, 2005, p.103) in the sense that they resemble what the learners will do outside the classroom. However, they "provide opportunities for second language acquisition" (ibid.) because, unlike target tasks, they have "a particular objective, appropriate content, a specific working procedure, and a range of outcomes" (Breen, 1987, p.23).

A fuller definition of pedagogical tasks is provided by Richards et al. (1986). It goes as follows:

> A pedagogical task is an activity or action which is carried out as the result of processing or understanding language (i.e., as a response). For example, drawing a map while listening to a tape, listening to an instruction while performing a command may be referred to as tasks. Tasks may or may not involve the production of language. A task usually requires the teacher to specify what will be regarded as successful completion of task. (p. 289)

From the above-mentioned definition, one might conclude that pedagogical tasks, just like target tasks, may have a non-linguistic outcome (Samuda & Bygate, 2008); however, and contrary to target tasks, they necessitate language use in their performance. As Van den Branden puts it, "painting a fence becomes a language task if it cannot be performed without some use of language" (Van den Branden, 2006, p.3).

In other words, language use is one feature that distinguishes pedagogical from real-world tasks. The other feature is authenticity with its two kinds: situational and interactional (Ellis, 2017, p.508). Situational authenticity means that the tasks undertaken are based on tasks performed outside the classroom. Interactional authenticity refers to the type of communication engendered by the task; it should mirror the type of natural language communication found in the real-world. "Real-world tasks aim at situational authenticity …A pedagogic task lacks situational authenticity but aims at interactional authenticity" (Ellis, 2017, p.508).

3.6.2. One-way vs. Two-way Tasks

Researchers such as Skehan (1998) and Ellis (2003) distinguish between one-way and two-way tasks. Both are "information exchange tasks" (Ellis, 2003, p. 88). The difference between them is that one-way tasks are those "where only one participant provides information to the other in order to complete the task" (Knight, 2005, p.103). Put differently, in a one-way task, a learner holds the information required to complete the task (Iwashita, 2003, p.9). The other learners are supposed to receive that information from him/her. This does not mean that one participant is active and the others are mere receivers because negotiation of meaning is at its highest when an information-receiver does not understand the information that the sender provides. Examples of one-way tasks include most information gap tasks (e.g., one participant describes a picture, and the other(s) identifies/identify the picture being described). In contrast, in two-way tasks, "…each participant has information that his or her partner does not have, requiring both participants to ask for information from their partners" (Iwashita, 2003, p.9). In other words, in two-way tasks, both participants are required to exchange information to complete the task. Examples of two-way tasks include planning a holiday (Knight, 2005, p.103), and jigsaw tasks.

One might think that two-way tasks, by nature, engender more communication and negotiation of meaning than one-way tasks. This, however, is not always true as "a number of studies…have failed to show that two-way tasks promote more negotiation than one-way tasks" (Ellis, 2003, p. 88). That means that both types are equally beneficial to language learners.

3.6.3. Focused vs. Unfocused Tasks

Another distinction is between focused and unfocused tasks (Block, 2004; Ellis, 2009). Focused tasks are designed to provide opportunities for communicating using specific linguistic features, and in this, they resemble traditional grammar practice though they "meet all the criteria of tasks in general" (Ellis, 2003, p. 141). In focused tasks, the targeted feature is hidden

in the sense that students are not told explicitly what the linguistic feature they are supposed to practice is; they rather use it 'naturally'. Focused tasks are "used to raise learners' awareness of the functional or semantic meanings of linguistic features" (Ellis, 2017, p.511) and aim to "induce learners to process, receptively or productively, some particular linguistic feature" (Ellis, 2003, p. 16). i.e., focused tasks serve two main aims: to stimulate communicative language use and to push learners to use a particular predetermined linguistic feature.

Unlike focused tasks, unfocused tasks do not specify the exact language necessary for their completion (Block, 2004, p. 19) and are designed to provide learners with opportunities to use the language communicatively. In this sense, an unfocused task is one in which "the learners are able to use any linguistic resources at their disposal in order to complete the task" (Nunan, 2004, p.94). Unfocused tasks "are not designed with the use of a specific form in mind" (Ellis, 2003, p. 16); it is up to the learners to choose from their own linguistic toolkit.

3.6.4. Conscious-raising Tasks

Conscious-raising tasks are a variant of focused tasks (Nunan, 2004, p.98). They are "designed to draw learners' attention to a particular linguistic feature through a range of inductive and deductive procedures" (Nunan, 2004, p.98). The main difference between conscious-raising tasks and focused tasks is that the latter cater for implicit learning whereas the former for explicit learning. Another difference is that focused tasks are built around content of a general nature like stories and pictures whereas conscious-raising tasks make language itself the content (Nunan, 2004, p.98) and aim to "develop the learner's understanding of how particular language features work" (Block, 2004, p. 19).

3.6.5. Open vs. Close Tasks

Open tasks refer to those tasks in which no fixed answer is required (Skehan, 1998, p. 271), or "where no agreement needs to be reached" (Knight, 2005, p.103). In such tasks, "the outcome is unpredictable and learners are free to decide what they want" (Willis & Willis, 2007, p.156). Examples of such tasks include discussions. Contrary to open tasks, in closed tasks, there is a need to negotiate an agreed solution to the task (Skehan, 1998, p. 271); they require students "to reach a single, correct solution or one of a small finite set of solutions" (Ellis, 2003, p. 89). In other words, in a closed task, "there is a correct answer" (Willis & Willis, 2007, p.156), or at least "an answer or result is expected" (Knight, 2005, p.103). Planning a holiday represents a good example of close tasks.

3.6.6. Convergent vs. Divergent Tasks

This distinction of tasks suggested by Skehan (2003, p.4) has to do with the goal of the task at hand. In convergent tasks, all the participants have the ***same*** goal and though "a number of correct answers are possible… only one is eventually arrived at" (Knight, 2005, p.103). In divergent tasks, however, "no agreement is envisaged" (Skehan, 2003, p.4) as participants have different goals while performing the task.

3.6.7. Communication vs. Learning Tasks

Some authors divide tasks into communication tasks and learning (or enabling) tasks (Estaire & Zanón, 1994). A communication task is "a piece of classroom work during which learners' attention is principally focused on meaning rather than form, that is, on what is being expressed rather than on the linguistic forms used for expressing it" (Estaire & Zanón, 1994, p.14). It involves the learners in comprehension and production of the target spoken and written language in addition to oral interaction in it. It resembles activities that the learners encounter

in their daily life and hence pushes them to practice everyday communication with the ultimate aim of developing their communicative competence (Estaire & Zanón, 1994, p.14).

Enabling tasks, on the other hand, support communication tasks. Their purpose is to provide students with the necessary linguistic tools to carry out a communication task. “Their main focus is on linguistic aspects (grammar, vocabulary, pronunciation, functions, and discourse) rather than on meaning (Estaire & Zanón, 1994, p.15). The aim of such tasks is to enable students to communicate as smoothly and effectively as possible. Examples of enabling tasks include what teachers use before undertaking a specific task. They either present learners with the linguistic tools they will need in order to perform the task (pictures, records, videos that include the linguistic items needed) or reinforce the linguistic items already covered during the task to ensure their grasp and carve them in learners’ minds.

3.6.8. Rehearsal vs. Activation Tasks

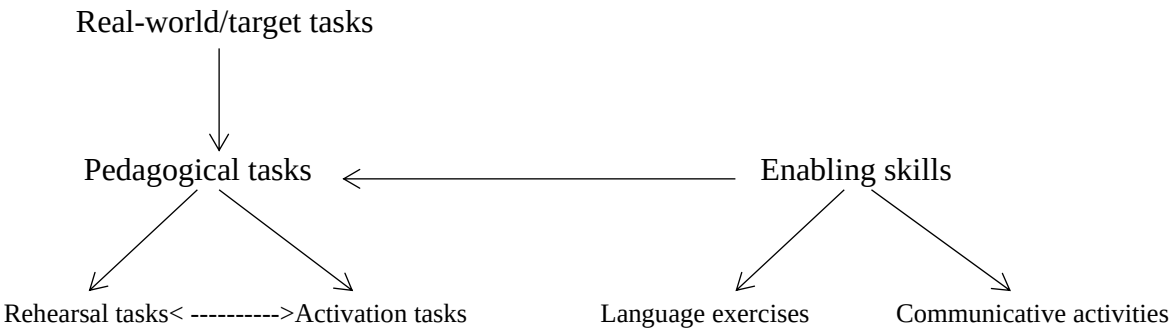
A rehearsal task (Nunan, 2004, p.20) makes students practice in the security of the classroom something they are going to need in the real world. Activation tasks are designed not to provide learners with an opportunity to rehearse, but to “activate their emerging language skills” (Nunan, 2004, p.20). Activation tasks are used to trigger language structures and functions pushing learners to use the input presented to create new meanings.

In addition to the above-mentioned typologies, other types of tasks exist such as interaction tasks which “push learners to employ strategies that facilitate the restructuring of their interlanguage” (Thomas & Reinders, 2010, p.42) and tasks that are classified following their own individual names (e.g., spot-the-difference task). It is also worth mentioning that tasks can be classified according to “the type of discourse they are intended to elicit, for example, a narrative task”. They are classified according to “the input materials they involve, for example, a map-task”, according to the “kind of activity they require of the learner, for example, role-

play tasks" or according to the language skill they focus on, for example, listening tasks" (Ellis, 2003, pp. 210-211). Figure 07 embodies some of the tasks suggested by Nunan (2004).

Figure 07

Nunan's Tasks



Note: The classification of tasks as suggested by Nunan. From Task-based language teaching: A comprehensive revised edition of designing tasks for the communicative classroom (p.25), by Nunan, D., 2004, Cambridge University Press.

What is to keep in mind is that these dichotomies sometimes overlap (Table 02); problem solving, decision making, and opinion exchange tasks, for example, can be either one-way or two-way tasks (Iwashita, 2003, p.9). Because of this overlap, many researchers attempted to classify tasks according to specific criteria.

Table 02

Tasks Overlapping

	Unfocused – tasks involving general samples of language.	Focused – tasks designed to elicit the processing of specific, pre-determined linguistic features.
Input-based – tasks that do not require but do not prohibit production.	Written instructions about how to make a model aeroplane. Learners are required to read the instructions and assemble the model.	Oral descriptions of the location of animals in a zoo. The instructions are designed so that learners have to distinguish between singular and plural nouns. Learners place pictures of the animals in the correct locations (Shintani 2016).
Output-based – tasks that require speaking and/or writing to achieve the outcome.	Learners act as judges to decide what punishment to give to a number of offenders when given information about the crimes they had committed (Foster & Skehan 1996).	Things-in-pocket task (Samuda 2001); learners are shown the contexts of a person's pocket and asked to speculate who the person might be (target = epistemic models).

Note: Examples of task types that overlap. From "First Person Singular, position paper: Moving task-based language teaching forward", by Ellis R., 2017, *Language Teaching*, *50*(4), p. 510.

3.7. Tasks' Types of Classification

Many authors (Ellis, 2003; Gardner & Miller, 1996; Willis & Willis, 2007; Willis, 1996) provided different types of classifications for tasks. The most prominent ones are:

3.7.1. Pedagogic Classification (Ellis, 2003, p. 211): such as that of Gardner and Miller's (1996). Pedagogic tasks are those directed at learner training, the four language skills tasks, vocabulary tasks and grammar tasks. There is also that of Willis (1996) which reflects the kinds of operations learners are required to carry out in performing tasks e.g., listening tasks, ordering tasks, comparing tasks…

3.7.2. Rhetorical Classification (Ellis, 2003, p. 212): such classifications either draw on theories of rhetoric that distinguish different discourse domains (narrative, instructions, description, reports…) or utilises the concept of 'genre' such as recipes, political speeches, job application letters…in the classification.

3.7.3. Cognitive Classification (Ellis, 2003, p. 213): this classification is based on the kind of cognitive operations involved while performing the task (information-gap, reasoning-gap, and opinion-gap). Willis and Willis claim that "a cognitive classification (of tasks) …is more specific and more generative as a tool for teachers to use" (Willis & Willis, 2007, p.63).

3.7.4. Psycholinguistic Classification (Ellis, 2003, p. 214): this classification is based on tasks' potential for language learning. There are four categories:

3.7.4.1. Interactant Category: this category concerns who holds the information and who requests it (Ellis, 2003, p. 215). One-way and two-way tasks go under this category.

3.7.4.2. Interaction Requirement: this category concerns whether the task requires participants to request and supply information or whether this is optional (Ellis, 2003, p. 215).

3.7.4.3. Goal Orientation: deals with whether participants are required to agree in a single outcome or whether it allows them to disagree (Ellis, 2003, p. 215); this is the case with convergent and divergent tasks.

3.7.4.4. Outcome Options: refer to the scope of the task outcomes available to learners (Ellis, 2003, p. 215). Closed and open tasks are included in this category.

3.7.5. Other Classifications

In addition to the previously mentioned classifications, some scholars attempted to provide their own. The most famous task classifications are:

3.7.5.1. Prabhu's Classification

In his Bangalore Project, Prabhu used three types of tasks: information gap, opinion gap, and reasoning gap tasks (Nunan, 2004, p.56). Ellis (2003, pp.86-89) provides a thorough description of information gap and opinion gap tasks. He differentiates between the two in terms of the use of the information provided, and the nature of the task itself. Table 03 displays those differences.

Table 03

Information Gap Tasks vs. Opinion Gap Tasks

Information Gap	**Opinion Gap**
*They involve an exchange of information between the participants. *The information provided is split *Information exchange is required *Information-gap tasks are typically closed in nature	*They involve learners in going beyond the information given by supplying their own ideas *The information provided is shared *Information exchange is optional *Many opinion-gap tasks are open in nature

3.7.5.2. Pattinson's Classification

Pattinson (1987) set out seven types of tasks:

- Questions and answers: in such tasks, the teacher creates an information gap that engenders questions and answers by students. For example, the teacher chooses an item and the students try to guess the item by means of questions and answers.
- Dialogues and role plays: they can be either scripted or improvised.
- Matching activities.
- Communication strategies: in such tasks, students practice strategies such as paraphrasing, borrowing, using gestures, asking for feedback, simplifying…
- Pictures and picture stories
- Puzzles and problems
- Discussions

3.7.5.3. Richard's Classification

Richards (2001) as well as Hai-Yan (2014) propose a five-type classification:

- Jigsaw tasks which are based on combining different pieces of information to form a whole.
- Information gap tasks.
- Problem solving tasks.
- Decision making tasks.
- Opinion exchange tasks.

3.7.5.4. Nunan's Classification

Nunan (2004) classifies tasks according to the strategies underpinning them into five types:

- Cognitive tasks: such tasks include classifying, predicting, inducing, taking notes, concept mapping, inferencing, discriminating, and diagramming (Nunan, 2004, pp.59-60).
- Interpersonal tasks: they include cooperating and role playing (Nunan, 2004, p.60).
- Linguistic tasks: they entail conversational patterns practicing, using context, summarising, selective listening, and skimming (Nunan, 2004, p.60).
- Affective tasks: they include personalising, self-evaluating, and reflecting (Nunan, 2004, p.61).
- Creative tasks: they entail brainstorming (Nunan, 2004, p.61).

3.8. Task Choice

As for using tasks in language classrooms, one question is typically raised: who chooses the tasks to undertake? Is it the teacher, the students, or the syllabus designer (Skehan, 1998, p. 269)? Parrott attempts an answer and states that -ideally- "in language classrooms, the teacher is responsible for selecting tasks…for setting them up, and for chairing subsequent plenary discussion" (Parrott, 1993, p.8). According to Skehan (1998, p. 271), however, what matters is not the who, but rather the how, i.e., the criteria to be taken into consideration. Skehan (ibid.) specifies three determining criteria in the choice of tasks: code complexity, cognitive complexity (which comprises cognitive processing and cognitive familiarity), and communicative stress (which comprises time pressure, modality, scale, stakes, and control).

For Ellis (2003), the choice of tasks is highly associated with the choice of the topic. He explains that the guiding principles in the selection of content are topic familiarity and topic importance (Ellis, 2003, p. 91) in addition to "intrinsic interest" (Ellis, 2003, p. 218). These criteria are important because less familiar topics lead to less negotiation (Ellis, 2003, p. 91) for instance. Topic familiarity, importance, and interest are most of the time determined by a needs analysis.

3.9. Task Choice and Needs Analysis

As explained by Ellis (2003), the choice of tasks has a lot to do with the choice of the topic. In any teaching/learning situation, the topics chosen by teachers may be the ones present in their teaching (in the textbook, in exams, or in the curriculum as a whole), the 'interesting' topics (up-to-date topics or the ones that raise interest), topics present in social settings, or things that learners might discuss with foreigners (Willis & Willis, 2007, p.64). So, apart from the topics and tasks present in their teaching, teachers often find themselves faced with the burden of choosing tasks and topics themselves. Van den Branden suggests some means to derive topics/tasks from language use situations such as observations in the target domain and in the selected language use situation, gathering expert opinions, and sampling language learners' experiences (Van den Branden, 2006, pp.27-28). Many teachers, however, refer to the use of needs analysis to help them choose topics/tasks.

Researchers such as Long sustain that *any* language course should be based on learners' target needs (as cited in Ellis, 2017, p.509), and task-based language teaching is no exception. Needs analysis is "a prerequisite for successful course design in the task-based language teaching approach" (Second Language Acquisition and Task-based Language Teaching, 2016, p.439). Task-based language teaching (TBLT) advocates using a "task-based needs analysis as a basis for syllabus design" (Rēvēsz, 2017, p.1). The aim of a task-based needs analysis is "to ensure that learners engage in language practice that reflects their real-life academic,

professional, and/or personal goals" (Rēvēsz, 2017, p.1). To do so, the first step would be to undertake "a preliminary needs analysis for establishing course content in terms of the real-world target tasks that learners need in order to be able to perform" (Van den Branden, 2006, p.6). A TBLT program is then "structured around tasks that are selected according to the results of needs analysis and sequenced into a syllabus" (Gonzālez-Lloret & Nielson, 2015, p.727).

3.10. Task Analysis

After choosing tasks, the next step is task analysis. Task analysis is the process that learners go through before beginning a task. It answers questions related to three domains: task purpose, task classification, and task demands (Rubin, 2015, p.71).

- **Task purpose:** in this part, learners try to answer the question 'why do I need to perform this task?' Answering this question is important because when learners know the purpose behind their efforts, they are more motivated.
- **Task classification:** here, learners try to answer questions like what type is this task? What do I need to know about it? When learners know what they are dealing with, they know how to address the task at hand.
- **Task demands:** this is probably the most important part as learners answer the question 'what strategies do I need to complete the task?' Choosing the most suitable strategies reduces task complexity.

3.11. Task Complexity

Task complexity is the "only variable which can be manipulated intentionally to increase or decrease the cognitive loads on learners in order to elicit specific linguistic behaviour" (Harji & Gheitanchian, 2017, p.26). It is defined as "the inherent cognitive demands posed by the task" (Rēvēsz, 2017, p.3). It is of paramount importance because "without some way of

determining difficulty, sequencing, and integrating tasks becomes a matter of intuition" (Nunan, 2004, p.85). When it comes to input tasks, the case is easy because there are standard measures of readability (vocabulary level, sentence length, cohesion, coherence) that may also be relevant for determining the *listenability* of input tasks (Ellis, 2017, p.512). However, the problem arises when it comes to determining the complexity of output tasks. Many scholars suggested parameters to determine task complexity. For Ellis, for instance, "the complexity of a task can never be considered separately from how the task is implemented" (Ellis, 2017, p.513). Consequently, the parameters that affect task complexity are planning time, learners' familiarity with the task, brainstorming ideas relevant to the topic of the task, providing learners with a model performance, and pressure to perform the task rapidly (Ellis, 2017).

According to Brindley (1987), three parameters are involved in determining task difficulty. The first parameter is learner factors such as confidence, motivation, prior learning experience, possessing the necessary language skills, having cultural knowledge, the pace of the learner…The second parameter involves task factors such as the cognitive complexity of the task, the number of steps in the task, the context, the help available, time allocated, and whether accuracy is required. Finally, the last parameter concerns input factors, i.e., whether the input is short/long, dense/not dense, in addition to the presence of contextual clues, familiarity, and presentation.

For Skehan (1998, 1992), task complexity depends on code complexity, cognitive complexity, and communicative stress. Code complexity has to do with the language required; it entails linguistic complexity, vocabulary, density, and redundancy (Skehan, 1998, p.99). Cognitive complexity is related to the thinking required. It encompasses cognitive familiarity (familiarity with the topic and its predictability, familiarity with the discourse genre, and familiarity with the task itself) in addition to cognitive processing i.e., information organisation, amount of computation, clarity and sufficiency of the information given, and information type.

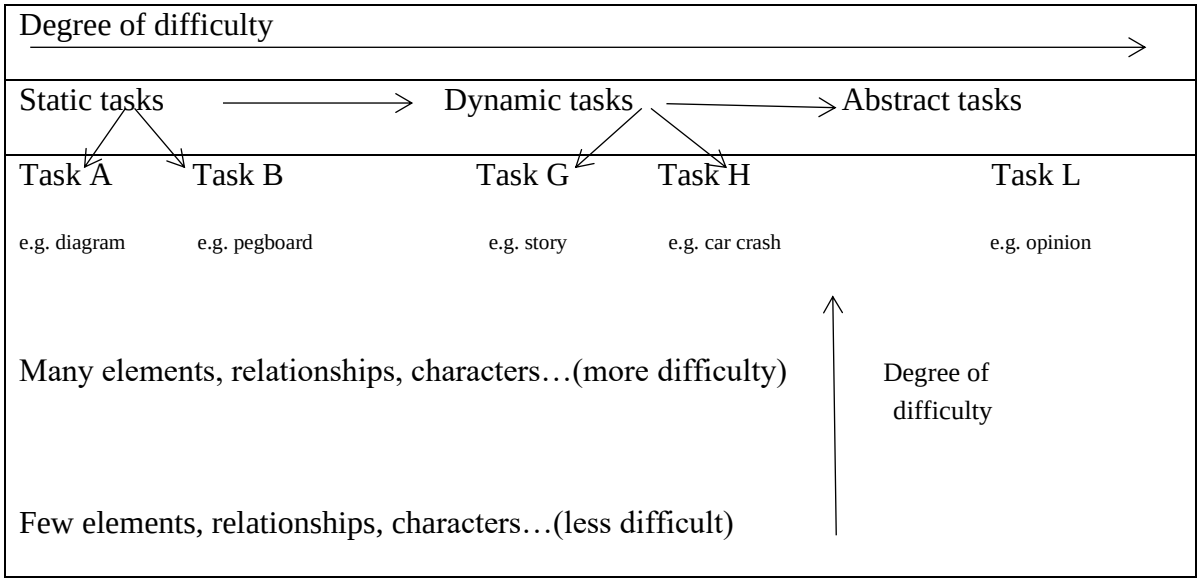
Communicative stress refers to the conditions demanded by the task. It involves elements such as time limits and time pressure, speed of presentation, number of participants, types of response, opportunities to control interaction, length of the input used … (Skehan, 1998, p.99)

Van den Branden proposes three categories of parameters that affect task complexity (2006, p.51). These are parameters concerning the world represented in the task, parameters concerning the processing demands (both cognitive and communicative) required for task performance, and parameters concerning linguistic input features.

It is, then, reasonable to say that there are many criteria that account for task complexity. What designers and teachers should keep in mind while choosing tasks is that "cognitively demanding tasks will promote more meaning negotiation than cognitively undemanding tasks as learners will need to engage in discourse management and repair strategies more frequently to prevent or cope with non-understanding" (Ellis, 2003, p. 93) and as Skehan puts it "…where tasks generate greater negotiation of meaning, conditions are more appropriate for interlanguage development to occur" (Skehan, 1998, p.133). Therefore, knowledge of task difficulty combined with knowledge of learners' level means benefitting more from the tasks in terms of noticing and motivation (Skehan, 1998, p.134), but will also lead to "greater accuracy and complexity of [English as a foreign language] EFL production" (Harji & Gheitanchian, 2017, p.26) (brackets added). In addition to that, task complexity is of paramount importance when it comes to sequencing tasks as designers and teachers generally move from easy to difficult.

Figure 08

Tasks of Ascending Difficulty



Note: Aspects affecting task difficulty. From "Task-based instruction" by Skehan, 1998, *Annual Review of Applied Linguistics, 18,* p.103.

Figure 08 shows that task difficulty depends on two aspects: the first aspect is related to the information included in the task. If the information is static and does not change as the task goes on, then the task is relatively easy (e.g. diagram: all learners have to do is to explore the information exposed). If, on the other hand, the information changes (dynamic) during the task, the task is less easy (e.g., story). The most difficult type is when the information included in the task is abstract; learners need to manipulate and then express it. The second aspect has to do with the number of items/characters/elements in a task and their interrelationships (the more elements there are, the more difficult the task would be). Teachers/designers need to keep those criteria in mind and provide learners with challenging, yet doable tasks (Moore & Lorenzo, 2015, p.339).

3.12. Task Sequencing

Sequencing tasks is the next step to consider after choosing the tasks and determining their difficulty. The ordering of different tasks has prime importance at all stages of task-based instruction (Moore & Lorenzo, 2015; Robinson, 2011); because a task-based lesson would probably involve not a single task, but a sequence of tasks, the problem of ordering tasks is raised not only while deciding on course and unit content, but also lesson content. Sequencing decisions are made using "first-hand knowledge about the learner population, as well as an understanding of the communication needs and acquisition opportunities encompassed within diverse language use tasks" (Benson, 2015, p.343). Nunan ascertains that "one of the potential problems with a task-based program is that it may consist of a seemingly random collection of tasks with nothing to tie them together" (Nunan, 2004, p.25). To overcome this problem, Nunan (2004) suggests two ways to tie tasks together. One is to gather them in terms of units or lessons. The other is to gather them topically/thematically. Ellis, in turn, suggests "both a vertical and horizontal sequencing of tasks" (Ellis, 2017, p.514). Vertical sequencing involves the order in which specific tasks will figure in the syllabus (Ellis, 2017, p.514) whereas horizontal sequencing refers to "how different versions of the same task can be developed so that they lead incrementally to a simulation of the target task itself" (Ellis, 2017, p.514).

In many cases, tasks are organised following the order of complexity/difficulty, i.e., from easy to more challenging (Benson, 2015; Robinson, 2011; Willis & Willis, 2007). The question is who/what determines task difficulty? Task difficulty is related to either its cognitive complexity which is defined as "the cognitive load of a second language communication task… the inherent cognitive demands of a task that are realised in interaction with learner characteristics" (Sasayama, 2016, pp.231-232) or simply to learners' perceptions of how difficult a given task is to preform" (Sasayama, 2016, p.232).

However, and apart from the complexity criterion, many other factors are to be taken into consideration while grading tasks (Robinson, 2011, p.79). Candlin (1987, as cited in Skehan, 1998, p.98), for instance, suggests that tasks should be sequenced according to: their cognitive load, their communicative stress which is caused by the interlocutor (his/her language proficiency or if s/he is a native speaker), particularity and generalisability which refer to the clarity of the goal of the task and its norms of interpretation, code complexity and interpretative density (they involve complexity of the language code and the complexity of the operations that need to be carried out on the code), and process continuity which encompasses familiarity of the task or its similarity to a task learners have seen before.

According to Willis and Wills, tasks should be sequenced according to four features (2007, p.185): the cognitive familiarity of topic, cognitive processing, communicative stress, and code complexity.

Robinson (2011, p.79) provides a thorough procedure of sequencing tasks. For him, the teacher/designer should first draw his/her learners' profile: their background knowledge, confidence, motivation, prior learning experience, learning pace, ability in language skills, cultural knowledge, and linguistic knowledge (Nunan, 2004, p.120). Once the teacher/designer gains enough knowledge about learners, s/he moves to grading the input. This is done by considering its complexity in terms of sentence type (simple, compound, complex, or compound complex), the length of the text and its prepositional density (the amount of information provided), the amount of low-frequency vocabulary, the speed of the spoken text and the number of speakers involved. It is also considering explicitness of the information, discourse structure, and the amount of support provided (headings, sub-heading, photographs, drawings, tables, graphs...). Then, there are procedural factors or "the operations that learners are required to perform on input data" (Nunan, 2004, p.122). This factor is important because one can use the same input, but vary the difficulty level of the procedures themselves. Finally,

sequencing should also be based on task continuity, also called 'the interdependence of tasks' (Nunan, 2004, p.125). In this sense, learners are asked to undertake activities, which are related but gain in complexity as the learners proceed in performing them. For instance, the teacher/designer moves from comprehension-based procedures to controlled production, then to authentic language interaction.

3.13. Task Planning

Ellis (2005) recommends planning before undertaking the task. He advocates two types of task planning: one that occurs before the task, and one that occurs during task performance. He further divides the former into "rehearsal and strategic planning" " (Ellis, 2005, p.2). On the one hand, rehearsal planning comprises task repetition; i.e., learners are provided with the opportunity to perform the task before its 'actual' performance (in this sense, the first performance is viewed as a preparation for the actual performance). Strategic planning, on the other hand, entails learners preparing to perform the task by "considering the content they will need to encode and how to express this content" (Ellis, 2005, p.2). This may be achieved through brainstorming content, studying a model performance of the task, dictionary search… (Ellis, 2005, p.2). The during-task planning can be seen in task repetition.

3.14. Task Repetition

Task repetition is "one kind of task design closely linked to TBLT research" (Batstone, 2012, p.460). Giving learners the opportunity to repeat a task, also referred to as 'rehearsal' (Ellis, 2003, p. 134), should be adopted following a set of conditions, such as the fact that "participants see adequate challenge in what they are asked to do" (Skehan, 1998, p.150). This being said, task repetition has proved its efficacy in language classrooms in many ways. On the one hand, once learners are familiar with the content of the task, they feel more confident and hence focus on linguistic forms. On the other hand, asking learners to repeat a task has "a marked interactive effect" (Ellis, 2003, p. 97) as it results in "increased interaction and greater communicative

effectiveness" (Ellis, 2003, p. 100). For Van de Guchte et al., task repetition has been shown to "positively change learners' task performance in terms of complexity, accuracy, and fluency" (Van de Guchte et al., 2015, p.301)

3.15. Complexity, Accuracy, and Fluency

There are three dimensions of EFL learners' speech: fluency, accuracy, and complexity (Skehan, 1996). Fluency concerns the learner's "capacity to mobilize an interlanguage system to communicate meaning in real time" (Skehan, 1996, p.46). Accuracy is concerned with a learner's "capacity to handle whatever level of interlanguage complexity s/he has currently attained" (ibid.). As for complexity, it is related to "the stage and elaboration of the underlying interlanguage system" (ibid.). These three dimensions are brought into play during the three phases of the task cycle.

3.16. Task Cycle

In language classrooms, tasks are operationalised in three stages pre-, during, and post-task (Bao & Du, 2015; Nunan, 2004; Rozati, 2014).

3.16.1. Pre-task Phase

The pre-task stage constitutes "the mise-en-place for the task: setting the scene, whetting curiosity, giving instructions, clarifying processes, outlining evaluation criteria, etc." (Moore & Lorenzo, 2015, p.336). It fulfils the function of schema-building (Nunan, 2004, p.128) by orienting learners to the task, generating interest, and rehearsing the language needed to complete the task. The pre-task phase involves modelling target functions/notions and includes possible language work such as rehearsing, listening to prepared recordings of native speakers performing a similar task… (Bruton, 2005, p.60).

The pre-task phase aims at motivating learners and preparing them to perform the task by triggering useful knowledge (to make available the vocabulary) and providing clear instruction (Ellis, 2003; Van den Branden, 2006; Willis & Willis, 2007; Zúñiga, 2016). This might be

achieved via a myriad of ways such as performing a similar task as a whole class activity, providing a model that the students can observe together, non-task preparation activities such as brainstorming, and mind maps to activate learners' schemata, strategic planning whereby students are provided with the work plan and given the time to plan how they will perform the task (Ellis, 2003, pp. 244-247), introducing cultural aspects related to the task, assigning and negotiating the rules that students need to obey (Zúñiga, 2016, p.16) in addition to the roles and responsibilities for group work, establishing evaluation criteria (Zúñiga, 2016, p.16), revisiting previous themes/topics, establishing real-world links, and modelling target functions…For example, if the task involved a debate, learners could first watch an authentic televised debate to sensitise them to turn-taking norms and the language of (dis) agreement.

Teachers should keep in mind that pre-task activities are often multi-functional and most of them incorporate the potential for collaborative co-operation. Finally, there is no rule as for the number or type of pre-task activities; "they will depend on the task and the learners involved" (Moore & Lorenzo, 2015, pp.336-337).

3.16.2. During-task Phase

It is during that phase that learners complete the task (Nunan, 2004, p.128) with the teacher there to support, clarify (Bygate, 2016, p.389), and guide (Zúñiga, 2016, p.16). Negotiation happens at this stage. The during-task phase is influenced by many factors such as:

- Time: the time allocated to the task affects the speed of its completion; the more time learners have, the more attention they pay, and hence the better they will perform.
- Modality: it concerns whether the task is spoken or written. Spoken tasks require less attention as learners will be more focused on fluency. In written tasks, however, attention is given to every detail.
- Support: where support is offered (either by the teacher or the material provided), learners exhibit more ease at handling the task.

- Control: this entails the learners having something to say about how the task can be done. This gives learners a sense of freedom that pushes them to perform better.

3.16.3. Post-task Phase

It is important after completing the task to have a follow-up phase in order to "encourage consolidation and reflection" (Skehan, 1998, p.147) by assessing the process and evaluating the product (Moore & Lorenzo, 2015, p.337), and if necessary providing some follow-up activities (Zúñiga, 2016, p.16). During that phase, learners get a 'debriefing' (Nunan, 2004, p.128) from the teacher, report the results to the whole class, and, most importantly, receive feedback. In that sense, post-task activities "offer many opportunities for focus on form" (Van den Branden, 2006, p.104). During the post-task phase, the teacher can review learners' errors; s/he walks around as the learners are performing the task and notes down the errors or records the learners and displays the errors/recording afterwards (Ellis, 2003, p. 260). Another technique is using those errors/recordings to create a task that can be used during the post-task phase (Ellis, 2003, p. 261). Finally, it is worth noticing that this phase may also act as a "segue into the pre-task phase of the next task cycle" (Nunan, 2004, p.128); i.e., the post-task phase will often be "the primary basis on which the planning of new tasks and activities is founded" (Van den Branden, 2006, p.176).

The post-task phase is very important since it helps to make learners alter their attention; if learners know there will be a post-task, their attention will be focused on aspects like accuracy (Skehan, 1998, p.147), and restructuring. Restructuring is activated through the "analysis of the contextualised language used in the task while accuracy is induced through the use of public performances or reports" (Bruton, 2005, p.60).

The post-task phase, then, serves many functions: to check whether the students' outcome is clear or whether it needs reshaping by the teacher (Bygate, 2016, p.389), to encourage attention to form (Ellis, 2003, p. 238) by providing opportunities for form-focused language practice

(Bygate, 2016, p.389), to allow learners to repeat the performance of the task, and to elicit reflection on how the task was performed (Ellis, 2003, p. 238).

Post-task activities include, but are not limited to, auto-, individual, peer, or whole class feedback/evaluation; remedial work if necessary; creative activities; quizzes; true/false activities; matching; discussions; text analysis; reflection on learning strategies…

3.17. Task Authenticity

Task authenticity is what makes tasks different from any language activity. In its most basic form, authenticity concerns whether tasks "correspond to some real-world activity, i.e., achieve situational authenticity" (Ellis, 2003, p. 6); however, authenticity is not limited to this aspect only. In order to make tasks authentic, it is also necessary "to find out a genuine purpose for the language to be learned" (Suntharesan, 2014, p.179). In other words, classroom tasks should mirror the real world in three ways: at the level of activity i.e., learners engage in activities that reflect the way language is used outside the classroom e.g., telling stories, explaining, describing…, at the level of meaning i.e., learners produce meanings useful in the real world, and at the level of discourse i.e., learners realise discourse acts which reflect the real world such as agreeing, guessing meaning…etc.

Conclusion

Tasks in language teaching and learning are not a novelty. Ever since they made their appearance in the educational scene, researchers have attempted to dissect them and reveal their teaching potential all while ascertaining that unless tasks obey certain characteristics, their full potential cannot be reached. Researchers' efforts were translated in a myriad of typologies and classifications that made the chore of incorporating them in curricula a mere matter of choice. Consequently, tasks nowadays are at the fingernails of teachers all over the world who use them matter-of-factly. Their benefits are seen not only in their communicative potential, but also in

the cognitive load they hold in them. A task cannot be labelled as such unless it provides learner with opportunities to use thinking skills.

This chapter provides a theoretical framework for tasks. After discussing their appearance in the teaching/learning scene, the chapter opens with an overview of the definitions available in the literature. After that, aspects related to their characteristics, components, types, and classifications were provided. The chapter then discusses parameters for task choice, analysis, complexity, and sequencing. At the end, task planning, repetition, and a thorough description of its phases were highlighted along with task authenticity. This chapter paves the way for the next step covered in this research work, that of implementing task-based pedagogy.

CHAPTER FOUR: TASK-BASED LANGUAGE TEACHING

Chapter Four: Task-Based Language Teaching

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Introduction

After establishing the importance of tasks in teaching and learning, many second-language acquisition (SLA) researchers and practitioners started advocating task-based instruction (Ken, 2006, p.207) and declared it a "powerful educational strategy" (Harden et al., 2000, p.395) because "learning results as the student tries to understand not only the tasks themselves, but also the concepts and mechanisms underlying the tasks" (Harden et al., 2000, p.392). Researchers such as Breen (1987), however, distinguished between designing a task for the classroom (*task as workplan)* and the process of working with tasks in the classroom (*task as process)*. This was translated in the development of task-based instruction which was influenced by a number of concepts and approaches (Ken, 2006, p.207). This chapter explores some of these approaches and concepts. It opens with task-based language teaching and its features, particularly those related to learners' centeredness and teachers' role. It then introduces the different approaches to adopting TBLT, its principles, and its two versions. Then, the chapter moves to implementing a task-based language approach, and provides some models to be adopted. Obstacles to implementing task-based language teaching are presented in addition to ways to address these obstacles. Next, there is task-based language assessment and task-based pedagogy in oral classes. The chapter closes with the relationship between task-based language teaching and cognitivism.

4.1. Task-based Language Teaching

Task-based language teaching was launched more than 30 years ago (Van Den Branden, 2016) and has been gaining momentum ever since (Benson, 2015; East, 2014; Harji & Gheitanchian, 2017). It highlights "the instrumental value of language" (Estaire & Zanón, 1994,

p.12) and “recognises not only the importance of knowing how to *do* something, but also the need to know and understand the principles underlying the required action” (O' Halloran, 2001, p.109). The first person who brought TBLT into the teaching profession was Prabhu (Kafipour et al., 2018, p.2). Nowadays, it is recognised as one of the most effective language teaching approaches worldwide (Eslami & Kung, 2016; Thomas & Reinders, 2010; Yegani & Jodaei, 2017). TBLT is a “theoretically defensible and practically feasible” (Skehan, 1998, p.95) learner-centred approach to language teaching (Van Den Branden, 2016, p.164). It is an educational framework that has emerged to “help learners with both acquiring the knowledge of language and honouring their skills and abilities to use their knowledge in real-world activities” (Ahmadian, 2016, 377). Because tasks create “the right kinds of interactional processes in the classroom” (Richards, 2006, p. 30), TBLT distinguishes itself from communicative approaches to language teaching by solely using tasks to promote second and foreign language learning (Bao & Du, 2015; East, 2017; Liu et al., 2018).

4.2. Communicative Language Teaching and Task-based Language Teaching

TBLT is an approach that aims to “develop learners’ communicative competence by engaging them in meaning-focused communication through the performance of tasks” (Van Den Branden, 2016, p.164). In other words, TBLT provides opportunities to experience speaking, reading, listening, and writing through meaningful class assignments that involve learners in practical and functional use of language (Zúñiga, 2016, p.14). Therefore, in principle, “there is not any discontinuity between communicative language teaching (CLT) and TBLT” (Littlewood, 2007, p. 2). Nunan (2004; 2003) clearly states that TBLT belongs to the analytical approach of learning a language and is one manifestation of CLT (Nunan, 2004, pp.10-11), a view advocated by many scholars such as Bao and Du (2015), Dörnyei (2009), East (2017), Littlewood (2004), Richards (2005), Rozati (2014), Weideman, (2006), and Willis

& Willis (2007). Moore and Lorenzo (2015) well explain the relationship between TBLT and CLT by stating that:

> TBLT evolved out of the communicative language teaching (CLT) movement within foreign language pedagogy. Around 10 years after the communicative 'revolution', CLT diverged in two directions: the weak approach, still leaning on an a priori language syllabus based on functions and notions, and the strong approach, adopting a reactive stance and identifying language needs as they emerge during authentic communication. TBLT exemplifies a strong approach. (p.336)

This strong approach is apparent in "Prabhu's Second Language Pedagogy (1987) in which he reported on a language syllabus based purely on practical tasks with no formal language work" (Liu et. al, 2018, p.2). These tasks serve as "the basic units of the curriculum and are the sole elements in the pedagogical cycle" (Lai & Lin, 2015, p.20). However, in addition to the sole use of language tasks in the classroom, six features distinguish TLBT from the rest of teaching/learning approaches.

4.3. Task-based Features

One of the main features of TBLT is that it has one instructional unit: the task (Bruton, 2005; Dörnyei, 2009; Liu et. al, 2018; Rozati, 2014; Van den Branden, 2006). In addition to that, it is based on the following:

- Interaction: TBLT focuses on communication (Nunan, 2004, p. 01); learners "carry out a series of tasks while interacting with other learners" (Kafipour et al., 2018, p.2). The negotiation that happens while performing the task is used as a means to develop learners' communicative competence.

- Authentic materials' use: the main objective of TBLT is to "engage language learners in authentic language use" (Kafipour et al., 2018, p.2). To achieve this end, TBLT is based on authentic materials and real-world tasks (Rubin, 2015).
- Focus on both the process and product of learning: TBLT engages students in learning a language through using the language to resolve "linguistically challenging, goal-driven tasks" (Lai & Lin, 2015, p.20). Hence, TBLT focuses on both language and the learning process (Nunan, 2004, p. 01) in the sense that while solving the task, the learners' behaviours/actions are important, but so is the accomplishment of the task.
- Relating classroom language to language use outside the classroom: TBLT links language learning to language use outside the classroom (Nunan, 2004, p. 01). It considers engaging learners in real world language use in the classroom the most effective way to teach a language (East, 2014, p.262). This entails engaging learners in tasks that they might be brought to perform in the real world such as "reading a bus timetable and deciding which bus must be taken to get to a given destination on a given day and at a given time" (Kafipour et al., 2018, p.2).
- Learners' needs: this feature is particularly important in content selection and task design. Unlike many other approaches, TBLT is a needs-based approach (Nunan, 2004, p. 01) that prepares students to accomplish real world tasks that are "directly relevant to their needs" (Gonzālez-Lloret & Nielson, 2015, p.726).
- Learners' experiences: TBLT is derived from "Dewey's attitude about the crucial role of experience for an effective learning" (Rozati, 2014, p.1273), and built on a "learner-centred and experiential premise" (East, 2014, p.262). That is why, TBLT bases classroom learning on learners' experiences (Nunan, 2004, p. 01).

The last two features highlight one important aspect tightly linked to TBLT, learner-centeredness.

4.4. Task-based Language Teaching and Learners' Centeredness

Learner-centeredness has been "an influential concept in language pedagogy for many years" (Nunan, 2004, p.14). However, TBLT is considered "more learner-centred than other approaches" (Kafipour et al., 2018, p.3). In TBLT, learners-centeredness is translated in learners' involvement in decisions or content selection, methodology, and evaluation (Nunan, 2004, p.15). Since the learner takes up the central role in a task-based classroom (Van den Branden, 2006, p.10), the role of the teacher also has to change.

4.5. Teachers and Task-based Language Teaching

Teaching is a highly demanding profession. Inside the classroom, teachers worry about many things at once: discipline, crowdedness, lack of time, lack of preparation, and evaluation all while worrying about their language proficiency. For that reason, any novelty in the field might be approached with scepticism.

4.5.1. Teachers' Attitudes

"EFL teachers are unwilling to use communicative approaches, such as task-based language teaching" (Kafipour et al., 2018, p.3). Some reasons are that it adds to their long list of frustrations, lack of training in the use of tasks, and it modifies their established role in the classroom.

4.5.2. Teachers' Role in Task-based Language Teaching

The teacher's role refers to the parts that the teacher is expected to play (Nunan, 2004). Negotiation, which is of paramount importance in TBLT, appears to be "more effective if learners are active rather than passive participants in a task" (Ellis, 2003, p. 100). In order to give learners a more active role in the task-based classrooms, the teacher needs to adopt a different role (Nunan, 2004, p.67).

Willis suggested that part of the teachers' role in TBLT is designing communicative tasks and activities with "a suitable degree of intellectual and linguistic challenge" (Willis, 1996, p. 23) that would promote learners' language development. In other words, in the task-based classroom, teachers still fulfil their traditional role of providing language knowledge, but they have also to "promote real language use and provide a clear link between the classroom and the real world" (Willis & Willis, 2007, p.148).

For Willis & Willis (2007, pp.148-151), the role of the teacher in TBLT is that of manager of discourse, leader and organiser of discussion, manager of group/pair work, facilitator, motivator, language knower and advisor, and of course language teacher in its basic form (explaining, demonstrating, and eliciting forms).

For Van Den Branden (2006), however, the teacher in TBLT has two major roles in addition to his/her role to "make decisions about content, include the tasks in the syllabus and methodology, and perform these tasks in the classroom by learners" (Kafipour et al., 2018, p.2). The first one is that of motivating language learners. He states that "one of the most prominent roles of the teacher is to try and get every single learner involved" (Van den Branden, 2006, p.177). Moreover, there is selecting content and determining the focus of the classroom activity, the time allocated...etc. One further role is supporting language learners (ibid.). This role is the most important in TBLT as it is translated into:

- Planning interventions during the preparation phase. This can be true especially if the teacher knows his/her learners as s/he might be able to anticipate areas that might cause problems and find a way to overcome them.
- Intervening while the learners are performing the task. Intervention here may take the form of guidance or providing feedback to support learners.
- Guiding learners through discovery by 'acting dump' and meeting learners in the middle, between the teacher's own initiatives and the learners'. To achieve that, Robinson (2011)

suggests “breaking the task down into simpler subcomponent steps, with trial runs and feedback given before independent interaction, as well as materials containing relevant linguistic, contextual, and procedural cues” (p.143).

- Providing feedback to learners, each according to his/her own profile (age, level, gender, needs…).

- Manipulating or modifying the task to optimally promote language learning. The teacher is the only one capable of deciding whether and when to interfere. Interference may take the form of raising or lowering the complexity level of the task, helping in solving the problem if the learners hit a dead end…etc.

- Being both a model and a conversational partner for language use because in TBLT, “the teacher can be regarded in many ways as the learners’ most privileged interlocutor” (Van den Branden, 2006, p.175).

Later on, Van Den Branden (2016) added another role: the teacher as researcher. As the range of studies is limited, teachers should act as action researchers and reflective practitioners; they gather data, analyse them, share the results and dynamically adapt their eclectic approach depending on their learners’ needs, the topics they are covering, learning goal, etc. (Van Den Branden, 2016, pp.175-178). In addition, because every language teacher plays the role of a material developer every now and then, if what is available does not fit a particular group, the teacher should make his/her own materials.

4.6. Approaches to the Adoption of Task-based Teaching

Over the years, there have been many applications of TBLT (Knight, 2005); they all share a common idea though: “giving learners tasks to transact, rather than items to learn” (Foster, 1999, p. 69). In general, there are three main approaches to the adoption of task-based teaching.

4.6.1. Task-supported Approach

In task-supported language teaching, “tasks are used to implement a linguistic syllabus” (Second Language Acquisition and Task-based Language Teaching, 2016, p.438), or to complement any existing approach for the aim of “extending communicative language use” (Bygate, 2016, p.387). In such an approach, tasks are used as “a means to support delivery of programs…and are not necessarily used for assessment purposes” (Robinson, 2011, p.8). Task-supported language teaching “can have more positive outcomes especially because of the challenges faced by teachers” (Kafipour et al., 2018, pp.4-5). However, the problem with such approaches is that tasks are used as entities independent from the rest of the pedagogic procedures used in teaching (Bygate, 2016, p.387).

4.6.2. Task-referenced Approach

In task-referenced approaches, tasks are principally used “as a way of setting achievement targets and assessing the desired outcomes of a program of instruction” (Robinson, 2011, p.8). In other terms, tasks are utilised to mark the abilities which language learners are supposed to develop by the end of the unit/course. The problem with such approaches is that nothing is said about what will happen during instruction and how. Learners will not be taught the target tasks, but they will be tested on them (Bygate, 2016, p.387).

4.6.3. Task-based Approach

In task-based approaches, the programme is created in terms of “a sequence of tasks with the central learning and teaching processes for all the units deriving directly from the tasks themselves” (Ahmadian, 2016, p.377). Here, tasks are at the centre of the whole syllabus, unit, and everything going on inside the classroom (Bygate, 2016, p.387). Allwright (1984, as cited in Rozati, 2014, p.1274) was among the first people who argued for the effectiveness of using tasks in language teaching; consequently, many researchers proposed their own task-based

syllabuses, for example “Prabhu’s Procedural Syllabus (1987), Breen’s Process Syllabus (1984), and Long’s Task Syllabus (1985)” (Hai-Yan, 2014, p.64). Two versions of the task-based approach exist, the strong version, and the weak version.

4.6.3.1. Versions of Task-based Language Teaching

During the 1980s, strong and weak realisations of TBLT emerged (Adams & Newton, 2009; Bao & Du, 2015; Skehan, 2003; Skehan, 1996). The two models are suggested to achieve the balance between communication, on the one hand, and form, on the other (Skehan, 1998, p.126).

4.6.3.1.1. Strong Version

The strong form of TBLT advocates tasks as the central unit for classroom teaching. Tasks are seen as a means of “enabling learners to learn a language by experiencing how it is used in communication” (Ellis, 2003, p. 28). In other words, the task is used in all stages of program design, implementation, and evaluation (Liu et al., 2018, p.2), and task execution is seen as “the necessary and sufficient condition of successful second language acquisition” (Nunan, 2004, 21). Proponents of the strong form of TBLT have proposed ‘meaning-focused instruction’ by emphasising that learning evolves out of meaningful language use (Bao & Du, 2015, p.292).

This version was criticised by Bruton (2005); he argues that the strong version of TBLT “does not offer answers to questions of content or procedures for language development, and certainly not in a progressive manner” (Bruton, 2005, p.64). In addition to that, some researchers have highlighted “the critical need for learners to attend to form” (Bao & Du, 2015, p.292), hence leading to the emergence of the weak version of TBLT.

4.6.3.1.2. Weak Version

The weak version of TBLT positions tasks as complementary parts of the teaching approach; tasks might be interspersed into traditional language-based approaches to teaching (Liu et al., 2018, p.2) and serve as a way of "providing communicative practice for the items that have been introduced" (Ellis, 2003, p. 28). In a weak TBLT model, tasks are still central, but in addition to a task-focused lesson, more focused instruction might precede (pre-task) and/or follow (post-task) (Nunan, 2004) the performance of the task.

4.7. Principles of Task-based Language Teaching

TBLT is based on a set of principles; Ellis (2009, 2003) divides these principles into three categories:

- Principles related to the tasks: the tasks must be of an appropriate level of difficulty (Ellis, 2003, pp. 277-278) and trialled and revised until they fit learners' needs and level (Ellis, 2009, p.239).
- Principles related to the teachers: teachers should be trained in the principles of TBLT (Ellis, 2009, p.239). They need to establish clear goals for each task-based lesson (Ellis, 2003) and know the rationale behind the use of tasks (Ellis, 2009). For example, the teacher should provide opportunities for focusing on form (Ellis, 2003, pp. 277-278) and require students to evaluate their performance and progress (Ellis, 2003, pp. 277-278). In an ideal setting, the teacher using TBLT must be involved in the development of task materials (Ellis, 2009, p.239).
- Principles related to the students: in a TBLT classroom, students adopt an active role (Ellis, 2003, pp. 277-278), develop an appropriate orientation to performing the task (Ellis, 2003, pp. 277-278), and are encouraged to take risks (Ellis, 2003, pp. 277-278). Most important of all,

the students are primarily focused on meaning while performing the task (Ellis, 2003, pp. 277-278).

For Nunan (2004), TBLT is based upon seven principles:

-*Scaffolding*: this principle means that students should be exposed to language chunks that are beyond their current processing capacity (Nunan, 2004, p.35) in order to ensure language learning.

-*Task dependency:* the tasks adopted should be related to each other, sequenced from receptive to productive for instance or from productive to creative (Nunan, 2004, p.36).

-*Recycling:* this principle is important because exposing learners to a language item repeatedly helps them to grasp it and link it to other language items (Nunan, 2004, p.36).

-*Active learning*: because learners learn best through doing, they should be provided with opportunities to actively use the target language (Nunan, 2004, p.36).

-*Integration:* this principle is related to the trichotomy form, function, and meaning. Learners should be taught the relationships between those three concepts (Nunan, 2004, p.37).

-*Reproduction to creation:* reproductive tasks focus on form, functions, and meaning; they provide learners with opportunities to reproduce language models provided with the input. Creative tasks involve creating new meanings around the elements provided in the reproductive tasks (Nunan, 2004, p.37).

-*Reflection:* one of the ultimate aims of TBLT is catering for reflective learning. Being a reflective learner involves being aware of one's own strategies, and improving them in order to become a better learner (Nunan, 2004, p.38).

4.8. Implementing a Task-based Language Approach

To implement task-based language teaching, one should go through some stages. Bygate (2016) specifies three steps to facilitate the implementation of TBLT: identifying the target tasks which learners will need to handle, adopting the three-phase procedure (pre-task, on-task,

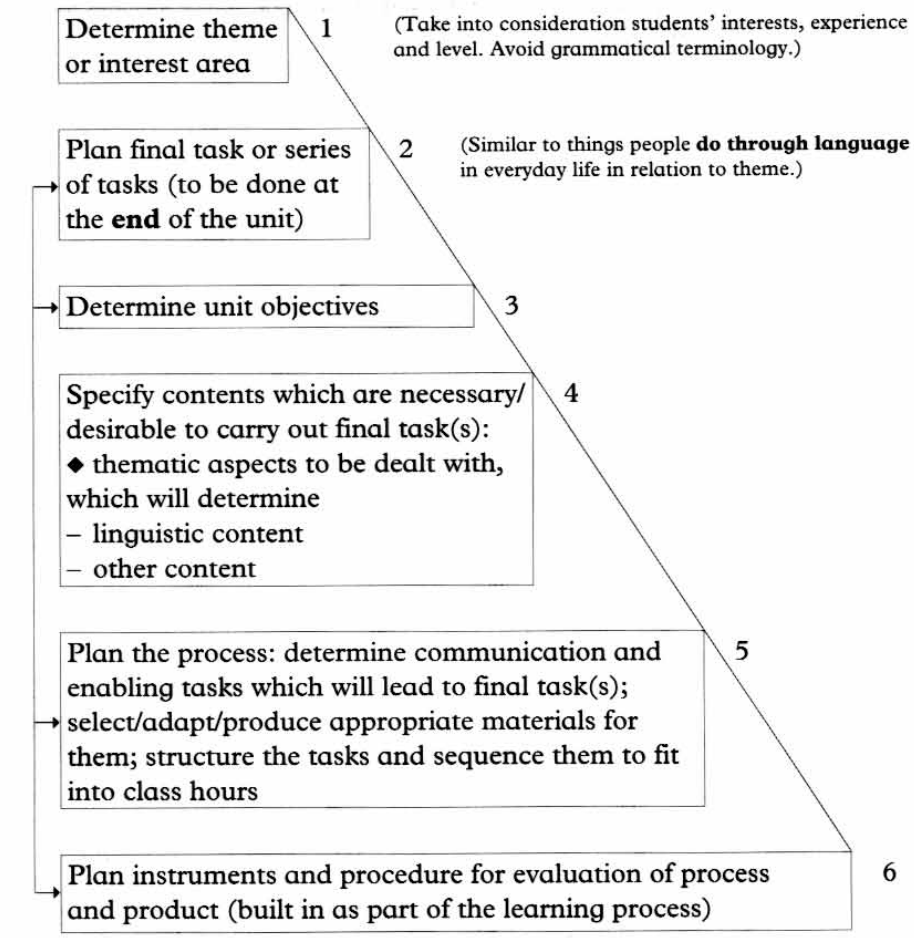
and post-task phase), and finally using the task as a means to let students discover new language by leading them to attempt expressing the meanings with which they are not familiar (Bygate, 2016). Bao and Du (2015) suggest yet other steps such as raising learners' understanding of TBLT and its aims, diversifying the types of tasks used, and combining teacher-led instruction with TBLT through adopting a weak version of TBLT (Bao & Du, 2015, p.302).

Estaire and Zanón (1994) suggest a more detailed framework based on six different steps. The first is determining the theme of the unit, then planning a final task or series of tasks to undertake. Next, one needs to specify the content after determining unit objectives. The following step which entails planning the process includes specifying the types of tasks needed and sequencing them all while selecting the appropriate materials. The final step is planning instruments for evaluation (Figure 09).

Attempts to apply TBLT principles led to the development, by scholars, of models that facilitate the implementation of TBLT.

Figure 09

A Framework for Planning a Unit of Work



Note: Six steps to follow while implementing TBLT. From *Handbooks for the English classrooms: Planning classwork, a task-based approach* (p.6), by Estaire and Zanón, 1994, Macmillan Heinemann English Language Teaching.

4.9. Task-based Language Teaching Models

To make the task of implementing TBLT easier, some scholars developed models for applying task-based principles. The most famous models are:

4.9.1. Prabhu's Model (1987): Prabhu was the first to apply TBLT in teaching programmes (Suntharesan, 2014, p.177); his procedural syllabus was "the first attempt to develop a syllabus on such grounds" (Ellis, 2003, p. 208) and is considered by many "the best recorded

application" (Rozati, 2014, p.1274). In his *Bangalore Project*, Prabhu insisted that language would be only a means to achieve the task, not the end result, and that what matters most is the outcome of the task, not the form. The procedural syllabus consists of three types of tasks (reasoning-gap, opinion-gap, and information gap tasks) sequenced according to difficulty. All of Prabhu's tasks were "problem-oriented and designed to be intellectually challenging in order to engage learners and sustain their interest" (Skehan, 1998, p.101).

4.9.2. Berwick's Model (1993, as cited in Skehan 1996): Berwick emphasises two dimensions underlying task-based teaching (Skehan, 1996). He first draws attention to task goals which can be either educational (didactic) or social (learners are engaged in an activity and language is seen as a mere means to achieve it). The second dimension concerns task processes. Here again, Berwick specifies two processes: the expository process which covers abstract information that can be later applied to new contexts, and the experiential process which includes concrete tasks based on learners' experiences (ibid.).

4.9.3. Long's Model: Long's model differs from Prabhu's in that he emphasises the need for learners to focus on form. In the tasks suggested by Long, the focus is primarily on meaning; attention to form is *incidental* (Ellis, 2003, p. 208).

4.9.4. Willis's Model (1996): Willis suggests five principles to implement a task-based approach: learners should be exposed to worthwhile and authentic language; they should be encouraged to use language, the tasks adopted should motivate learners to engage in language use; there should be language focus at some points in a task cycle; and finally this focus on language should be more or less prominent at different times (Skehan, 1998, p.126).

Willis's model also adopts the three-phase lesson design (Rozati, 2014, p.1276). In the pre-task phase, the teacher should work on activating learners' background knowledge and relate it to what will come. S/he can use texts/videos that present authentic language use which contains the form that is going to be taught, in addition to some activities in order to make learners focus

on that form (Skehan, 1998, p.126). The task cycle entails three sub-phases (Rozati, 2014, p.1277): the *task* where students actually perform the task, *planning the report*, which takes place after the task (here, attention is paid to organisation and accuracy), and *report* in which students give a report on the outcome (here, attention is given to fluency). In the last phase, various activities, which are communicative in nature, should be undertaken (Skehan, 1998, pp.127-128) though focus on form is permissible and advisable (Bygate, 2016, p.38). Though detailed and well explained, Willis's model lacks evidence that supports it (Skehan, 1998, p.129).

4.9.5. Skehan's Model (1998): Skehan also suggests a model based on five principles. The teacher should first choose a range of target structures; this can be achieved by keeping track of learners' interlanguage development. The next step is to choose the tasks, always keeping in mind learners' target needs and the concepts of fluency and accuracy. After selection comes the sequencing of tasks which has to obey the larger pedagogical plan, and follow the level of difficulty. The teacher needs to maximise the chances of focus on form; this could be achieved through maximising the chance of noticing, then establishing conditions so that focus is on the form. Finally, in order to provide opportunities for reflection, the teacher should engage learners in cycles of evaluation and reflection upon what has been learned (Skehan, 1998, p.129).

4.9.6. Nunan's Model: Nunan's model is a six-step procedure to prepare learners to carry out a task (Nunan, 2004). The first step consists of presenting learners with exercises that would announce the topic, set the context, and introduce learners to the language they might need to carry out the task. The second step consists of providing learners with controlled practice to use the target language while the third step provides them with authentic language practice in the form of chunks of language produced by native speakers performing similar tasks in the real world. The fourth step provides focus on linguistic elements by drawing students' attention to one or more linguistic items from the input with which they have been presented in the previous

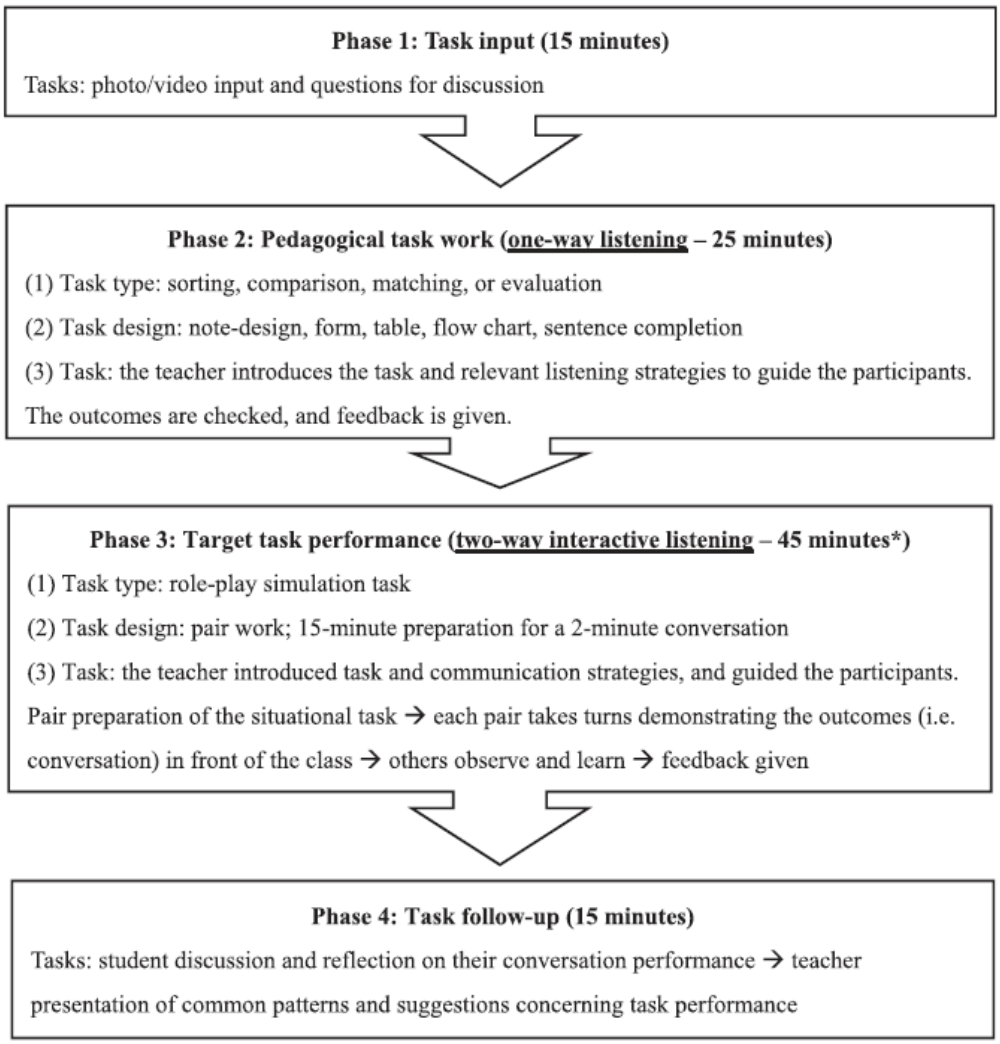
steps. The fifth step brings freer practice for the students to create their own meanings in tasks that call for creativity. The last step introduces a group work that uses all the features that were explored in the previous steps to reach a final shared outcome (Nunan, 2004, pp.31-33).

4.9.7. Ellis's Model (2006): Ellis (2006) believes in the three-stage lesson design. The pre-task phase encompasses a number of activities that teachers and students need to perform before starting the task. The on-task phase is associated with the task itself and includes some instructional alternatives such as whether the task is time-bound or not. The post-task phase includes the follow-up activities associated with the task performance and focuses on language forms. Ellis (2006) highlights that only the task performance phase is compulsory in TBLT, while the two other stages are optional.

In addition to all these models, an excellent model of how TBLT can be successfully introduced can be found in "Van den Branden's (2006) account of its implementation in Flanders (Belgium)" (Ellis, 2017, pp.521-522). Van den Branden's model combines "the development of task-based syllabuses, extensive teacher training, and on-going research into the implementation of task-based programmes" (ibid.). A more recent model can be found in Chou (2017); Figure 10 describes this model.

Figure 10

A TBLT Model



Note: A four-phase model to implement TBLT. From "A task-based language teaching approach to developing metacognitive strategies for listening comprehension", by Chou, 2017, *International Journal of Listening, 31*(1), p.58. https://doi.org/10.1080/10904018.2015.1098542

4.10. Obstacles to Implementing Task-based Language Teaching

Although many studies stress the efficiency of TBLT, "there are few genuinely task-based textbooks available" (Liu et al., 2018, p.3). This is due to the many obstacles that stand in the way while implementing or trying to implement TBLT. Obstacles to implementing TBLT are

related to four elements: the teacher, the learners, the task, and the educational institutions in which such approaches are adopted.

4.10.1. Obstacles Related to the Teachers

Any "new perception of pedagogy, implying a different pattern of classroom activity, is an intruder into teachers' mental frames, an unsettling one" (Prabhu, 1987, p. 105). This, in part, is due to the fact that teachers face a number of practical difficulties in implementing any new teaching approach in general and TBLT in particular (Ellis, 2009, p.236). Researchers have reported various teacher-related obstacles such as poor understanding of what task and TBLT mean (Ellis, 2009), lack of necessary language proficiency, inability to accommodate diversity in classrooms, uneasiness about giving up control (Lai & Lin, 2015, pp.20-21), in addition to some common problems such as insufficient time to prepare materials, classroom management problems, and the dilemma of teaching for the test vs. teaching skills/competencies that learners need in their daily life.

4.10.2. Obstacles Related to the Learners

The success of any method or approach goes hand in hand with learners' attitudes, behaviours, and success/failure. The chief obstacle to TBLT is that learners believe in the importance of grammar and prefer explicit grammar instruction. Therefore, "a lack of primary focus on explicit grammar instruction in TBLT results in learners' dissatisfaction" (Bao & Du, 2015, p.293). Another obstacle is learners' discomfort with the new role assigned to them. Learners are used to and are reluctant to change their habitual role, and prefer the old-fashioned way of learning (interacting with the teacher, receiving feedback in the form of confirmation or correction, and finally encouragement) (Burrows, 2008; Zhang, 2007). Also, the sole use of the target language as a means to perform the tasks is seen by many learners as frustrating because of learners' low proficiency in the target language (Carless, 2003; Li, 1998). Finally, learners'

own dispositions, such as shyness and intrinsic-ness, might hinder learning especially in a TBLT context.

4.10.3. Obstacles Related to the Tasks

Obstacles related to the nature of tasks are of three types. First, there is the wide use of the students' mother tongue (Ellis, 2009, p.238). While performing tasks, students seem to distinguish between the tasks which are conducted in the target language (TL), and negotiation of meaning which occurs in the mother tongue. For that reason, using tasks as a means to learn the TL appears unsuccessful sometimes (Burrows, 2008, p.14). Second, certain activities do not even involve language production and result in non-linguistic outcomes such as drawing for instance (Burrows, 2008; Ellis, 2009). Finally, though TBLT is said to promote learners' motivation, this claim is often attacked on the basis that task-based interaction "often seems very unimpressive" (Burrows, 2008, p.14).

4.10.4. Obstacles Related to the Educational Institutions

TBLT lacks institutional support such as professional development opportunities. This is, in part, due to "its virtually exclusive focus on oral expression" (Bruton, 2005, p.57) and its paradoxical "lack of pronunciation practice" (Bao & Du, 2015, p.295). This, in addition to the lack of sufficient instructional time (Bao & Du, 2015; Bao & Kirkebæk, 2013; McDonough & Chaikitmongkol, 2007), teaching materials (Leaver & Kaplan, 2004), and discipline challenges (Ellis, 2009) leads to resistance from educational institutions.

4.11. Criticism of Task-based Language Teaching

Because of the aforementioned obstacles, there are researchers "who have railed against the TBLT endeavour" (East, 2017, p.413), claiming that TBLT "has serious limitations" (Bruton, 2005, p.66). This has engendered a trail of criticism from different researchers.

The first criticism has to do with the language. TBLT is said to offer insufficient practice with the language (East, 2017, p.413). This is due to the nature of task-based communication which over emphasises authentic language use (Ellis, 2009, p.22), ignores vocabulary and pronunciation (Ellis, 2009, pp.225-226), and restricts the way in which language is used. Language has many functions; information gap tasks fulfil the referential function (conveying information), and opinion-gap tasks fulfil the conative function (influencing the actions of others), but what about expressing feelings, establishing communication, communicating about the code itself… (Ellis, 2003, pp. 329-330). Also, TBLT is "not enough to ensure high levels of formal correctness in oral production" (Bruton, 2005, p.59) and does not ensure adequate coverage of grammar as attention to form is limited to corrective feedback and conscious raising activities (Ellis, 2009, pp.225-226).

The second criticism is that TBLT does not constitute an adequate context for language learning (Ellis, 2003; Ellis, 2009). East speaks of TBLT's failure to "provide adequate exposure to frequent language" (East, 2017, p.413), and Skehan highlights learners' reliance on communication strategies instead of simply using language (Skehan, 1998, p.125). This, combined with the fact that tasks are inherently meaning-centred and outcome-oriented, induces "task performers to simply get the job done" (Association for Language Learning, 2013, p.247), or even worse, "less motivated learners can take short cuts by glancing at their neighbour's book, or using the mother tongue" (Kiernan & Aizawa, 2004, p.2) which reduces the amount of foreign language negotiation.

The third criticism has to do with the fact that TBLT is all about pair and group work. Pair and group work offer potential advantages; however, individual and whole class work is also important (East, 2017, p.418). Also, many problems arise in group interactions such as dominations, non-involvement and consequently non-participation, absence of interactional

processes, the diffusion of responsibility, and the free-rider effect where one pupil does all the hard work while the others settle for watching (Van den Branden, 2006, p.96).

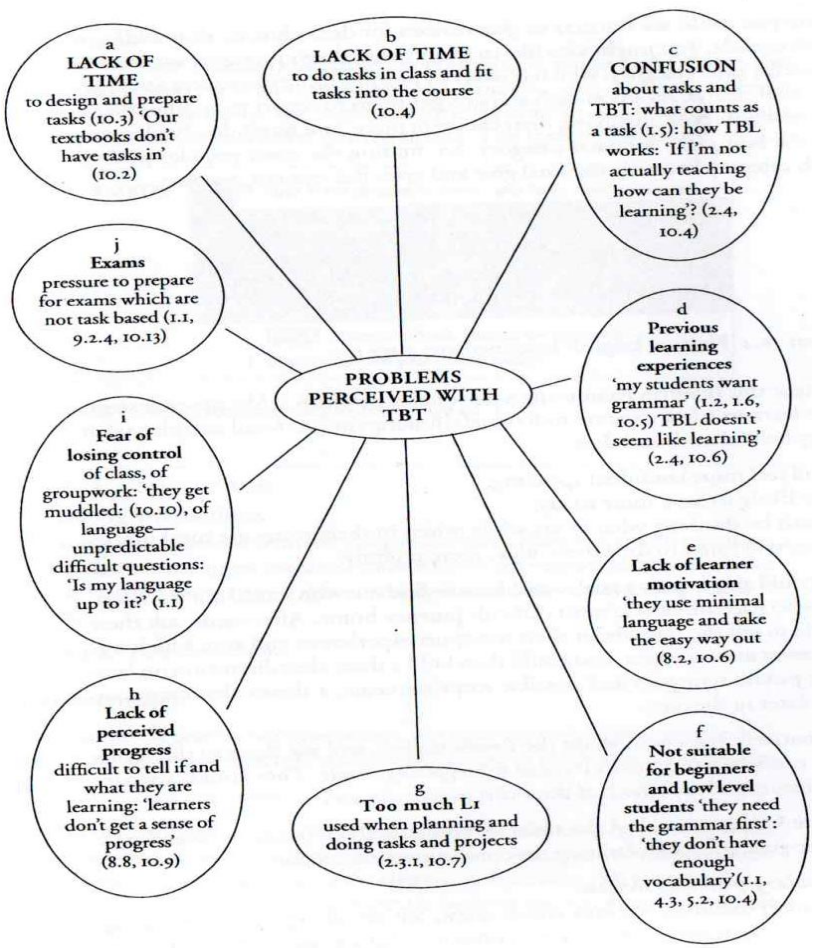
The fourth criticism is related to the cultural relativity of TBLT. TBLT is an Anglo-American creation (Ellis, 2003, p. 331) that is "unresponsive to different cultural and pedagogical contexts" (Thomas & Reinders, 2010, p.2) and may be unpractical in Asian countries for instance or in countries where the TL proficiency is low (Ellis, 2009, p.22).

Finally, TBLT is said to be implausible because "it is not possible to predict what kinds of language use will result from the performance of a task, and thus it is not possible to ensure adequate coverage of the target language in a task-based course" (Ellis, 2009, pp.225-226). Consequently, TBLT in practice could end up looking very different to TBLT in theory (East, 2017, p.413). For a start, the definition of a task is not sufficiently clear to distinguish it from other kinds of instructional activities (Ellis, 2009, p.225), and a task alone does not constitute a valid construct around which to build a language teaching programme (Ellis, 2009, p.22). In addition to that, "there are insufficient empirical findings to support the theoretical rationale for TBLT or to show that TBLT is superior to traditional approaches" (Ellis, 2009, p.225-226).

Figure 11 highlights yet other criticism directed to TBLT. Van den Branden et al. (2009), and Ellis (2009) addressed some of this criticism and concluded by ascertaining the effectiveness of TBLT. They assert that there are theoretical grounds, and empirical evidence to support TBLT. Even more than that, "tasks might be able to offer all the affordances needed for successful instructed language development, whoever the learners might be, and whatever the context" (Van den Branden et al., 2009, p. 11). As a reaction to this criticism, many researchers highlighted the benefits of TBLT.

Figure 11

Problems with TBLT



Note: Problems that face teachers while implementing TBLT. From *Doing task-based teaching* (p.200), by Wills and Wills, 2007, Oxford University Press.

4.12. Benefits of Task-based Language Teaching

Many people might be interested in the use of tasks, such as researchers (to explore theoretically motivated questions), testers (to obtain data), and obviously teachers (Skehan, 2003, p.2). Consequently, the criticism addressed to TBLT was confronted by works highlighting its advantages.

For a start, Van den Branden et al. state that there are theoretical grounds and empirical evidence for believing that TBLT is effective in developing language learning (Van Den

Branden et al., 2009, p.11). This view is shared by Buitrago Campo who ascertains that "in most of the cases where scholars embedded the task-based approach in their teaching, the results were positive in relation to the students' use of the target language and communicative competence" (Buitrago Campo, 2016, p.96). Furthermore, TBLT brings language learners to real life (Chen, 2012, p.66) and promotes learning by doing (Benson, 2015, p.342); things that make its benefits observable in daily contexts.

Another advantage of tasks is that they are versatile. They can be used at different stages of learning (Samuda & Bygate, 2008); they can be the core of a curriculum as in task-based language teaching, or they can be integrated as in task supported learning and teaching (Van den Branden et al., 2009). Tasks may also be sequential in the sense that together they could form a project at the end of the unit/course; this all depends on the teacher's choice and his/her guidance and/or control (Moore & Lorenzo, 2015, p.337).

As far as the cultural relativity of TBLT is concerned, this is in fact the case with all approaches and theories. Van den Branden et al. (2009, p. 11) state that tasks bring together the various dimensions of language and social contexts. The teacher just needs to choose tasks with sensitivity to the socio-political messages they convey.

From a learners' perspective, one can say that TBLT is motivating (East, 2017; Liu et al., 2018) and effective (Liu et al., 2018, p.3) in that tasks "incite the learner to invest mental energy" (Van den Branden, 2006, p.132). Learners benefit from TBLT in terms of "increased participation, more opportunities for speaking, easing anxiety, and enhancing enjoyment" (Bao & Du, 2015, p.295) which, in turn, improve the quality of students' speech (Iwashita, 2003, p.8). Tasks also "encourage learner autonomy" (Saraç, 2018, p.4) and promote risk taking, confidence, and higher levels of learning environments where students can try out their ideas (East, 2017, p.418) and "do experiments with new language forms and structures" (Liu et al., 2018, p.3).

Finally, the fact that TBLT is all about spoken interaction is in fact a trump. Tasks can engage productive or receptive, and oral or written skills (Ellis, 2003, p16), and there are task-based approaches to reading in addition to works that focus exclusively on writing (East, 2017, p.418). Also, opportunities for incorporating listening and reading input (Robinson, 2011, p.2), for instance, are provided when performing any speaking task. It is just that, in TBLT, the students "ask more questions" (Bruton, 2005, p.59) and are provided with "a learning context that requires the use of the target language" (Buitrago Campo, 2016, p.97); therefore, they act primarily as language users, and not as language learners (Van den Branden, 2006, p.8). TBLT, then, results in communicative outcomes (Moore & Lorenzo, 2015, p.336) that equip learners "to meet their present or future real-world communicative needs" (Long, 2007, p. 129). Language learning is enhanced (East, 2017) by manipulating tasks to affect particular types of individual productive language performance (Bruton, 2005, p.57), or by modifications in output.

4.13. Modifications in Output

In TBLT, there are three ways to modify learners' output:

1. Recasts, which are "utterances which re-express an intended meaning of an interlocutor, but more correctly and precisely" (Skehan, 1998, p. 274). Recasts are usually used by teachers in speaking sessions.

2. Feedback strategies (Robinson, 2011; Thomas & Reinders, 2010) which are either input providing or output prompting (Ellis, 2017, p.516). Feedback strategies might be implicit or explicit. "Implicit feedback caters to implicit learning whereas explicit feedback is more likely to result in the conscious attention to form" (Ellis, 2017, p.517).

3. Modifications in output resulting from "negotiation of meaning" (Robinson, 2011; Skehan, 1998; Thomas & Reinders, 2010). Meaning negotiation prompts attention, thus

allowing interlanguage to develop (Bruton, 2005, p.59), and is consequently considered a defining feature of TBLT.

4.14. Meaning Negotiation

Tasks, by definition, should "elicit negotiation of meaning" (Westhoff, 2009, p.507). Meaning negotiation is "listener-oriented" (Ellis, 2003, p. 74) and is characterised by modifications to interaction that include "confirmation checks, comprehension checks, and clarification requests, as well as repetitions or paraphrases of a previous speaker's or one's own utterances" (Doughty, 1991, p. 155). An important issue is raised by researchers: "which task types and conditions generate most negotiation of meaning?" (Skehan, 1998, p. 274). Long, for instance, specifies that two-way tasks produce more negotiation than one-way tasks, planned tasks 'stretch' interlanguage further more than unplanned tasks, and closed tasks produce more useful negotiation work than open tasks (Long, 1989, pp. 12-18). This being said, focus on meaning does not imply that form has no place in TBLT.

4.15. Form vs. Meaning

Though the teaching of English through tasks is a concrete realisation of the importance of focusing on meaning, TBLT "does not exclude a focus on form" (Van den Branden, 2006, p.9). Meaning has precedence in TBLT (Kiernan & Aizawa, 2004; Mann, 2006), but "there needs to be some concern for form if there is to be a prospect of interlanguage development" (Skehan, 1998, p. 269). The thing is "the place of a focus on form in TBLT is controversial" (Nunan, 2004, p.93).

According to Willis and Willis (2007), there are three ways in which TBLT functions: a focus on meaning wherein participants are concerned with communication, a focus on language, and a focus on form (Willis & Willis, 2007, p.4). Focus on language refers to "attempts to intervene in the process of acquisition by inducing learners to pay attention to linguistic form while they are primarily concerned with decoding or encoding message content" (Ellis, 2005,

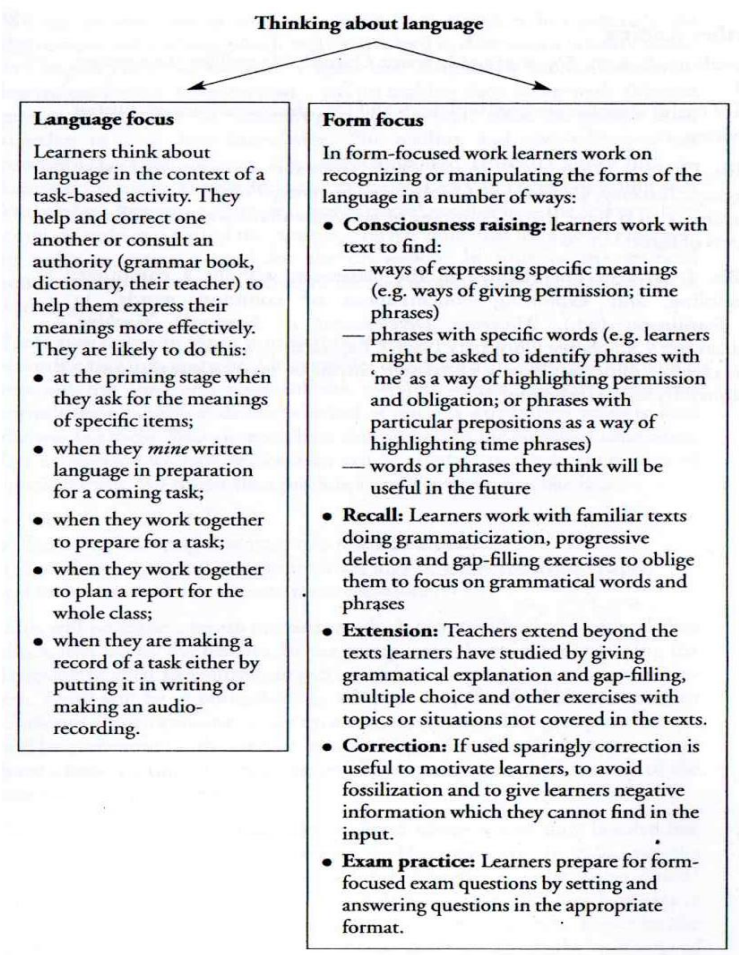
p.9); it aims at “conscious learning” (Nunan, 2004, p.93). Focus on language is used “when learners are working with meaning and are thinking about language on their own initiative, independently of the teacher” (Willis & Willis, 2007, pp.113-114).

A form-focused approach, or in Willis and Willis’s words focus on form (Long, 1988), covers mainly “the context-free teaching and learning of the grammatical features of the language” (Bygate, 2016, p.386). In its most basic form, focus on form occurs at the end of the task cycle, when a teacher isolates particular forms for study and begins to work on them outside the context of a communicative activity (Willis & Willis, 2007, p.114). In other words, teachers isolate “specific forms, specific grammatical structures or function realisations, and identify these as the target forms. Learners know that, by the end of the teaching sequence, …they will be expected to produce these forms with an acceptable level of accuracy” (Willis & Willis, 2007, p.4). To incorporate a focus on form into a task-based syllabus, we can either opt for the use of focus tasks or provide feedback that addresses a form used by the learners (Ellis, 2003, p. 230). Advantages of focusing on form at the end of the sequence are numerous such as helping learners make sense of the language they have experienced, highlighting the language they are likely to experience in the future, and providing motivation (Willis & Willis, 2007, p.25).

Figure 12 highlights the differences between language focused and form focused tasks.

Figure 12

Language Focus and Form Focus Compared



Note: The differences between language focused and form focused tasks. From *Doing task-based teaching* (p.133), by Wills and Wills, 2007, Oxford University Press.

4.16. Task-based Language Assessment

TBLT has heavily influenced learner assessment (Roy, 2017, p.1) though many "teachers often say they can't assess students in TBLT" (Ellis, 2017, p.520). Researchers such as Ellis (2003), Ken (2006), and Van den Branden et al. (2009) ascertain that tasks can be used in language assessment. Task-based language assessment involves "either real-world behaviour …or the kinds of language processing found in real-world activities" (Ellis, 2003, p. 285). Though task-based assessment can serve both a summative and a formative role (Ellis, 2003, p.

312), it is usually designed to "provide students with formative feedback that can help them improve in their attempts to achieve the target tasks" (Gonzālez-Lloret & Nielson 2015, p.729) on the one hand, and "assess as directly as possible whether test-takers are able to perform specific target language tasks" (Van den Branden, 2006, p.152) on the other. That is what is known in pedagogy as performance assessment.

4.16.1. Performance Assessment

Norris et al. (1998, p.8) argue that task-based assessment is part of a broader approach to assessment called performance assessment. Performance assessment emphasises "specifying the behavioural parameters of what we should expect to see in a student's performance" (Dunn et al., 2008, p.66) on a cognitive task. There are three essential characteristics of performance assessment. First, the sole construct of assessment must be tasks. Secondly, the tasks used should be as authentic as possible. Finally, success or failure in the outcome of the task must be rated by qualified judges who know the criteria for assessing tasks. In TBLT, assessment is performance-based and criterion-referenced.

4.16.2. Criterion-referenced Testing

Criterion-referenced testing means that students are tested about whether they can perform the task, not complete a grammar item. Criterion-referenced testing, which is based on the testees' ability to perform a specific task, is more appropriate than norm-referenced testing in task-based language testing (Nunan, 2004, p.147). Benson advocates this view and states that assessment of student learning should be centred around criterion-referenced assessment tasks (Benson, 2015, p.344).

4.16.3. Assessment Tasks

Generally speaking, in language assessment, the activities chosen for any test may either be based on a theory of language use or on what testees will need to perform in the real-world (Ellis, 2003, p. 286). In TBLT, the latter case is prevalent. Task-based tests require candidates

to “perform an activity …they will have to engage in outside the test situation” (Nunan, 2004, p.145). In addition to that, assessment tasks are used to check whether learners can use the target language to accomplish target tasks (Van den Branden, 2006, p.11). In other words, assessment tasks should elicit and evaluate language abilities that underlie successful language performance (Ellis, 2003; Van den Branden, 2006).

4.16.4. Measurement

A task-based test consists of “a task, an implementation procedure, and a performance measure” (Ellis, 2003, p. 286). The issue of measurement within TBLT has “provoked lively debate” (Skehan, 1998, p. 274), especially that of oral tasks. Many teachers tend to score speaking tasks in a global way, based on their intuitive feel (Van den Branden, 2006, p.165); others prefer using other techniques. For example, because there are three areas of language production: accuracy, fluency, and complexity (Harji & Gheitanchian, 2017, p.26), some researchers have used indices of these three areas to measure task-based tests: fluency is assessed by measuring speech rate, length of run/pausing, in addition to silence, repetitions, false starts, reformulations, replacements…; accuracy is measured by the proportion of error; and complexity is measured by the use of subordination (Skehan, 1998, p. 275). As for Pollitt (1990), he makes a distinction between approaches to language testing which *count*, e.g., directly assessing the task outcomes in closed tasks using a multiple-choice test, or by analysing discourse measures of communicative competence, and those which *judge*, e.g., where an observer observes the performance and judges using rating scales. Rating scales are “performance-based and set out to describe learners’ behaviour” (Nunan, 2004, p.153).

4.16.5. Designing a Task-based Test

To design a task-based test then, the first step is to specify the test rationale and to identify a set of theoretical principles to guide the test development. The second step consists of establishing the resources available and indicating the constraints. Third, a needs analysis has

to be undertaken. In the fourth step, the test designer needs to draw up a set of test specifications. After that, s/he selects and trains a team of raters. The following step has to do with trialling the test, then comes the analysis of the data obtained from the trial test and revision if necessary. The final step consists of selecting and carrying out final training for raters (when needed) (Ellis, 2003, pp. 303-304). The test designer has to keep in mind two procedures which influence the performance of the students: planning time and the interlocutor in an oral assessment task (Ellis, 2003, pp. 293-294).

4.17. Task-Based Pedagogy in Oral Classes

Tasks improve oral and aural skills (Willis & Willis, 2007, p.82). They could be input-providing or output-prompting (Ellis, 2009, p.224); by input-providing, it is meant that the tasks are based on reading or listening while output-prompting tasks require speaking or writing.

4.17.1. Listening Tasks

Listening is possibly "the most important of the language skills since people spend approximately 60% of their time listening" (Rubin & Thompson, 1994, p.85). In language teaching, there are two types of listening which involve different processes (Ellis, 2003, p. 45), listening to comprehend and listening to notice (Ellis, 2003, p. 38). In general, teachers can use listening tasks to present the students with input "enriched with specific features they wish to target" (Ellis, 2003, p. 37). Listening tasks are broadly categorised into two types: one-way, also known by Ellis (2003) as non-interactive or non-reciprocal, listening tasks, and two-way listening tasks (Chou, 2017), also known by Ellis (2003) as interactive or reciprocal.

One-way listening tasks "correspond to what is generally understood as listening tasks. That is, learners listen to a text without any opportunity to interact" (Ellis, 2003, p. 49). They are characterised by the scarcity of interaction; their goal is to understand the discourse and then react in the most natural way. One-way listening tasks could be listen-to-do tasks (Block, 2004) which "require learners to listen to verbal input and show their understanding by performing

action" (Ellis, 2003, p. 50), or dictogloss tasks in which learners first take notes about a text they hear from the teacher at normal speed, then analyse and construct the text together. The outcome of such tasks could be note-taking, filling in gaps, performing an action… A good example of one-way listening tasks would involve listening to directions and placing objects on a small board (Ellis, 2003, p. 50).

Two-way listening tasks "require a two-way flow of information between a speaker and a listener" (Ellis, 2003, p. 49). They are more interactive as they involve two parties alternatively giving and receiving information. The most important thing in such tasks is that "there should be as much discussion as possible about the listening extracts" (Lynch, 1983, p.6). The goal here is to communicate properly by both decoding the received message and conveying one's own meanings (Chou, 2017). Examples of such tasks include any production task, information-gap tasks, role-play tasks…

Listening tasks in TBLT are handled in a typical TBLT manner; i.e., the pre-listening activity (the pre-task), the listening task, and the post-listening activity (the post-task) (Chou, 2017, p.53).

4.17.2. Oral Tasks

The literature on tasks assumes that "tasks are directed at oral skills, particularly speaking" (Ellis, 2003, p. 7). In TBLT, "the mono-episodic interactive oral communication task, or the task of communicating orally, is central" (Bruton, 2005, p.56). Oral communication tasks have four main characteristics. First, "the medium is essentially oral, with possible written support" (Bruton, 2005, p.56). Second, oral communication tasks are "open-ended, not controlled or language-focused" (ibid.) in the sense that they should provide as much opportunity for interaction as possible. Third, "the goal for the learners is the outcome" (ibid.), so there is focus on the message not the medium. Finally, the tasks are generally "communal pair/groupwork, or peerwork" (ibid.). Such tasks involve interaction independent of the teacher; they promote

collaboration between students working on common tasks (ibid.). Like any other task, communication oral peerwork tasks (COPTS) can be divided into three phases: a pre-COPTS phase wherein learners are presented to the language that will be needed to perform the task via tapes or videos, a task phase, and a post-COPTS phase wherein the learners might engage in a comparison between some performances of their peers in order to decide on the best performance (Bruton, 2005).

4.17.2.1. Discussion Tasks

One of the most successful activities in the TBLT classroom is the one that involves "a spontaneous exchange of meanings" (Willis & Willis, 2007, p.8). Discussion tasks require both listening and speaking skills; they are very interactive and, depending on the teacher's experience and practices, can be quite motivating to learners. Very few of the discussion tasks require specific preparation by participants in advance (Parrott, 1993, p.9). However, in case they do, there are two ways learners can prepare in advance: they can be allowed to look at the task in advance and to make provisional notes on their likely responses, or they might be asked to do some task-related reading in advance (Parrott, 1993, p.10). In its most basic form, a discussion task presents learners with a controversial topic; the teacher opens with a series of statements and asks learners to say how far they dis/agree with each statement while giving reasons for their opinions (Willis & Willis, 2007, p.9). Very few of the discussion tasks "are intended to lead to a correct answer. They provide a framework in which to reflect on and analyse beliefs, assumptions, and experience" (Parrott, 1993, p.8). In that sense, discussion tasks aim at exploring experiential knowledge, raising awareness, developing sensitivity… and their outcome can be a written production that summarises the points covered, a poster that highlights important aspects … (Parrott, 1993).

4.17.2.2. Pair/Group Work

Pair/group work is an important part of TBLT; in order to make the best of it, flexibility should be allowed in its execution (Westhoff, 2009, p.508). For a start, roles should be well divided (ibid.). For instance, there should be a group spokesperson (Parrott, 1993, p.12) who presents the outcome, and an ambassador (Willis & Willis, 2007, p.43) who, if need be, serves as a negotiator with the other groups. The outcome of pair/group work in TBLT can be to summarise the findings of a group, to design a poster in a format which represents the pair's/group's views/feelings… (Parrott, 1993, p.12).

The advantages of pair/group work include reducing anxiety, increasing motivation, enjoyment, social integration, collaboration, and learning (Ellis, 2003, p. 267). Its disadvantages lay in paying less attention to form, noise/disruptiveness, inequality of contribution, overuse of the mother tongue, in addition to the fact that students will be exposed to language models which might be 'not good' and hence lead to pidginised use of the language (Ellis, 2003, p. 268).

4.17.2.3. Other Tasks

Though TBLT has typically based itself on group/pair work, "other structures i.e., students working independently and teacher-centred activities, including peer teaching are also available" (Ellis, 2003, p. 275). Peer-teaching refers to the process wherein a student is chosen to act as a teacher to manage the performance of the task (Ellis, 2003, p. 275). Moreover, the tasks that can be used in an oral expression course are numerous. Skehan (1998), for example, suggests the following tasks: completing one another's family trees, agreeing on advice to give to the writer of a letter to an agony aunt, discovering whether one's paths will cross (out of school in the next week for example), solving a riddle, leaving a message on someone's answer machine, and the desert island game (wherein learners have to choose six items from a list to

have if they were abandoned on a desert island. Learners have to discuss the most useful items on the list and a solution has to be reached collectively).

Willis and Willis (2007) suggest tasks such as: it is your turn, think then compare ideas, reach a decision, speak out!, and questions and answers wherein the teacher gives students pictures of different countries for instance and asks them to guess what country it is. They also suggest listening challenge, listen and match, compare and contrast, find the similarities/differences game, puzzles, and problem-solving tasks which "invite learners to offer advice and recommendations on problems ranging from the very general, like global warming, to the very specific, like what to do if your neighbour's cat is causing trouble in your garden" (Willis & Willis, 2007, p.93). more tasks include prediction tasks wherein the teacher provides learners with a headline and asks them to predict the story, project and creative tasks, jigsaw task sequences, sharing personal experiences tasks, story-telling, anecdotes, reminiscences, and general knowledge tasks wherein the teacher asks groups to write a number of facts about a topic then read a related text to confirm. Finally, there are corrupt text tasks wherein the teacher changes a text then asks learners to restore it, and student-as-question-master tasks wherein the teacher hands a text to four or five students, asks them to read and prepare questions about the text before class, and during class the four or five students work together to refine their questions while the rest of the class are reading the text and trying to guess the questions and their answers (Willis & Willis, 2007, pp.85-105). Willis and Willis (2007, p.100) specify some possible end-products for these tasks: checking guesses, satisfaction of curiosity, portfolios, posters, a short video recording, a guided tour, a journal, a short radio program, a performance, a web-page, leaflets, booklets, a class magazine/newspaper…

Moore and Lorenzo (2015) suggest a bunch of other tasks. They include conducting experiments; simulations (debates, interviews, presentations, etc.); resolving problems and presenting solutions; reconstructing texts; information reformulation/transfer; comparing and

evaluating, synthesising and summarising, drawing and labelling maps, diagrams, etc.; designing visual materials like posters, exhibitions, and web pages; participating in hors school activities; producing content-specific materials such as time-lines and technical drawings; peer-coaching; and composing original output such as texts and music.

Other tasks that can be adopted in oral expression classes include choice/decision making tasks (Skehan, 1998, p.108), the narrative task (wherein learners construct a story based on a series of pictures), spot the difference tasks (wherein two students, each looking at his/her own picture, ask and answer questions to spot the differences between their two pictures), the five most/least helpful inventions task, the agony aunt task with its modern version wherein people post their problems on a Facebook page and ask for advice , role-play tasks wherein one of the students is the judge and s/he decides on the punishment for a number of crimes…

4.17.3. Oral Assessment Tasks

Oral tasks require, in their performance, skills that learners need in their everyday life such as debating, negotiating, presenting, and group work (Epp et al., 2015, pp.482-483). Oral assessment tasks, then, should target those skills; they include peer/group discussion tasks, role-play and simulations, speaking portfolios (Epp et al., 2015; Genesee & Upshur, 1996; Nunan, 2004), one to one interviews, presentations, demonstrations (Epp et al., 2015, pp.482-483), observation schedules (Genesee & Upshur, 1996; Nunan, 2004), journals (Genesee & Upshur, 1996; Nunan, 2004), and diaries and learning logs (Nunan, 2004, pp.154-160). All these are some of the resources for evaluating learners' oral/aural skills; Genesee and Upshur (1996) add conferences, questionnaires, and interviews as non-testing tools for evaluation.

4.18. Task-based Language Teaching and Cognitivism

According to Westhoff, “no one in cognitive psychology seriously doubts these days that acquisition of knowledge is the product of mental activity” (Westhoff, 2009, p.505). Therefore, “task-based researchers have been more attracted to cognitive models of linguistic representation” (Ellis, 2003, p. 107). Researchers such as Nunan sustain that “intellectual growth occurs when learners engage in and reflect on sequences of tasks” (Nunan, 2004, p.12) in the sense that tasks provide “a focus for the mental processes of individual learners that are key to learning” (Van den Branden et al., 2009, p. 11). In language classrooms, tasks are used because of their information-processing capacities (Skehan, 1998) and their capacity to engage various cognitive processes (Ellis, 2003, p.16). Prabhu insists that tasks develop learners’ thinking skills as they involve learners in reasoning (making connections between pieces of information), deducing new information, and evaluating information (Ellis, 2003, p. 7). As for Skehan (1998), he specifies that any language task has two requirements:

- **Language requirement**: the linguistic requirement is an important component of any task; some tasks require simple language while others require a more complex one. Skehan adds though that the way one approaches a task depends on his/her individual background and choice; i.e., simplicity is relative and depends on people (Skehan, 1998, pp.99-101)
- **Thinking requirement**: there are two aspects related to the thinking requirement: cognitive familiarity and cognitive processing. Cognitive familiarity means that the knowledge needed to solve the task is there, all one has to do is retrieve it; in that sense, cognitive familiarity allows for focus on form. Cognitive processing involves working out on solutions to new problems, so one needs to manipulate the knowledge s/he has to reach a solution; in that sense, focus is on the cognitive problem involved (Skehan, 1998, pp.99-101).

4.19. Oral/Aural Tasks and Thinking Skills

In oral tasks, thinking skills are developed during discussions, problem solving tasks, role-play and simulations, games… (Yang, 2012, p.366). In discussion tasks, students develop "the ability to develop (and evaluate) arguments for (or against) a position (Bennett et al., 2016, p.90). Problem solving tasks develop the students' ability "to find causes, find solutions, and avoid problems" (Yang, 2012, p.366). In role-play and simulations, students are placed in scenarios in which they must "synthesise diverse information and analyse strategies leading to a greater understanding of the causal links between decision-making behaviours" (Yang, 2012, p.366). As for games, they may develop as many capacities as the designer chooses.

Conclusion

Implementing task-based language teaching is not an easy task. It calls for the involvement of many parties, teachers and learners in particular, who would be willing to change their long-established roles and adopt new ones. Moreover, the change in roles is accompanied by a change in content and procedures. Classroom practices would be goal-oriented, meaningful, and representative of real-world situations. Most importantly, the cognitive load of tasks guarantees developing learners' seminar skills all while practicing their oral/aural skills. For that reason, adopting a task-based approach in oral classes would serve the double aim of developing learners' communicative competence and their critical thinking skills. The latter represents the core of the present research work.

This chapter presented an overview of task-based language teaching and highlighted the concepts leading to its successful implementation in language classroom, such as its features, principles, two versions, and some scholars' well-established models. It emphasised task-based instruction in oral expression classes and closed with a brief account of the relationship between task-based language teaching, teaching oral/aural skills, and developing thinking skills.

CHAPTER FIVE: RESEARCH DESIGN

Chapter Five: Research Design

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Introduction

The fifth chapter of the present research is concerned with the methodology used in the study. It attempts to explicate the rationale behind the choices made by the researcher in terms of approach, method, and tools. It first delves into the research design and method, and then moves to a description of the process that led to the choice of the population and sample. Next, the methodological approach adopted is dwelled upon with some details related to the composition and administration of the questionnaire, the blueprint of the experiment, and the design and implementation of the tests in addition to the data procedures that helped in its analysis.

5.1. Research Design

Based on the assumption that critical thinking skills play a major role in today's world, the present study aims to infuse critical thinking instruction in the ENSC by establishing a cause-effect relationship between incorporating language tasks that hone critical thinking in the first-year oral skill course and developing freshmen's critical thinking. The main questions this research work attempts to answer are whether critical thinking can be taught to learners, and in case it can, whether using language tasks that develop communicative competence and critical thinking serves this aim. It is, therefore, hypothesised that if learners were presented with language tasks that trigger critical thinking skills, their critical thinking would evolve and that would be seen in the improvement in their critical thinking test scores. To answer the research questions and check its hypothesis, two types of data were needed: qualitative and quantitative. The qualitative data represent first year oral skill teachers' practices inside the classroom; they were obtained using a questionnaire. The quantitative data refer to the learners' critical thinking pre and post-test results. Because the present research is based on presenting learners with language tasks that aim at improving their mastery of the oral skill while at the same time

prompting their critical thinking skills, an experiment was conducted with first year ENSC students.

5.2. Research Method

The experimental method is "the most exacting and difficult of all methods and also the most important" (Singh, 2006, p.138). An experiment involves "making a change in the value of one variable -called the independent variable- and observing the effect of that change on another variable -called the dependent variable" (Cohen et al., 2000, p. 211). A field experiment is "a study carried out in the natural environment of those studied, perhaps the school, hospital or street" (Coolican, n.d., p.71). It is designed to "solve the research problem" (Singh, 2006, p.145) by "varying the independent variable in order to study the effect of such variation on the dependent variable" (Singh, 2006, p.134). The steps of experimental design involve selecting the problem, reviewing the literature, preparing the experiment, defining the population, carrying out the experiment, measuring the outcomes, analysing and interpreting the outcomes, drawing up the conclusions, and finally reporting the results (Singh, 2006, pp.139-140). In educational research, experimental design is, by and large, carried in order to find out the efficiency of new methods of teaching, try out different content types, and help design effective textbooks (Singh, 2006, p.145).

Since the purpose of the present research is to study the direct effect of incorporating critical thinking instruction in the oral skill course on learners' critical thinking, the quasi-experimental method is the most appropriate. This research project is a field experiment that involves making a change in the content of the first-year oral skill course at the ENSC; a change that consists of, first, providing some theory related to critical thinking and then implementing different language tasks that hone learners' critical thinking all while developing their communicative competence.

First year students from the ENSC took part in the experiment. The sample was divided into an experimental group and a control group. The two groups were treated exactly alike except for critical thinking instruction. The experiment lasted for eight weeks during which the control group was taught in the usual way (the old method of teaching the oral skill in the ENSC) whereas the experimental group received special treatment. The experiment was divided into three phases. During the first week, and in order to establish learners' cognitive profile, the researcher administered a critical thinking pre-test for both groups in order to measure learners' critical thinking on the one hand and ensure that both groups are somehow similar in their cognitive entry profile on the other. Afterwards, both groups received instruction for a period of six weeks. Finally, learners' critical thinking was measured again during the last week of the experiment (using a critical thinking post-test) in order to track any improvement in both groups' critical thinking skills.

5.3. Population and Sample

Population refers to "all the existing members of a group" (Coolican, n.d., p.35). While doing research, working on whole populations is both unfeasible and impractical. For that reason, researchers recur to selecting a sample from the target population to work with (ibid.). A sample is a "group selected from population for study or experiment" (Coolican, n.d., p.44). The sample size in educational research depends on so many factors. Among these are the style of the research, the nature of the population under scrutiny (its size and amount of heterogeneity), the purpose of the study, cost in terms of time, money, stress, administrative support, number of researchers and resources (Cohen et al., 2000, p. 93). Hence, "too large a sample might become unwieldy and too small a sample might be unrepresentative (Cohen et al., 2000, p. 93). However, it has been argued that "the optimum sample size, when investigating an experimental independent variable … is about 25 to 30" (Coolican, n.d., p.43). The conundrum is how to choose one's sample. Many methods of equating groups for experimental purposes exist, and

chance or random selection is one of them (Singh, 2006, p.143). A random sample "draws randomly from the wider population" and is specifically useful if "the researcher wishes to be able to make generalisations" (Cohen et al., 2000, p. 99).

In the present research, the target population is first year ENSC students. Their four hours and thirty minutes per week oral skill sessions guarantee both the time needed to undertake the experiment and learners' accessibility. During the academic year 2018/2019, the researcher was in charge of teaching the oral skill to two out of four first year groups at the English department in the ENSC following a simple randomised design. The groups in question are first year group two (1TC2) and first year group four (1TC4); the grouping was done automatically by a software following the students' family names and the researcher was randomly assigned those groups by the head of the English department.

The two groups composed the sample of the present research. The sample was divided into a control group and an experimental group. The control group is a "group used as a baseline measure against which performance of experimental, treatment or criterion group is assessed" (Coolican, n.d., p.44) whereas the experimental group is a "group who received values of the independent variable in an experiment or quasi-experiment" (Coolican, n.d., p.44). The researcher randomly settled on making 1TC2 the experimental group and 1TC4 the control group. The control group initially contained 29 learners, but because five of them never attended classes (abandonment or change of group), the number of students dropped to 24. The control group members took the pre-test, had instruction following the conventional method of teaching the oral skill in the ENSC, and then sat for the post-test. It is worth mentioning that out of the 24 students who make the control group, eight participated in the test-retest stage of test validation; their pre and post-tests were therefore discarded though they continued to attend classes. The experimental group (1TC2) is made up of 34 students, 9 of whom never attended classes (abandonment or change of group). That leaves 25 students who took the pre-test,

received the treatment, then took the post-test though one student took the pre-test but missed the post-test; her test was, therefore, discarded making the total number of the experimental group students 24. There was a clear gender imbalance in both groups, with female students outnumbering male students. This is typical of groups in the English department at the ENSC. The average age of students was around 18.

5.4. Methodological Approach

The research project went through many stages before crystallising into its final form.

5.4.1. Preliminary Stage

This first stage of the research work consisted of getting acquainted with the first-year oral skill course. This was done through two means: field experience and survey.

5.4.1.1. Field Experience

The researcher asked the successive heads of the English department in the ENSC since the academic year 2015/2016 (the year the researcher enrolled in doctoral studies) to assign her one first year oral skill group at least. This allowed the researcher to gain a good understanding of the course aim, course objectives, course content, and the different intricacies related to it. In addition to that, the researcher was also appointed coordinator of the first-year oral skill course since the academic year 2016/2017; it was a position that allowed her to take note of the practices of all the teachers in charge of that module.

5.4.1.2. Survey

Along with the field experience, the researcher conducted a survey during the academic year 2018/2019. It was designed in order to determine the first year ENSC oral skill teachers' practices inside the classroom and their views regarding critical thinking. It aimed to provide the necessary information regarding their classroom practices, and their attitudes towards critical thinking instruction and its importance in higher education. The research tool opted for was a questionnaire.

Questionnaires represent an indirect way to collect information from people (*Research methods in education*, n.d., p.141). They are used to secure responses from respondents who are presumed to have the knowledge required (Singh, 2006, p.191). Questionnaires are defined as "any written instruments that present respondents with a series of questions or statements to which they are to react either by writing out their answers or selecting from existing answers" (Brown, 2001, p.6). They are widely used in research because they are versatile, easy to construct, capable of gathering large amounts of information, comparatively straightforward to analyse, and can be administered even without the presence of the researcher (Cohen et al., 2000; Dörnyei, 2003). There are two types of questionnaire items: "the unrestricted, or open form items, and the restricted, or close form items" (Singh, 2006, p.193). On the one hand, closed questions are quick to complete and provide information "that can be quantified" (*Research methods in education*, n.d., p.162). Open-ended questions, on the other hand, enable respondents to write a free response in their own terms, to explain, and to quantify their responses (Cohen et al., 2000, p.248); in that sense, they provide qualitative information (*Research methods in education*, n.d., p. 162). There is a third type of questionnaire items known as follow up questions, which provide more details when needed. Questionnaires yield three types of data about respondents: factual (who they are), behavioural (what they do/have done), and attitudinal (what they think) (Dörnyei, 2003, p.8). Despite their advantages in

research designs, there are certain pitfalls associated with the use of questionnaires: It is assumed that the respondents understand the questions as intended by the researcher, that they have the information required, and that they are willing to divulge it (*Research methods in education*, n.d., p.152). This being said, questionnaires are still widely used in research probably because their advantages seem to outbalance their disadvantages.

The choice of the questionnaire as a data gathering tool in the present research is motivated by the desire to gather factual, behavioural, and attitudinal data regarding the first-year oral skill English teachers' practices inside the classroom and their views regarding critical thinking prior to undertaking the experiment. After preparing the first draft, the questionnaire was run through two colleagues before handing it to the supervisor for validation. Then, it was handed to all the teachers who were teaching/had taught the first-year oral skill in the department of English at the ENSC; there were eleven teachers. The fact that all respondents were work colleagues allowed the researcher to explain the purpose of the study thoroughly and to answer all the enquiries made by the respondents regarding the wording or format. The questionnaire was administered before the experiment, by the end of the first term of the academic year 2018/2019. By then, teachers were well aware of classroom practices and accustomed to them. The researcher granted the respondents one week to hand the filled questionnaire back. The return rate of the questionnaire was 100%.

5.4.1.2.1. Aims of the Teachers' Questionnaire

The questionnaire has two main aims; the first is to gain insights into the first-year oral skill English teachers' practices, the content they teach, and the time they spend on each activity. The questionnaire also aims to investigate the target teachers' views of critical thinking, their attitudes towards it, how familiar they are with evaluating it, and how they perceive the integration of critical thinking within the oral skill course. The questionnaire, therefore, helps

find answers to how, when, and what to teach in order to establish a work plan for the integration of critical thinking within the oral skill course.

5.4.1.2.2. Description of the Teachers' Questionnaire

The teachers' questionnaire comprises 23 questions; each one is related to a distinct part of the research (refer to appendix A). Question items are of three types: 17 close-ended questions (where various response options are provided and respondents choose one or more by ticking), five open-ended questions (where teachers provide their own answers), and three follow-up questions of two forms: please explain why, or please specify (question 4, 15, and 19).

The questionnaire opens with a background information section. It counts four questions about the teachers' gender, their educational level, years of working experience, and whether teaching the oral skill was part of their training. This last question is followed by an inquiry of the type of training the yes-respondents received.

Section two of the questionnaire (from question 5 to question 13) covers teaching practices. Teachers were asked whether they teach communication strategies and discussion skills, whether they vary their activities as controlled, semi-controlled, and creative, and whether (and how) they encourage interaction between learners. To expand on their classroom practices, respondents were required to specify the amount of time they spend on each of the typical oral skill classroom practices. Questions 10, 11, 12, and 13 cover the state of teaching the first-year oral skill in the ENSC and ask respondents whether they coordinate with the rest of first year oral skill English teachers, and in case they do, whether they discuss and decide on the content they teach, the materials/media they use, and the evaluation criteria they adopt.

Section three (from question 14 to question 23) aims to unfold teachers' views of critical thinking and attitudes towards it. Question 14 addresses teachers' understanding of critical thinking. Question 15 targets where teachers came to learn about critical thinking. Question 16

addresses teachers' opinions regarding the teachability of critical thinking and question 17 unveils teachers' suggestions about the ways that critical thinking can be taught. Question 18 tackles critical thinking evaluation while question 19 uncovers teachers' suggested ways of testing critical thinking. Question 20 sheds light on whether critical thinking has a place in the teachers' instructional objectives, and question 21 inquires after whether respondents deem it important for students to acquire criteria to use in the assessment of their own thinking and the thinking of others. The penultimate question digs into the obstacles faced while implementing/trying to implement critical thinking in language curricula in Algeria and the final question is open-ended and invites respondents to make recommendations regarding the implementation of critical thinking in the oral skill course.

5.4.2. Experiment

When controlled in experiments, independent variables affect dependent variables (Coolican, n.d., p.22). Since the purpose of the present research is to check whether learners' critical thinking could be enhanced via manipulating certain variables, the validity of the research hypothesis can be checked by applying the 'Law of Single Variable' (Singh, 2006). The latter is used when a researcher wants to study the effectiveness of a new teaching method/strategy/technique. To achieve this aim, two groups are needed: the experimental group (who will be taught using the new method/strategy/technique) and the control group (who will be taught using the customary one). The same conditions should be respected except for the independent variable and the same test should be administered to both groups. Because the performance of the experimental group is caused by the new method/strategy/technique, any improvement will be explained by the new method/strategy/technique (Singh, 2006). The researcher applied the Law of Single Variable; the sample was divided into two groups: an experimental group and a control group. The same conditions were respected and both groups

sat for the same pre and post-tests. The researcher then examined improvement in the results of both groups.

5.4.2.1. The Initial Plan

The researcher's plan was to implement the experiment throughout a whole semester. Because the target population is first year ENSC students, the researcher chose to undertake the experiment during the second academic semester. This decision was motivated by the researcher's desire to allow students some time to familiarise with each other, the teacher, the course, and the school as a whole. In the oral skill course, affective factors play an important role. The researcher, consequently, allowed the participants some time to get rid of their inhibition. Afterwards, the students would undertake the experiment for three months to ensure that they had enough knowledge, understanding, and practice of critical thinking. Unfortunately, there was a students' strike during the academic years 2016/2017 and 2017/2018 following the cancellation of clause 4 in the graduate students' contracts that guarantees their appointment in their place of residence[1] . The strikes prevented the researcher from undertaking the experiment those years. The following academic year (2018/2019), the researcher decided to take the bull by its horns and do the experiment no matter what. The researcher waited until the first term exams were held from the 9th to the 19th of February 2019, and scheduled the experiment for the beginning of the second semester. However, the social movement known as the Hirak burst out in February 2019[2] and starting from early March, there were disturbances in universities and a high rate of absenteeism which prevented the researcher from going on with the experiment as planned. The researcher had to wait until students returned to

[1]https://www.liberte-algerie.com/actualite/les-etudiants-en-greve-de-la-faim-des-aujourdhui-289179/print/1, https://www.dmalgerie.com/actualite/etudiants-de-lens-decident-de-poursuivre-greve/, https://www.elwatan.com/regions/est/constantine/greve-a-lens-de-constantine-les-etudiants-sinterrogent-sur-le-sort-de-leur-etablissement-01-02-2020, and https://ensh.dz/index.php?option=com_content&view=article&id=2301:el-watan-constantine--greve-des-etudiants-de-lecole-normale-superieure-ens-les-grevistes-reaffirment-leur-determination&catid=95:presse-2015&Itemid=817

[2]https://www.bbc.com/news/world-africa-56128140

universities; consequently, the experiment officially started on May 8th 2019 with the filler task and the pre-test that was scheduled the following day. The treatment began the following week, on May 15th 2019, and ended on June 20th 2019. The researcher had to abide by that period because final exams started on June 22nd 2019, which resulted in the treatment lasting six weeks (week one: 15-16/05/2019, week two: 22-23/05/2019, week three: 29-30/05/2019, week four: 5-6/06/2019, week five: 12-13/06/2019, and week six: 19-20/06/2019). The students took the post-test once their exams were over, on July 2nd 2019.

5.4.2.2. Content of the Experiment

The experiment started the week after the control and experimental groups took the pre-test. Straight after, both groups commenced the treatment. The control group was taught in the traditional, conventional method used in the ENSC ever since the researcher started working there in 2012 whereas the experimental group embarked on the critical thinking instruction journey.

5.4.2.2.1. Traditional Method of Teaching the Oral Skill in the ENSC

In the ENSC, the oral skill is taught from year one to year three. It is conventionally called Oral Expression in both first and second year and is allotted four hours and a half per week, and Listening and Speaking in third year with the hourly volume dropping to three hours. In first year, the course covers a total of 135 hours with a coefficient of two; that gives the module importance in the eyes of the freshman. The overall aim of the course is developing learners' communicative competence and presentation skills, with the view of making learners more proficient and confident when speaking. Those aims are translated into objectives stated in terms of language functions and/or notions. The functions/notions targeted are: expressing likes and dislikes, expressing past memories, describing objects, describing people, describing places, describing motion and locomotion, describing order, inquiring, and expressing

arguments for and against various topics (refer to appendix B). No further specification is given to the teachers in charge of the module; they are customarily grouped into a pedagogical team under the auspices of a coordinator (generally a senior teacher) designated by the head of the department. The pedagogical team meets regularly and, more often than not, the members agree on some classroom practices and a common exam to ensure equity among students (the latter has been the case ever since the researcher became the coordinator of first year Oral Expression in the English department at the ENSC in 2016). Learners are assessed twice a year (midterm exams in January/February and finals in June). The exams are organised in two stages. There is the listening exam, which takes place in the language lab, where students listen to/watch two audio tracks/videos and answer comprehension and then fill-in- the-gaps questions. Then, there is the speaking exam during which learners, individually, choose a topic from a set of topics suggested by the teacher and talk about it for three minutes after five minutes of thinking time. In addition to the formal assessment they have, students undergo continuous assessment (known as TD assessment) that takes into consideration learners' participation in the different activities inside and outside the classroom, their studiousness, and their various productions (presentations, role-play, posters…).

While teaching/learning the oral skill in the ENSC, one session (one hour and half) is dedicated to listening and accordingly takes place in a language laboratory. The language labs in the ENSC are sophisticated and new (used for the first time in 2015); the rest of the hourly volume (three hours) is dedicated to speaking and therefore takes place in regular rooms.

5.4.2.2.1. 1. Listening Session

Listening sessions take place in the language lab. Students conventionally sit in their individual posts, listen to an audio track, or watch a video, then do some activities. The activities are generally of two types: listening comprehension questions and filling in the gaps. This is

preceded by a pre-listening stage where learners' schemata are activated, and followed by a post-listening stage where the vocabulary learned is rehearsed and put in context.

5.4.2.2.1. 2. Speaking Sessions

The speaking sessions last for three hours and are either taught separately (one hour and a half per session) or consecutively (three hours straight). During the speaking sessions, the teacher would first leave the stage to two students to present their works (individual presentations of topics chosen by the students themselves); each presentation takes from 30 to 45 minutes. The rest of the time is dedicated to other activities chosen by the teacher.

5.4.2.2.2. Adapted Oral Skill Course

The researcher's intent was to incorporate critical thinking instruction in the oral skill course in such a way that it does not affect the general practices of the teachers inside the classroom. The aim of the course is therefore still the same: developing learners' communicative competence and presentation skills. However, another aim has been added to it; it is developing learners' critical thinking. In order to achieve both aims, the researcher used the same types of activities used by the teachers customarily. The researcher only modified the objectives and instructions of the activities to make them language tasks that develop learners' communicative competence while sharpening their critical thinking. To achieve this aim, some lessons that target critical thinking theory were presented first, and then learners engaged in language tasks, designed by the researcher or adopted/adapted from various critical thinking references, that hone critical thinking.

5.4.2.2.2.1. Theoretical Lessons

The researcher's first step was introducing the experimental group members to the theory related to critical thinking. One week (four hours and a half) was dedicated to that. The researcher first presented multiple concepts via a PowerPoint presentation: a simple yet comprehensive definition of critical thinking, its various components (elements, standards, and traits), and the importance it has in one's learning and life. Then, some concepts were explained such as assumption, inference, conclusion, and argument/counterargument. While tackling the latter, an explanation was provided on how to evaluate arguments and identify thinking fallacies; videos were used and many examples were provided to explain them. The theoretical course concluded with a thorough description of the Socratic Method with an example of a Socratic dialogue for inspiration (refer to appendix C). The lesson was followed by a number of exercises to check and consolidate learners' understanding.

5.4.2.2.2.2. Critical Thinking Practice

After the purely theoretical lessons that initiated the students to critical thinking and its various components and concepts, the researcher launched the second stage of the treatment. The latter consisted of putting into practice what had been learned in the first stage i.e., applying critical thinking components and concepts while learning. All the classroom practices were then slightly modified to make them develop learners' critical thinking while working on their communicative competence. This was applied in both the listening and speaking sessions.

5.4.2.2.2.2.1. Listening Session

While teaching the experimental group, the researcher followed the same steps normally followed while teaching the listening skill. The only difference made is the focus on critical thinking while listening. This was done first by a good selection of the topics of the audio tracks/videos (though the same tracks were used with both the control and experimental

groups). The researcher opted for debateable issues that attracted media attention during that period. The topics covered were dress code, Finland's education system (as an example of the best educational systems in the world), the burqa ban in Europe, discrimination and Islamophobia, smacking children, and assignments during holidays. The difference between the control and experimental groups lies in the fact that some questions were added to the listening comprehension section of the experimental group; those questions focus on critical thinking components (purpose, points of view, assumptions, interpretations, implications…). Also, in the 'filling the gaps' section of the listening session, the researcher deliberately chose to hide words that represented important concepts in the understanding of the issue. In the control group, the students would just find the words whereas in the experimental group, the students were supposed to find the missing words, but also to define/explain them. The researcher would then show that defining one's concepts is the necessary preliminary step before taking sides in any issue. In the post-listening stage, the students were encouraged to provide their own definitions of the concepts and then decide on whose side they were while evaluating the arguments used in the audio track/video and providing their own arguments to support their opinions.

5.4.2.2.2.2.2. Speaking Sessions

During the speaking sessions, the researcher chose language activities customarily used by the oral skill ENSC teachers (check analysis of the teachers' questionnaire) and modified them. The modification entails changing the objective of the activity and its form to turn it into a language task. i.e., the activity has to obey the following criteria: focus on meaning, link with real-life activities, communication, completion, outcome, the presence of a gap, and learners' reliance on their own resources (refer to 3.3.). The modification also involves making the language task more inclined towards developing learners' critical thinking. Examples of tasks used by the researcher include discussions/debates, games, puzzles, riddles… Some of the

materials used were adopted from different resources while others were designed by the researcher.

5.4.3. Tests

Tests play an essential role in experimental design; a pre-test is generally administered to the control and experimental groups before the experiment starts and a post-test is, then, administered. To benefit fully from them, researchers have to ensure that the pre-test and the post-test are the same for the control and experimental groups, the two tests test the same content though they may differ in question form or wording, and the level of difficulty is the same in both tests (Cohen et al., 2000).

Following that logic, the researcher envisaged having a pre-test before the treatment and a post-test after it for both groups in order to measure participants' critical thinking. The challenge was choosing the most appropriate critical thinking test. The researcher was first tempted to make use of one of the published tests to assess participants' critical thinking. Published tests have many advantages such as their straightforwardness, ease of use, objectivity, reliability, and validity. This is because they have been piloted, refined, and standardised across a named population and because they enable sophisticated statistics to be calculated (Cohen et al., 2000, pp.319-320). By choosing a published test, researchers are relieved of the heavy burden of designing their own test. However, published tests are "not tailored to institutional or local contexts or needs" (Cohen et al., 2000, p. 320). Cohen et al. (2000) suggest that to choose a published test, one has to make sure that it demonstrates fitness for purpose. However, "if it fails to demonstrate this, then tests will have to be devised by the researcher" (Cohen et al., 2000, p. 320). Though many commercial critical thinking tests exist, none seemed to serve the purpose of the researcher. Most of the existing critical thinking tests focus on skills and ignore the standards and traits. In addition to that, measuring variables for which there is no universally agreed measure, such as attitude, motivation, and intelligence, is a common practice in

psychology research (Coolican, n.d., p.150) and critical thinking is one of these variables. For that reason, the researcher settled on designing her own critical thinking test and basing it on a thorough definition of critical thinking; it is a test that reflects her perception of this intricate concept and encompasses its numerous components. However, in addition to being delicate, designing one's own test is problematic. Issues related to validity and reliability rise to the surface.

5.4.3.1. Test Validity

Validity is an important aspect while designing tests. "The validity of a psychological measure is the extent to which it does measure what it is intended to measure" (Coolican, n.d., p.152). There are many methods by which test validity can be assessed; one of them is to "ask colleagues to evaluate the content of a test to ensure that it is representative of the area which it is intended to cover" (Coolican, n.d., p.153). It is to validate the new test by comparing it to an already existing test of the same criterion -also known as concurrent validity- (ibid.), or simply to "inspect the contents to see whether it does indeed measure what it is supposed to" (ibid.). The researcher insured concurrent validity by adopting an already existing test (namely the Watson-Glaser Critical Thinking Appraisal) in section one and getting inspiration from other researchers (namely Schommer-aikins and Hutter's 2002 *Epistemological beliefs and thinking about everyday controversial issues* questionnaire) in section two. In addition to that, the researcher ran the test through her supervisor first, and then teachers and researchers from the 39th International Critical Thinking Conference held by the Foundation for Critical Thinking in Leuven, Belgium who made some comments meant for improvement. Finally, the researcher undertook a final thorough inspection before trying the test on the participants.

5.4.3.2. Test Reliability

As Coolican (n.d.) states, “any measure, but especially one we have just invented, must be queried as to its accuracy in terms of producing the same results on different occasions” (p.150); that is referred to as reliability. Tests should be checked for reliability in producing similar results at different times (Coolican, n.d., p.151). Accordingly, to check that a test produces similar results each time it is used, it should be used on the same people on different occasions. This is called the test-retest reliability. ‘Test-retest’ is a practice that measures the consistency of results whereby a group of people are tested twice using the exact same test, with an interval between the two times; their scores are then correlated (Coolican, n.d., p.152) and the reliability coefficient is calculated. To find the test-retest reliability coefficient (r), the following formula is used where n is the total number of pairs of test and retest scores:

$$r = \frac{n\sum xy - \sum x \sum y}{\sqrt{\left(n\sum x^2 - (\sum x)^2\right)\left(n\sum y^2 - (\sum y)^2\right)}}$$

Geranpayeh (2001) explains the test-retest procedure as a method:

> It is where a group of candidates sit for the same test twice over a period of time. The Pearson correlation between the scores on the two sittings is called the stability coefficient and is indicative of the reliability of the test. A coefficient of 0.80 or more would generally indicate that the data are reliable enough for practical purposes. (p.14)

To ensure test reliability, the researcher applied the test-retest method. Before undertaking the experiment, eight learners from the control group took the test (the pre-test in particular) on January 10th 2019; their performances were scored and put aside. After a fortnight (on January 24th 2019), the eight learners sat for the same test and their performances were scored. The scores of the two attempts were then compared and the results were analysed using the statistical package for the social sciences (SPSS). The analysis appears in chapter 6.

5.4.3.3. Objectives of the Tests

Both the experimental and the control groups sat for the pre-test (refer to appendix D) and the post-test (refer to appendix E), which took place on May 9th 2019 and July 2nd 2019 respectively. The goal of the pre-test is to establish the participants' cognitive entry profile and measure their critical thinking before the beginning of the experiment. Another aim is to ensure that there is no significant difference between the control and experimental groups when it comes to their critical thinking. After the treatment, the participants sat for a post-test that is similar to the pre-test in every aspect. A comparison between the pre-test and the post-test results was then carried using SPSS in order to check whether there had been improvement in the learners' critical thinking after the treatment they received. If there was improvement, then we could say that there was a positive correlation between critical thinking explicit instruction and developing learners' critical thinking. If, on the other hand, the relationship was inverse, it was a negative correlation.

5.4.3.4. Description of the Tests

The critical thinking test designed by the researcher is a twelve-page booklet, which might be considered too long; however, "longer tests are more reliable than shorter tests" (Cohen et al., 2000, p. 130). Consequently, the researcher was able to contribute to reliability while ensuring full coverage of all critical thinking components. Two versions of the test were prepared; a pre-test version, and a post-test version. The pre-test and the post-test are indistinguishably identical in form; therefore, the description of one applies to the other. The pre-test and post-test were preceded by filler tasks that presented participants with video materials that were used in the second sections of the tests.

5.4.3.4.1. Filler Task

The session for the pre-test filler task took place in the language lab on Wednesday, May 8th 2019. The video used for the filler task is entitled 'Are stay-at-home mothers better than working mothers?'[3] This topic is controversial and therefore calls for critical thinking from the part of the students. The video extract was taken from 'This Morning', a British programme broadcasted on ITV and the video in question is February the 2nd 2016 episode. The filler task marked the official beginning of the experiment. The five minutes video was presented in the language lab during the listening session. It followed the steps of a typical listening class. In the pre-listening stage, the researcher asked the students about the reasons that pushed them to study in the ENSC. As expected, the answers led to the suggestion that teaching is the best profession for women and the researcher ceased the opportunity to ask the students what they thought of working mothers. After this warm-up, the students watched the video for the first time, and then discussed its general content. Then, the students were asked to watch the video twice and answer a number of comprehension questions (activity one). After the first activity, the researcher asked the students to watch the video again and fill in ten gaps (activity two). The two activities guaranteed good understanding of the content of the video from the part of the students; such understanding would serve them while doing the critical thinking pre-test. After the students finished the second activity, the researcher moved to the third one in which students were asked to extract the arguments that were used in the video and classify them into arguments in favour of working mothers, and arguments against working mothers. The filler task (refer to appendix F) was used with both control and experimental groups following the exact same steps in order to ensure equity between the two groups. The following day (Thursday, May 9th 2019), the students of both groups sat for the pre-test. The researcher wanted to make sure that the students still remembered the content of the video and the arguments used

[3] https://www.youtube.com/watch?v=O5EDCqNtyUQ

(because they would use them in the second section of the pre-test); students were encouraged to keep notes of the video to use them later while taking the pre-test.

The filler task for the post-test was similar to the pre-test one. It took place on July 2nd 2019, the morning the post-test was scheduled. The lab session for 1TC2 took place from 8:00 to 9:30 whereas the one of 1TC4 took place from 9:30 to 11. However, this time, the video was taken from April the 18th 2017 episode of 'Good Morning Britain' (another TV programme on ITV), and is entitled 'Piers Morgan Argues with Journalist over Beauty Pageants'[4]. It discusses beauty pageants from two different points of view: the point of view of the winner of one of these pageants and the one of a feminist considering them degrading to women. This session was similar to the pre-test filler task session in every aspect: a warm-up in the pre-listening stage (what is the definition of beauty? Is it important to be good-looking? How is beauty perceived and celebrated in the world?), comprehension questions and fill in the gaps while listening, and a post-listening activity in which the students extracted the arguments used in favour of and against beauty pageants (refer to appendix G). Here again, the students were encouraged to take notes.

5.4.3.4.2. Test Sections

After the filler task on May 8th 2019, both the control and experimental groups sat for the pre-test on May 09th 2019 from 9:00 to 10:30 in room 40 for 1TC2 and from 10:30 to 12:00 in room 47 for 1TC4. After receiving the treatment, the control and experimental groups sat for the post-test on July 2nd 2019 in amphitheatre 7 from 11:15 to 12:45. The first section of the test is taken from the Watson Glaser Critical Thinking Appraisal (1980)[5], the second was inspired from Schommer-aikins and Hutter's 2002 *Epistemological beliefs and thinking about everyday controversial issues* questionnaire, whereas the third section is the researcher's own

[4] https://www.youtube.com/watch?v=CXWzUgGHSR4
[5] http://practice.talentlens.co.uk/?wid=2&tid=1

design. The three sections of the test reflect the researcher's perception of critical thinking, summarised in critical thinking skills, awareness and grasp of thinking elements, standards, and traits, and knowledge and avoidance of thinking fallacies.

Section one of the tests deals with thinking skills and is divided into five subsections, each opening with a definition of the thinking skill in question, an example to guarantee understanding, then a detailed instruction. The first subsection is entitled 'Making Inferences' and includes a statement and three suggested inferences; the test takers are supposed to decide on the degree of its truth or falsity (true, probably true, insufficient data, probably false, false). The second subsection is entitled 'Recognising Assumptions'; it includes a statement and three proposed assumptions. The test takers decide whether the assumption is made or not made. The third subsection is entitled 'Interpretation'. It includes a statement and three proposed conclusions. The test takers decide whether the proposed conclusions logically follow beyond a reasonable doubt from the information given in the statement or not. The fourth subsection is entitled 'Deduction' and includes a statement and three proposed conclusions. The test takers decide if the conclusion necessarily follows from the statement or not. The final subsection, entitled 'Evaluating Arguments', includes a statement and three proposed arguments. The test-takers decide whether each of the arguments is strong or weak. This first section of the test was taken from the Watson-Glaser Critical Thinking Appraisal. The researcher contacted Lucy Sharp, a Talent assistant consultant from Pearson TalentLens via info@talentlens.co.uk to obtain the payable test thinking that it approximately costs £10. However, Mrs Sharp explained that £10 is the cost per test-taker and that the researcher needed to multiply that price per the number of test-takers. Though Mrs Sharp offered a 25% off discount for research purposes, the researcher considered the total sum (£407) excessive. After negotiation with Mrs Sharp, she suggested that the researcher uses the free tests available online (refer to appendix H).

The second section of the test deals with Thinking Elements/Standards/Traits. It is based on the video that the test-takers watched during the filler task, and is divided into two subsections: part one and part two. Part one contains six questions that cover the purpose, the question at issue, the different points of view, the concepts, the test taker's opinion and its implications, and three of the arguments used in the video and their analysis (clear/unclear, accurate/inaccurate, relevant/irrelevant, consistent/inconsistent, fair/unfair, and well evidenced/not evidenced). Part two contains eight questions. The first question (Regardless of your own point of view, which point of view do you believe makes the most sense?) deals with clarity, and logicalness, in addition to openness and willingness to take multiple perspectives. This is in the sense that any of the options the students tick might be the correct answer depending on the explanation they provide for their choice. If they choose 'a' or 'b', for instance, and explain that the guest presented clear and relevant arguments, their answer is considered correct. If the explanation they provide is 'because I agree with them', then the answer is considered wrong because it shows the students' attempt to look for data that confirm their own established opinions. The second question (Do you think the guests on the show might be called experts? What makes you say that?) deals with relevance and confidence in reason in the sense that the students, as critical thinkers, should be able to make the difference between an expert and a layman even if s/he is omniscient. The third question (Would you try to study the issue longer in order to find out more about it?) deals with intellectual perseverance and fairness. Question four (Do you think the issue at hand is straightforward and essentially easy to pick a side; highly complicated and difficult to pick a side; highly complicated, but still easy to pick a side; or straightforward, but still difficult to pick a side?) deals with intellectual courage and significance. It means that if the students choose 'b' or 'c', they are then able to recognise the complexity of the issue. Question five (Did you think about this issue a long time before you decided on which side you were?) checks whether the students withhold taking sides

or making decisions until provided with all the necessary information and as such it deals with intellectual autonomy and depth. In its follow up (Approximately, how long did you think about the issue before you made up your mind?), the longer the period is, the better. Question six (Has your view on this issue changed over the last few years?) attempts to discern whether the students recognise the evolving nature of knowledge in addition to their intellectual humility and fairness. In its follow up (Explain why your opinion has or has not changed), a good answer would be something along the lines of 'I was provided with more information'. Question seven (Are you willing to change your mind about this issue when presented with more information/arguments?) deals with intellectual integrity, fair-mindedness, and breadth. The final question (What do you think of the opposite point of view?) deals with intellectual empathy.

It is worth mentioning that the second section of the tests was inspired by Marlene Schommer-aikins and Rosetta Hutter's 2002 article entitled 'Epistemological beliefs and thinking about everyday controversial issues'. Its authors investigate the relationship between individuals' beliefs about the nature of knowledge and the nature of learning (epistemological beliefs). It also investigates their thinking about everyday controversial issues using the Schommer Epistemological Questionnaire (Schommer, 1990) which assesses respondents' beliefs in the certainty and organisation of knowledge and the speed and control of learning (Schommer-aikins & Hutter, 2002).

The last section of the critical thinking test relates to a common problem faced while thinking: fallacies. Thinking fallacies are errors in reasoning into which people may fall. The researcher reckoned that the commonness of such errors makes it necessary to include them in both the critical thinking instruction and the tests, which has never been observed in any of the existing critical thinking tests. The third section, then, opens with the definition of a thinking fallacy, then thirteen arguments/statements are provided. The test takers were asked to decide

if there is a fallacy in the statement/argument first, and then provide a justification for their answer. The arguments/statements were retrieved from books like Critical Thinking Skills for Dummies by Martin Cohen (2015) and from: https://examples.yourdictionary.com/examples-of-fallacies.html https://philosophy.hku.hk/think/fallacy/list.php.

5.4.3.5. Scoring the Test

The scoring was done by the researcher right after the test was taken by the participants. The overall score of the test is 50 points. Section one contains five subsections, each containing three questions with a total of 15 points. Section two makes a total of 22 points and contains two parts; part one contains six questions and earns 13 points whereas part two contains 8 questions earning 9 points. In some of the part two questions of this section, more than one answer was correct. This is especially the case in question one where the students could choose any option as far as the explanation they provide for their choice is based on rational instead of irrational thinking. This is also the case with question four where both options ‘b’ and ‘c’ are acceptable. Finally, section three of the test earns 13 points that reflect the thirteen statements/arguments in it. For each statement/argument, the students decide whether it is a fallacy (1 point if it is not and the students say so and 0.5 point if it is a fallacy and the students say so provided that they provide an explanation for their decision; the explanation is worth 0.5 point). The results were then transferred into tables in order to be analysed and compared.

5.5. Data Analysis Procedures

Two data gathering tools were used by the researcher: a questionnaire and a test. The questionnaire was addressed to first year oral skill teachers at the ENSC. Since the whole population consists of eleven teachers, the researcher chose to analyse the data yielded from the questionnaire herself. Per contra, analysing the tests' results was much more complex and, hence, called for the use of SPSS. SPSS is a "computer software package that is specifically designed to perform statistical operations and facilitate data analysis and is by far the most popular statistical package used by social scientists" (Miller et al., 2002, p.12). The researcher started by scoring the pre-tests and post-tests following a previously prepared answer key and a rating scale. The following step consisted of codification. The 24 booklets of the experimental group's pre-test were ordered alphabetically and then the names were replaced by codes (student 1, student 2, student 3….student 24). The same was done to their post-test booklets. The 16 control group pre-test booklets were also alphabetically ordered and given code names: student A, student B, student C…student P). The same was done to the control group's post-test booklets. The scores were then transferred to tables; the researcher used SPSS to do the calculations.

Conclusion

Quasi-experimental design is specifically useful when researchers want to test a new method, technique, or strategy. Because the researcher's main aim is to find out whether using language tasks in the first-year oral skill classes at the ENSC improves learners' critical thinking, undertaking an experiment seemed the most reasonable choice. To achieve this aim, a road map that details the steps to follow and the procedures and tools to adopt was needed. The researcher settled on dividing the sample into an experimental group and a control group, and using a critical thinking pre-test to establish learners' cognitive profile prior to starting the treatment,

and a critical thinking post-test after the treatment. The treatment would consist of incorporating critical thinking instruction (both explicit and implicit) in the first-year oral skill course. Participants' scores would then be monitored and any progress observed between the pre- and post-test scores would mean that the instruction has led to the improvement of the critical thinking skills of participants.

After the previous four chapters provided the theoretical background for the present study, this chapter unfolded the stages and procedures adopted by the researcher in order to answer the research problems and check its hypotheses. Ergo, this chapter brought to light the research design and method, and described the population and sample. It then delineated the design of the questionnaire, outlined the stages that were followed while implementing the experiment and finally, drew a comprehensive picture of the critical thinking test designed by the researcher and administered as the pre and post-test in the present study along with the data analysis procedures that were used to describe and interpret the results. As such, this chapter described how the study was planned and conducted and by so doing provided the foundation for the coming chapters.

CHAPTER SIX: PRELIMINARY INVESTIGATION

Chapter Six: Preliminary Investigation

Chapter Six: Preliminary Investigation

Introduction

This chapter reports the proceedings that were followed prior to the beginning of the quasi-experimental design. It covers the analysis of the teachers' questionnaire and describes, analyses, and interprets the results of the test-retest procedure. This preliminary investigation served two aims; the first is determining teachers' practices inside the classroom and their perception of critical thinking and its implementation in language curricula. The second aim is reporting the findings of the test-retest procedure undertaken by the researcher to guarantee the reliability of the designed critical thinking test. These two types of data constituted the pedestal during the planning and implementation phases of the quasi-experimental design.

6.1. Analysis of the Teachers' Questionnaire

The teachers' questionnaire aims to set out the ENSC first year oral skill teachers' practices inside the classroom, and unveil their perceptions of and attitudes toward critical thinking instruction and implementation. It was deliberately distributed to the target population prior to undertaking the experiment. The results yielded by this tool served as the basis for designing the modified oral skill course that was used with the experimental group. The twenty-three questions that make up the teachers' questionnaire are analysed in the following section.

Section One: Background Information

Q1: What is your gender?

a. Male b. Female

Table 4

Teachers' Gender

	Male	**Female**
n	00	11
%	00%	100%

The gender distribution among the participants was 100% female, revealing a clear gender imbalance. This is not surprising if we consider that out of the 43 teachers, who made up the English department at the ENSC during the academic year 2018/2019, only six were male teachers.

Q2: What is the highest level of formal education that you have completed?

a. Bachelor's Degree b. Master's Degree c. Doctoral Degree d. Professor

Table 5

Teachers' Level of Formal Education

	a	**b**	**c**	**d**
n	00	07	04	00
%	00%	63.63%	36.36%	00%

The breakdown of the teachers' formal level of education is depicted in Table 5. 63.63% of the respondents hold Master's degrees whereas 36.36% hold doctoral degrees.

Q3: How long have you been teaching the oral skill? ……. Years

Table 6 *Teachers' Experience*

	Less than 5 years	**5 to 10 years**	**More than 10 years**
n	00	07	04
%	00%	63.63%	36.36%

As table 6 shows, 100% of the respondents had been teaching the oral skill for more than 5 years, 63.63% of them had been teaching it between five and ten years whereas 36.36% had more than a 10-year experience. If anything, this reflects a good command of this module and a fine understanding of its requirements by the respondents.

Q4: Was the teaching of the oral skill part of your academic training?

a. Yes b. No

In case your answer to the previous question is 'yes', please explain how.

Table 7

Teachers' Training in Oral Skill Teaching

	Yes	**No**
N	03	08
%	27.27%	72.72%

Table 7 reveals that only 27.27% of the respondents had been formally trained to teach the oral skill. In their attempt to specify the training they had received, one teacher explained that she had had the oral skill during the three years of her training: she had been taught some phonetics notions, and then was trained to engage in small debates and presentations. The second teacher maintained that in the Teaching English as a Foreign Language module at university, they were trained to plan for different lessons like grammar and the oral skill as well as how to integrate listening materials (authentic/semi-authentic). Finally, the third teacher specified that all the teaching approaches, techniques, and tasks had been addressed during the experimentation phase of her doctoral research.

Section Two: Teaching Practices

Q5: How often do you teach communication strategies and discussion skills in your class?

a. Never b. Rarely c. Sometimes d. Often e. Always

Table 8

Communication Strategies and Discussion Skills Teaching Frequency

	a	**b**	**c**	**d**	**e**
n	01	01	03	05	01
%	9.09%	9.09%	27.27%	45.45%	9.09%

One teacher admitted never teaching communication strategies and discussion skills while another teacher admitted only doing it rarely. The rest of the respondents do teach communication strategies and discussion skills: 27.27% did it sometimes, 45.45% did it often, and 3.09% did it always.

Q6: Do you vary your activities as controlled, semi-controlled, and creative?

a. Yes b. No

Table 9

Varying Activities

	Yes	**No**
n	11	00
%	100%	00%

This question won unanimity as all respondents confirmed varying their activities between controlled, semi-controlled, and creative.

Q7: Do you encourage interaction between your learners?

a. Yes b. No

Table 10

Encouraging Interaction among Learners

	Yes	**No**
n	11	00
%	100%	00%

Again, all respondents accorded that they encouraged interaction among learners.

Q8: In case your answer to the previous question is 'yes', how do you encourage interaction amongst learners?

a. By providing them with a reason to speak (information gap, opinion gap activities…).

b. By changing seating arrangements so that learners are not always talking to the same partner.

c. By teaching communication strategies such as turn taking, follow up phrases, allowing thinking time…

Table 11

Ways to Encourage Interaction

	a	**b**	**c**	**a+c**	**b+c**	**a+b+c**
n	02	00	01	06	01	01
%	18.18%	00%	9.09	54.54%	9.09%	9.09%

The majority of the respondents (54.54%) maintained that, in order to encourage interaction, they provided learners with a reason to speak and they taught them communication strategies.

Q9: What percentage of the oral skill time is typically spent on each of the following activities? (Please note that the sum should equal 100%).

a. Presentations …….%

b. Discussions/Debates …….%

c. Role-play …….%

d. Listening comprehension activities …….%

e. Games/Riddles …….%

f. Problem solving tasks …….%

g. Other activities (please specify both the activity and the percentage)

……

……

Table 12

Oral Skill Time Spent on Different Activities

	a	**b**	**c**	**d**	**e**	**f**	**g**	**Sum**
R1	35%	15%	10%	20%	5%	15%	00%	100%
R2	30%	20%	10%	30%	10%	00%	00%	100%
R3	50%	10%	10%	20%	00%	10%	00%	100%
R4	30%	15%	5%	30%	5%	15%	00%	100%
R5	10%	15%	35%	10%	5%	25%	00%	100%
R6	70%	10%	5%	10%	5%	00%	00%	100%
R7	10%	30%	30%	10%	10%	10%	00%	100%
R8	40%	30%	5%	20%	5%	00%	00%	100%
R9	20%	20%	20%	00%	20%	20%	00%	100%

	a	b	c	d	e	f	g	Sum
R10	50%	10%	10%	20%	00%	10%	00%	100%
R11	30%	15%	15%	15%	10%	10%	00%	95%

Eight respondents stated that presentations got the lion's share in their classroom practices. Role-play came second in rating with three teachers stating that it took most of their classroom time. Listening comprehension activities and debates took 30% of the classroom time of two respondents. The rest of the activities took 20, 15, or 10% of classroom time depending on respondents (table 12). As not one single teacher suggested other alternatives, one can assume that these are the only activities used by ENSC first year oral skill teachers.

Q10: In your institution, do oral skill teachers coordinate with each other?

a. Yes b. No

Table 13

Teachers' Coordination

	Yes	No
n	11	00
%	100%	00%

All eleven respondents affirmed that the oral skill teachers in the ENSC coordinated with each other. Coordination allowed for the sharing of experience and the exchange of materials, which resulted in deeper and wider coverage and variability of activities.

Q11: During coordination meetings, how often do you discuss and decide on the curriculum or part of it?

a. Never b. Rarely c. Sometimes d. Often e. Always

Table 14

Frequency of discussing and deciding about the Curriculum

	a	**b**	**c**	**d**	**e**
n	00	01	06	03	01
%	00%	9.09%	54.54%	27.27%	9.09%

The number of positive answers makes a total of 100% of responses, with 9.09% for the two extremes (rarely and always) and a majority of 54.54% confirming that respondents sometimes decided on the curriculum or part of it. Having a say in the content of the course gave more freedom to teachers as to whether to incorporate critical thinking in their teaching or not.

Q12: During coordination meetings, how often do you discuss and decide on the materials and media used?

a. Never b. Rarely c. Sometimes d. Often e. Always

Table 15

Frequency of Discussing and Deciding about Materials and Media

	a	b	c	d	e
n	04	03	04	00	00
%	36.36%	27.27%	36.36%	00%	00%

Though teachers unanimously claimed in the previous question that they discussed and decided about the curriculum, in question 12, 36.36% of them claimed never discussing/deciding on the materials and media used. 27.27% said that they rarely did and 36.36% sustained that they only did sometimes. Accordingly, there is reason to believe that, even during coordination meetings, the choice of materials and media was not forced on teachers; they rather chose for themselves what suits their objectives and their learners' needs.

Q13: During coordination meetings, how often do you discuss and decide on evaluation criteria?

a. Never b. Rarely c. Sometimes d. Often e. Always

Table 16

Frequency of Discussing and Deciding about Evaluation Criteria

	a	b	c	d	e
n	00	01	01	04	05
%	00%	9.09%	9.09%	36.36%	45.45%

As Table 16 shows, all the respondents agreed that they discussed/decided on evaluation criteria during coordination meetings. This is important as it guaranteed some equity when it came to evaluating students.

Section Three: Critical Thinking

Q14: How would you define critical thinking?

Table 17

Teachers' Definitions of Critical Thinking

Respondents	Definitions
R1	It is being able to analyse facts, defend opinions by providing strong arguments. Also, being capable of facing problems and solving them.
R2	The ability to evaluate arguments and analyse and synthesise information and data.
R3	It is acting upon one's learning and using one's mind to solve problem situations.
R4	Critical thinking is a cognitive skill based on evaluating evidence about a particular issue.
R5	The ability to reflect on what is being taught. The analysis and evaluation of any knowledge.
R6	The ability to draw reasonable conclusions after analysing information objectively in order to solve a problem.

Respondents	Definitions
R7	Critical thinking is based on raising the awareness of learners from being able to breakdown the elements of a topic, to decide what could be relevant items or irrelevant, and push the learner to be able to combine his/her own knowledge with the relevant items in order to reach a higher level of reasoning.
R8	I would define it as the ability to not take any received information for granted. It is about doubting, analysing, handling one thought/idea from different perspectives, and being open to change one's mind.
R9	To me, critical thinking means being able to think in an orderly manner and find a way to analyse, evaluate a situation, or solve a problem.
R10	Critical thinking is the ability to think critically. In other words, it is thinking with the ability to provide judgements about specific situations. It is also questioning what one hears and not to accept things blindly.
R11	The ability to think (use your brain) in any problematic situation (problem solving, game, answering questions. Thinking is the sense that each individual does not swallow what he is given, but thinks, evaluates, accepts or rejects).

Table 17 details the answers provided by the respondents regarding their conception of critical thinking. The definitions provided reflect a good understanding of critical thinking. It is an understanding that gathers skills, such as evaluating arguments, analysing and synthesising

information, solving problems, drawing reasonable conclusions, and questioning data, and traits of the mind such as open-mindedness, objectivity, and relevance.

Q15: How did you come to learn about critical thinking?

a. At school.

b. In conferences/seminars.

c. By personal readings

d. Other means (please specify).

Table 18

How Teachers Learned about Critical Thinking

	a	**b**	**c**	**d**	**b+c**
n	01	01	07	01	01
%	9.09%	9.09%	63.63%	9.09%	9.09%

A majority of 63.63% of respondents claimed that they had learned about critical thinking through personal reading. One respondent had learned about critical thinking at school, one in conferences and seminars, and one using those two means. When asked to specify other means, one respondent added “in the ENSC while teaching reading techniques”.

Q16: According to you, can critical thinking be taught?

a. Yes b. No

Table 19

Teachability of Critical Thinking according to the Respondents

	Yes	**No**
n	10	01
%	90.90%	9.09%

The overwhelming majority of respondents affirmed that critical thinking could be taught. This is promising as it reflects a view that goes in the same direction as the researcher's and indicates a possible openness to incorporating critical thinking in language curricula in the future.

Q17: How do/would you foster critical thinking in your learners?

Table 20

Ways to Foster Critical Thinking by the Respondents

Respondents	**Ways to Foster Critical Thinking**
R1	Discussing more interesting topics that require this full interaction, attention. Involving them and integrating them more in debates that go beyond getting good grades and a diploma.
R2	Allowing learners to think first, then providing them with activities that foster critical thinking.
R3	Through teaching strategies.

Respondents	Ways to Foster Critical Thinking
R4	By exposing them to information gap, ad problem solving activities.
R5	By encouraging them to think rationally and raising their awareness towards all the strategies that allow them to foster critical thinking.
R6	By engaging them in problem solving activities and encouraging them to evaluate and give feedback on each other's presentations and ideas.
R7	Practice and activities.
R8	Through debates and discussions. By designing appropriate questions.
R9	By exposing them to a set of tasks that require them to think critically and helping them to gradually be able to do that effectively.
R10	By asking them to judge the teachers' and their classmates' answers, to question them and not to accept them blindly.
R11	You just explain to your learners that for each situation, they must have an opinion and for each problem, they can propose a solution.

The respondents called for the integration of activities and tasks that foster critical thinking such as discussions, problem-solving activities, information gap activities, self- and peer-evaluation… In addition to that, one respondent drew the light to the choice of topics while two other respondents highlighted incorporating thinking strategies. Other answers provided asking appropriate questions, encouraging alternative opinions, and teaching learners not to take anything for granted.

Q18: According to you, can critical thinking be measured?

a. Yes b. No

Table 21

Measuring Critical Thinking by the Respondents

	Yes	**No**	**No Answer**
n	09	01	01
%	81.81%	9.09%	9.09%

To this question, one respondent gave no answer, one respondent answered that critical thinking cannot be measured, and the rest of the respondents (81.81%) said that it is measurable.

Q19: To test critical thinking, would you rather test:

a. The process of thinking (mental abilities such as analysing problems, evaluating arguments, considering alternate points of view…)?

b. The product of thinking (the change in one's opinions, attitudes, behaviours...)?

Please explain why.

Table 22

Assessing Critical Thinking by the Respondents

	a	**b**	**a+b**
n	04	03	04
%	36.36%	27.27%	36.36%

36.36% of the respondents expressed the belief that evaluating critical thinking involves testing the process of thinking, and 27.27% that it rather involves testing the product of thinking. The rest of respondents maintained that it involves a combination of both i.e., process and product. The explanations provided by respondents are gathered in Table 23.

Except for one respondent who did not provide any explanation, the ten remaining respondents gave plausible reasons. The 'a' respondents provided reasons such as the observability and immediacy of the process as compared to the product, the prominence of the 'how' over the 'what', and the fact that the product might be affected by other factors. For 'b' respondents, the reasons provided were the fact that testing the product is easier, and that observing the product makes more sense.

Table 23

Teachers' Explanation of their Cvhoice

Respondents	Explanations
R1	Since it is about facing and solving problems, analysing fact, etc.
R2	When I give learners activities, I can witness their analysis/ evaluation/ consideration of alternate, points of view. The product of thinking, however, takes time. I cannot see it in one year.
R3	Because 'how' should prime on 'what'; it determines learners' use of analytical skills.
R4	Both the process and the product are important; learners go through a series of steps (a process) before reaching the outcome (the product). The process is how thinking happens and the product is the change in one's opinions.
R5	Because the product of thinking can be affected by other reasons rather than critical thinking.
R6	I would rather test both because they both complement each other; the process can start well but the product may be less than expected. So, they need to be considered together.
R7	No explanation provided.
R8	I think the first option is more difficult to investigate and to measure.

Respondents	Explanations
R9	Both I can test. 'a' the process of thinking formatively during classroom activities and 'b' summatively in an exam.
R10	We can feel the change in the learners' answers whether they are questioning and providing judgements about what they hear and read or they are just accepting others' ideas as they are.
R11	It is observable.

Q20: How important is critical thinking to your instructional objectives?

a. Of primary importance.

b. Of secondary importance.

c. Of little importance.

Table 24

Importance of Critical Thinking to Teachers

	a	**b**	**c**
n	05	06	00
%	45.45%	54.54%	00%

While 45.45% of the respondents confirmed considering critical thinking of primary importance, an unexpected 54.54% ranked it of secondary importance. This could be explained

by the fact that some teachers give less attention to aspects, they know, do not figure in course aims and/or exam questions. This being said, no respondent proclaimed considering critical thinking of little importance.

Q21: In your view, how important is it for students to acquire criteria to use in the assessment of their own thinking and the thinking of others?

a. Of primary importance.

b. Of secondary importance.

c. Of little importance.

Table 25

Importance of Acquiring Critical Thinking Assessment Criteria

	a	**b**	**c**
n	09	01	01
%	81.81%	9.09%	9.09%

Despite the answers provided in the previous question, an overwhelming majority of respondents (81.81%) admitted considering acquiring criteria to assess one's own thinking and the thinking of others of primary importance for students. This reflects a deep belief in the role self- and peer-evaluation play in teaching and learning.

Q22: What are the obstacles to implementing critical thinking in language curricula in Algeria?

The obstacles highlighted by the respondents may be gathered under three major headings: those related to the students, those related to the teachers, and those related to the system.

Obstacles related to the students include lack of knowledge of critical thinking, and lack of motivation. Obstacles related to the teachers encompass teachers' lack of training, their over focus on language at the expense of other skills, and their lack of creativity in terms of trying new approaches and methods. Obstacles related to the system in general comprise time constraints, assessment constraints, having pre-determined objectives, and ignoring learners' needs. Table 26 details the answers provided by respondents.

Table 26

Obstacles to Implementing Critical Thinking by the Respondents

Respondents	Obstacles
R1	It has to do with both students and the educational system since the latter does not encourage innovation, and students would rather stick to the usual than going out of their comfort zone.
R2	Teachers are not well-acquainted with critical thinking. Lack of time as time is given to teaching content instead.
R3	Learners' needs are not considered.
R4	Difficulty of assessment (measuring objectively and effectively learners' strengths and weaknesses in critical thinking).
R5	Students' lack of understanding of critical thinking. Students' over thinking about the use of the language rather than analysing and evaluating arguments.

Respondents	Obstacles
R6	Time is a great problem; we cannot teach the students critical thinking skills in only two sessions per week.
R7	Teachers are not trained to teach critical thinking.
R8	I do not think there are obstacles particular to Algeria. Thinking requires efforts and designing critical thinking activities is time-consuming for teachers. Teachers need to be aware about its importance and they need to be trained to use it in class.
R9	Clearly defined objectives for the curricula. An adequate methodology.
R10	Maybe because of sticking to the old approaches of teaching. The lack of creativity as far as the types of tasks used to teach critical thinking.
R11	Students' lack of interest and motivation. Students' laziness to think and use their brains.

Q23: Do you have any recommendations regarding the implementation of critical thinking in the oral skill course?

Table 27

Teachers' Recommendations

Respondents	Recommendations
R1	In my opinion, students should be put face to face with critical situations or problems and asked to find the most suitable solutions (after analysing, discussing..)
R2	No recommendation.
R3	Readings and coordination.
R4	Critical thinking skills can be developed through a number of classroom activities that require discussion of ideas, analysis of information, and synthesis of input and which promote collaborative work between learners.
R5	By teaching students how to analyse, interpret, and evaluate ideas and selecting the proper tasks and activities that incite critical thinking like debates, discussions…
R6	Learning has no boundaries and students should be made aware that they have to search for more information about the topics presented in the oral skill sessions, by doing so, they will be accustomed to think critically.
R7	No recommendation.
R8	No recommendation.

Respondents	Recommendations
R9	This should be incorporated in the form of task-based approach to teaching speaking.
R10	We should think of a lot of activities to include critical thinking in our teaching of the oral skill, we need to involve students by asking them to evaluate or assess their thoughts and others' thinking and try to come up with sound judgements about what they hear and read.
R11	Teaching students the techniques and strategies in the mechanisms of thinking. Things have to be taught gradually moving from easy to difficult or simple to complex. Providing students with situations to practice critical thinking simple situations that would pave the way to use it in more complex situations.

Nine out of the eleven respondents provided recommendations regarding the implementation of critical thinking in the oral skill course. Some teachers focused on the incorporation of activities such as debates, and problem-solving tasks. Others suggested coordination between teachers and further reading to gain better understanding of this tricky concept. Teaching critical thinking skills figured among teachers' suggestions along with involving students more and inciting them to do further research whenever an opportunity presents itself. One teacher recommended adopting a task-based approach in the teaching of the oral skill to help develop critical thinking skills.

6.2. Summary of the Survey Findings

Respondents to the teachers' questionnaire are all female full-time university teachers. They hold at least a Master's degree (36.36% are doctors), with a minimum of five years of teaching experience of the oral skill. Even better, 36.36% of them have been teaching it for more than ten years; their experience compensates for their lack of formal training in the teaching of the oral skill. Coordination, for them, represents the backbone of teaching as all first-year oral skill teachers coordinate with each other. During coordination meetings, they decide on evaluation criteria and the curriculum or part of it with varying degrees. Contrariwise, 36.36% of the respondents claim that they never discuss and/or decide on the materials and media used and even those who ascertain that they do, only do it sometimes (36.36%) or rarely (27.27%). This transpires that, during coordination meetings, teachers decide on the objectives of the course, the general content, and the evaluation criteria, but never impose the materials and media used.

Inside the classroom, most respondents (75.81%) explicitly teach communication strategies and discussion skills. They encourage interaction among learners and vary their activities between controlled, semi-controlled, and creative. They even specified that presentations, role-play, listening comprehension activities, and debates are among the most commonly practised activities, in addition to games/riddles, and problem-solving tasks.

With respect to critical thinking perception, the respondents provided comprehensive and thorough definitions. Their understanding of critical thinking was the result of personal reading, studies, through conferences/seminars, or during their years at the ENSC. When asked about the teachability of critical thinking, an overwhelming majority responded positively, adding that

critical thinking can be taught via integrating activities and tasks that foster critical thinking such as discussions, problems solving activities, information gap activities, self- and peer-evaluation… Other suggestions were added by respondents such as choosing 'good' topics, incorporating thinking strategies, asking appropriate questions, encouraging alternative opinions, and teaching learners not to take anything for granted. When it came to critical thinking assessment, 81.81% of the respondents maintained that critical thinking skills can be measured and that evaluating critical thinking involved testing the process of thinking (36.36%), the product of thinking (27.27%), or both (36.36%). All the respondents admitted considering critical thinking important with varying degrees (45.45% of primary importance, and 54.54% of secondary importance) and 81.81% of them considered acquiring criteria to assess one's own thinking and the thinking of others of primary importance for students. Despite this positive attitude towards critical thinking from respondents, they highlighted some obstacles related to implementing it in language curricula in Algeria. Obstacles included lack of knowledge of critical thinking, lack of motivation, teachers' focus on language at the expense of other skills, lack of teacher training and openness to new approaches and methods. The rest of the obstacles might be summarised in time constraints, assessment constraints, imposing pre-determined objectives, and ignoring learners' needs. As a solution to these obstacles, some first-year oral skill teachers focused on the incorporation of activities such as debates, and problem-solving tasks. Others suggested coordination between teachers and further reading to gain better understanding of this tricky concept. Finally, it is important to note that teaching critical thinking skills to learners figured among teachers' suggestions along with involving them more and inciting them to do further research whenever an opportunity presents itself. One teacher even recommended adopting a task-based approach in the teaching of first year oral skill to help develop critical thinking skills.

6.3. Interpretation of the Survey Results

The data gathered from the teachers' questionnaire give a general overview of the oral skill course at the ENSC. Teachers explicitly teach theoretical aspects related to the oral skill course, and this transpires the possibility to teach critical thinking theory during the course in question. This could easily be planned if teachers received the necessary training to do so. In addition to that, the teachers' positive attitude towards critical thinking and their approbation of its teachability testify of their disposition to incorporate it in their course. The variety of classroom activities and the freedom teachers relish in deciding on the materials/media open the door for the integration of critical thinking activities in the oral skill course. In addition, since teachers have a say in choosing the evaluation criteria, changing the students' evaluation method to include critical thinking assessment will not be a problem. Even the obstacles mentioned by the respondents were followed by recommendations regarding the best way to infuse critical thinking in the oral skill course. If anything, this shows openness to adaptation and change from first year oral skill teachers at the ENSC.

After the first step of the preliminary research was completed, the researcher moved to the next step, which is that of planning and administering the critical thinking test. Though the critical thinking test had antecedently been designed and its validity checked, the researcher needed to check its reliability. One of the methods to check for reliability is the test-retest procedure.

6.4. Test-retest Procedure

In order to ensure reliability of the critical thinking test designed by the researcher, the test-retest procedure was followed. The latter consists of trying the test on a sample, and waiting for some time before trying it again for the second time on the same sample. If the participants got approximately the same results, that would mean that the test has high reliability and vice versa. The researcher applied this procedure in the present study. The participants were first sent the filler task via email on January 9th 2019 and asked to watch the video and do the three enclosed activities as they would be asked some questions related to it in the second section of the critical thinking test. On the following day, January 10th 2019, the eight participants took the test for the first time (hereby Test1) and after a fortnight, they took it for the second time (hereby Test2) on January 24th 2019. The scores of the two attempts were then analysed and compared using SPSS and the reliability coefficient (*r*) was calculated.

Table 28

Descriptive Statistics of the Test-retest Procedure

	Mean	Std. Deviation	N
T1	20.7813	7.87450	8
T2	20.8438	7.97870	8

The mean scores of Test1 and Test2 and their variability in scores (standard deviation SD) are displayed in Table 28. Table 28 clearly shows that the means are so close (20.78 and 20.84) with an SD of 7.87 for Test1 and 7.97 for Test2. The slight change of scores might be explained

by a better performance of the test takers on their second attempt, or what is referred to as the practice effect.

After obtaining the scores of both attempts, a Pearson product-moment correlation was performed using the SPSS to determine the relationship between Test1 scores and Test2 scores. Table 29 shows that there was a strong, positive correlation between scores at both scoring times (r=.999, p<.001). This demonstrates that test scores remain highly stable over time with a reliability estimate of .999 and a degree of error of less than .001.

Table 29

Pearson Correlations of the Test-retest Procedure

		T1	T2
T1	Pearson Correlation	1	,999**
	Sig. (2-tailed)		,000
	N	8	8
T2	Pearson Correlation	,999**	1
	Sig. (2-tailed)	,000	
	N	8	8

**. Correlation is significant at the 0.01 level (2-tailed).

The results provided by SPSS showed that the critical thinking test designed by the researcher was reliable. It, hence, can be used in the next stage of the study i.e., the implementation of the experiment.

Conclusion

The analysis and interpretation of the data gathered through the tools used in this preliminary stage served as the foundation for the quasi-experimental design and answered some of the research questions set at the beginning of this study. On the one hand, the analysis of the teachers' questionnaire answered the questions of how oral skill teachers at the ENSC perceive critical thinking, their stance towards incorporating it in the oral skill course, and the challenges they foresee for attempting to infuse it in their lessons. ENSC oral skill teachers in the English department are well aware of the importance of critical thinking in today's world, are familiar with it and, even better, are capable of providing their own definitions to this concept. Their definitions are rather comprehensive as they cover critical thinking skills and intellectual traits. Their positive attitude towards critical thinking is reflected in their willingness and desire to incorporate it in their teaching. The challenges suggested by the respondents related sometimes to the students such as lack of knowledge of critical thinking, and lack of motivation, sometimes to teachers such as lack of training, over focus on language at the expense of other skills, and lack of creativity in terms of trying new approaches and methods. Other challenges were also highlighted such as time constraints, assessment constraints, having pre-determined objectives, and ignoring learners' needs.

On the other hand, the results of the test-retest procedure helped answer one of the research questions: Is the outcome of critical thinking observable and measurable through a formal test? The test designed by the researcher proved its validity and reliability and could be said to assess critical thinking in first-year English learners at the ENSC.

This chapter presents the display, analysis, and interpretation of two sets of data. The first concerns the data gathered through the teachers' questionnaire. The latter provides a thorough description of first year oral skill teachers' classroom practices and their perception of critical

thinking teaching and evaluation. The second set of data encompasses the analysis of the test-retest procedure undertaken to check the reliability of the critical thinking test designed by the researcher. The content of this chapter serves as the pedestal for the experiment in the next chapter as it helped the researcher decide on the content to include in the adapted

oral skill course and provided accreditation for the critical thinking test.

CHAPTER SEVEN: QUASI-EXPERIMENTAL DESIGN

Chapter Seven: Quasi-Experimental Design

Chapter Seven: Quasi-Experimental Design

Introduction

The previous chapter served as an exploratory phase that helped the researcher, amongst other things, establish ENSC first-year English oral skill teachers' practices inside the classroom and paved the way for adapting the first-year English oral skill course to make it more inclined towards developing learners' critical thinking in addition to their communicative competence and communication skills. After the exploratory phase came the implementation phase. The study employed a quasi-experimental pre-test–post-test design that lasted for eight weeks: the pre-test was conducted in the first week, and the post-test was conducted in the last week, leaving six weeks for pedagogical instruction. This chapter describes the proceedings that allowed the implementation of this design with the perspective of checking the main hypothesis of the present research: whether the use of language tasks in the first-year English oral skill course would enhance the critical thinking of students. The chapter opens with a description of the participants' entering cognitive profile, which was established using the critical thinking pre-test. Then, it describes the road map for the experiment by specifying the content taught to both the experimental and control groups. Afterwards, the participants' exit cognitive profile is established, again using the critical thinking post-test. Finally, the data gathered through the pre-test and the post-test are presented and analysed, and the chapter concludes with a discussion and interpretation of the results.

7.1. Pre-test

The questionnaire helped the researcher get a better idea of teachers' practices inside the classroom; that paved the way for the experiment to come. However, before the experiment was launched, the learners' cognitive profile needed to be established. A critical thinking pre-test was used for that purpose.

7.1.1. Description of the Pre-test Results

The pre-test took place on May 9th 2019 before the beginning of the experiment. Because the pre-test was divided into three sections, the results it yielded are presented in three sections.

7.1.1.1. Section One: Critical Thinking Skills

Section one of the pre-test deals with critical thinking skills. It was adopted from the Watson-Glaser Critical Thinking Appraisal. The students were tested on their skills of making inferences, recognising assumptions, interpretation, deduction, and evaluating argument. The scores the control group (CG) students yielded are presented in Table 30.

Table 30

CG Section One Pre-test Scores

	Student A	Student B	Student C	Student D	Student E	Student F	Student G	Student H	Student I	Student J	Student K	Student L	Student M	Student N	Student O	Student P
Making Inferences	00	02	01	01	01	00	01	00	01	01	02	02	00	00	01	00
Recognising Assumptions	02	03	02	02	02	01	01	01	03	03	03	01	02	03	01	02
Interpretations	01	03	01	01	01	00	01	01	02	00	03	03	01	03	02	02
Deduction	00	00	00	03	03	02	01	01	03	01	03	03	02	03	01	01
Evaluating Arguments	02	02	01	03	01	01	02	02	02	02	00	00	02	03	03	02
The Sum	05	10	05	10	08	04	06	05	11	07	11	09	07	12	08	07

The total score for section one of the CG pre-test is 15 points. Table 30 shows that nine out of the sixteen students got more than the average. The CG has a mean of 7.81 in critical thinking skills with a standard deviation (SD) of 2.48.

The experimental group (ExG) took the same test. Their results are shown in Table 31.

Table 31

ExG Section One Pre-test Scores

	Student 1	Student 2	Student 3	Student 4	Student 5	Student 6	Student 7	Student 8	Student 9	Student 10	Student 11	Student 12	Student 13	Student 14	Student 15	Student 16	Student 17	Student 18	Student 19	Student 20	Student 21	Student 22	Student 23	Student 24
Making Inferences	02	00	00	02	01	02	00	00	03	01	01	00	00	00	01	02	01	00	01	01	01	02	03	01
Recognising Assumptions	01	01	02	02	01	01	01	02	02	02	01	02	02	01	01	01	02	01	02	01	03	00	03	01
Interpretations	03	03	00	02	02	01	01	03	03	03	01	02	02	01	01	03	00	00	03	02	03	01	00	03
Deduction	02	03	02	02	02	02	00	03	03	03	02	01	02	00	02	02	01	00	02	01	02	02	02	01
Evaluating Arguments	03	02	01	01	02	02	02	03	03	02	02	01	02	03	01	00	00	00	03	02	03	01	02	02
The Sum	11	09	05	09	08	08	04	11	14	11	07	06	08	05	06	08	04	01	11	07	12	06	10	08

Out of the 24 students who make up the experimental group, 14 got above the average. The mean for the ExG section one critical skills scores is 7.87 with a SD of 2.99.

7.1.1.2. Section Two: Thinking Elements, Standards, and Traits

Section two of the pre-test tackles thinking elements, standards, and traits. It is in itself divided into two parts; it gathers 22 points in total. Part one has 13 points with five questions whereas part two has 9 points in total. The CG section two scores are shown in Table 32.

Table 32

CG Section Two Pre-test Scores

	Student A	Student B	Student C	Student D	Student E	Student F	Student G	Student H	Student I	Student J	Student K	Student L	Student M	Student N	Student O	Student P
Part One	6.25	2.5	7.25	06	05	9.25	8.25	8.25	11.75	4.75	08	6.5	9.5	5.5	7.75	10.25
Part Two	05	2.75	4.25	6.5	3.5	6.25	4.25	3.5	02	4.25	6.5	2.25	4.5	5.5	3.75	3.25
The Sum	11.25	5.25	11.5	12.5	8.5	15.5	12.5	11.75	13.75	09	14.5	8.75	14	11	11.5	13.5

Out of the 16 students who make up the CG, only four scored below the average. The mean for the CG section two scores is 11.54 and the SD is 2.63.

The ExG scores are presented in Table 33.

Table 33

ExG Section Two Pretest Scores

	Student 1	Student 2	Student 3	Student 4	Student 5	Student 6	Student 7	Student 8	Student 9	Student 10	Student 11	Student 12	Student 13	Student 14	Student 15	Student 16	Student 17	Student 18	Student 19	Student 20	Student 21	Student 22	Student 23	Student 24
Part One	8.25	5.25	6.25	5.75	05	7.5	05	06	6.25	7.75	05	4.75	07	06	4.5	1.5	10.75	4.75	7.5	07	10.75	8.75	05	9.25
Part Two	4.25	2.75	1.75	4.5	04	1.75	4.75	4.5	05	3.75	5.25	4.25	2.25	2.5	06	2.25	05	05	0.5	3.25	7.5	4.25	07	6.75
The Sum	12.5	08	08	10.25	09	9.25	9.75	10.5	11.25	11.5	10.25	09	9.25	8.5	10.5	3.75	15.75	9.75	08	10.25	18.25	13	12	16

Table 33 shows the ExG section two scores. It indicates that out of the 24 students who make up the ExG, only eight got above the average. The mean score for the ExG section two scores is 10.59 and the SD is 3.01.

7.1.1.3. Section Three: Thinking Fallacies

Section three of the pre-test covers thinking fallacies. It contains 13 statements/arguments. The students are asked first to decide whether there is a fallacy in each of the statements/arguments, and then, in case there is, to explain it. The total score for this section is 13 points. The scores of the CG are presented in Table 34.

Table 34

CG Section Three Pre-test Scores

	Student A	Student B	Student C	Student D	Student E	Student F	Student G	Student H	Student I	Student J	Student K	Student L	Student M	Student N	Student O	Student P
Thinking Fallacies	4.5	1.5	3.5	3.5	00	01	4.5	3.5	3.5	05	5.5	03	1.5	04	04	03

All the CG members got below the average in this section. Their mean score is 03.21 and the SD is 1.51.

ExG section three scores are displayed in Table 35.

Table 35

ExG Section Three Pre-test Scores

	Student 1	Student 2	Student 3	Student 4	Student 5	Student 6	Student 7	Student 8	Student 9	Student 10	Student 11	Student 12	Student 13	Student 14	Student 15	Student 16	Student 17	Student 18	Student 19	Student 20	Student 21	Student 22	Student 23	Student 24
Thinking Fallacies	1.5	04	03	2.5	3.5	4.5	04	3.5	00	0.5	2.5	3.5	03	2.5	00	1.5	1.5	03	04	1.5	6.5	05	0.5	0.5

Table 35 shows that out of the 24 students who make up the ExG, only one got the average. The mean score for ExG section three is 2.60 with a SD of 1.68.

7.1.1.4. Overall Score of the Pre-test

Table 36 displays the overall scores of the CG pretest. It shows that out of the 16 students who make up the group, 04 got above the average. The mean for the pretest CG total score is 22.23 and the SD is 4.12.

Table 36

Overall Score of the CG Pre-test

	Student A	Student B	Student C	Student D	Student E	Student F	Student G	Student H	Student I	Student J	Student K	Student L	Student M	Student N	Student O	Student P
Section One	05	10	05	10	08	04	06	05	11	07	11	09	07	12	08	07
Section Two	11.25	5.25	11.5	12.5	8.5	15.5	12.5	11.75	13.75	09	14.5	8.75	14	11	11.5	13.5
Section Three	4.5	1.5	3.5	3.5	00	1	4.5	3.5	3.5	05	5.5	03	1.5	04	04	03
Total Score	20.75	16.75	20	26	16.5	20.5	23	20.25	27.25	16.5	31	20.75	22.5	27	23.5	23.5

The ExG total score is displayed in Table 37. It shows that out of its 24 members, only 3 got the average or above. The mean for the ExG pre-test total score is 20.73 and the SD is 4.82.

Table 37

Overall Score of the ExG Pre-test

	Student 1	Student 2	Student 3	Student 4	Student 5	Student 6	Student 7	Student 8	Student 9	Student 10	Student 11	Student 12	Student 13	Student 14	Student 15	Student 16	Student 17	Student 18	Student 19	Student 20	Student 21	Student 22	Student 23	Student 24
Section One	11	09	05	09	08	08	04	11	14	11	07	06	08	05	06	08	04	01	11	07	12	06	10	08
Section Two	12.5	08	08	10.25	09	9.25	9.75	10.5	11.25	11.5	10.25	09	9.25	8.5	10.5	3.75	15.75	9.75	08	10.25	18.25	13	12	16
Section Three	1.5	04	03	2.5	3.5	4.5	04	3.5	00	0.5	2.5	3.5	03	2.5	00	1.5	1.5	03	04	1.5	6.5	05	0.5	0.5
Total Score	25	21	16	21.75	20.5	21.75	17.75	25	15.25	23	19.75	18.5	21.25	16	16.5	14.25	21.25	13.75	23	18.75	36.75	24	22.5	24.5

Figure 13

Pre-test Normal Distributions

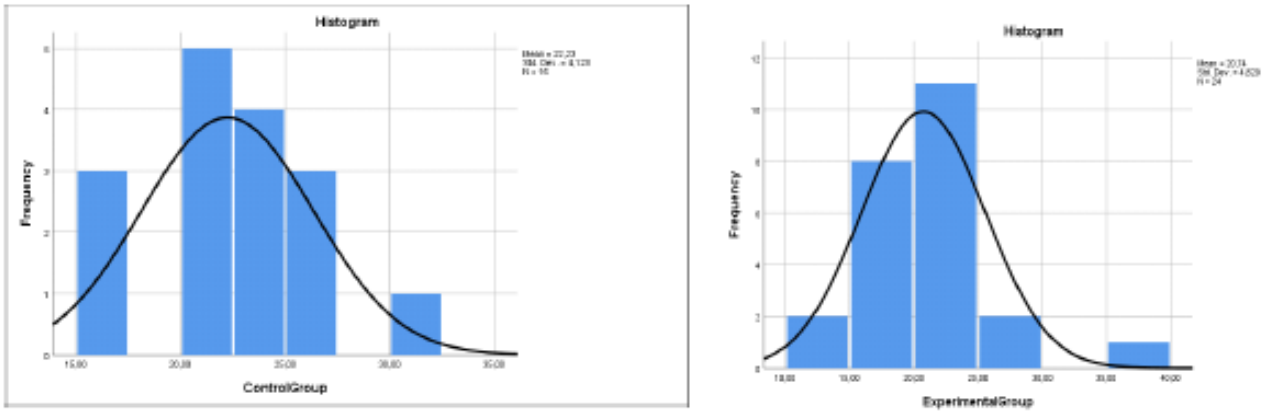


Figure 13 shows that the distributions of scores for both the experimental and control groups approximately follow the typical bell curve. The mean of the CG (22.23) is lower than the average score (25), and the SD (4.12) indicates the typical distance that individual scores tend to fall from the mean. Because the histogram is somehow symmetric, this means that the number of CG students who scored lower than the average approximately equals the number of students who scored higher than the average. The same can be said about the ExG students' scores. Though the distributions are narrower, the mean (20.73) is farther from the average (25)

and the tails of the distribution indicate that low scores are approximately as frequent as high scores. We can then conclude that the critical thinking pre-test scores of both the control and experimental groups are normally distributed.

7.1.2. Analysis of the Pre-test Results

The pre-test served two main aims. First, it helped the researcher establish the learners' cognitive profile; that would help decide whether there is improvement in the learners' critical thinking after receiving the instruction. In addition to its initial aim, the pre-test helped the researcher establish components of critical thinking with which the learners had problems. In section one, the CG mean is 7.81 while the ExG mean is 7.87. Considering the overall score for the first section, which is 15, both groups might be described as 'average' when it comes to critical thinking skills. As far as section two is concerned, the CG mean score is 11.54 whereas the ExG mean is 10.59. The CG is then average whereas the ExG is below the average since the overall score for this section is 22. The final section deals with thinking fallacies; the CG mean is 3.21 whereas the ExG is 2.60. That is way below the average considering that the overall score for this section is 13. This means that the learners of both groups had trouble identifying thinking fallacies.

To sum up, as the normal distributions of the pre-test show (figure 13), it is safe to say that both the CG and the ExG are below the average when it comes to critical thinking. Additionally, the pre-test shows that the CG members did better than the ExG members. This consolidates the fact that the choice of the sample was random. The results, then, show that the learners of both groups need critical thinking instruction.

7.1.3. Interpretation of the Pre-test Results

Table 38 shows that, before the treatment began, the experimental group and the control group had approximately the same cognitive profile i.e., a mean of 22.23 ± 4.12 of the control

compared to the experimental group's mean of 20.73 ± 4.82. The t-value equals 1.015 and p = 0.317. Because the p-value is more than 0.025 (2.5%), we conclude that there is no sufficient evidence to say that there is a difference between the scores of the pre-test of the control group and the experimental group. In other words, the mean scores of the critical thinking pre-test of the control group and the experimental group and their variability (SD) are so close that it allows us to conclude that the two groups are similar in terms of their critical thinking and that the first-year English learners' critical thinking at the ENSC is below the average.

Table 38

The Pre-test's T-test

Group Statistics

	Grouping	N	Mean	Std. Deviation	Std. Error Mean
Pretest	1,00	16	22,2344	4,12257	1,03064
	2,00	24	20,7396	4,82885	,98569

		t-test for Equality of Means						
		t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
							Lower	Upper
Pre-test	Equal variances assumed	1,015	38	,317	1,49479	1,47275	-1,48663	4,47621

7.2. Treatment

After conducting the pre-test, the experimental group and the control one received different types of instruction from the researcher. The control group was taught in the traditional way following the norms that were used in the ENSC ever since the researcher started working there

(2012) whereas the control group received task-based instruction that aimed not only at developing learners' communicative competence and presentation skills, but also their critical thinking.

In order for critical thinking instruction to be effective and fruitful, it must be well planned. The researcher resorted to the model suggested by Lau (2011) (refer to section II.6) to well-plan the critical thinking instruction. The model suggests a triangulation of the instruction based on theory, deliberate practice, and adopting the right attitude. Consequently, the researcher commenced by teaching the theory related to critical thinking. Then, based on the data gathered using the teachers' questionnaire, she modified the activities typically used by the oral skill teachers in the ENSC and turned them into language tasks that trigger and hone critical thinking. Finally, the researcher made sure to provide a good model for students by adopting the right attitude and modelling the right behaviours inside the classroom.

7.2.1. Overview of the Pre-established Oral Skill Course

'Oral Expression' is a course destined to first-year English students at the ENSC. It aims to develop learners' communicative competence and communication skills. The course has two main components: listening and speaking. It is organised around functions, notions, and vocabulary. The grades awarded to students are divided into an exam mark and a TD mark; the TD mark is based on active participation in class and on a prepared presentation that must be given in front of the rest of the group. It is made clear to students from the outset that active participation is required inside the classroom in order to encourage them to regard oral communication as something they can and at which will get better through regular practice.

The researcher relied on her own experience as an oral skill teacher/coordinator as well as the data gathered through the teachers' questionnaire to form a clear detailed picture of the oral skill course content at the ENSC. Because ENSC oral skill teachers coordinate with each other,

it is safe to say that all first year ENSC students receive approximately the same oral skill course content. They are also evaluated in the same manner (since teachers agree on the objectives, content, and evaluation criteria during coordination meetings though the materials and media used differ from one teacher to another (refer to section 6.1.Q 10, 11, 12, and 13). As the teachers' questionnaire data show, most teachers provide some theoretical background during the course by explicitly teaching communication strategies and discussion skills to learners (refer to section 6.1.Q 5). They vary the activities undertaken (refer to section 6.1.Q 5) in an attempt to motivate learners, and ensure satisfying as many learning styles and strategies as possible. The most commonly used activities by ENSC first year oral skill teachers during speaking sessions are presentations, role-play, and debates/discussions (refer to section 6.1.Q 9). Presentations are an individual work that lasts between 30 and 45 minutes, depending on the content of the presentation and the presenter. The learners choose their topics at the beginning of the year; then, they present in front of the whole class using different materials and media. Role-play use depends on the teachers: some provide learners with scripts and ask them to play them out while others leave it up to the imagination of learners i.e., learners choose their groups, write a short play, and perform it in front of their teacher and classmates. A role-play typically lasts between 10 and 20 minutes. Debates/discussions represent an important part of any speaking session. The topics dealt with are either an extension of the topic covered during the listening session (which provides an opportunity to rehearse the vocabulary learned), an in-depth analysis of the topic covered by a student in his/her presentation, or a topic chosen by the teacher. During debates/discussions, the teacher's objective is to engage as many learners as possible in the conversation. Generally speaking, there is no limit in time when it comes to debates/discussions; the teacher would keep it going as long as the learners are willing to participate. Games, riddles, and problem solving tasks also figure among teachers' practices, albeit with a lesser degree (they only take up between 10 and 20% of the time (refer to section

6.1.Q 9). The choice of games/riddles, and problem-solving tasks is left to the teacher; some adopt already existing materials while others create their own.

As far as the listening sessions are concerned, students are generally presented with a video/audio track, along with some listening comprehension activities. The activities are typically divided into pre-listening, while-listening, and post-listening activities in which the students brainstorm about the targeted topic to activate their schemata first, check their understanding of the video/audio track, and finally employ the vocabulary learned in new contexts (refer to 5. 5. 4.2.2.1.) These stages of the course were followed by the researcher while teaching the CG members. They were taught in the traditional way; there was no mention whatsoever of critical thinking.

7.2.2. Revisited Oral Skill Course

Based on the results obtained from the teachers' questionnaire and her own experience as a teacher/coordinator of the oral skill module, and armed with her knowledge of critical thinking, the researcher adapted the oral skill course. The overall aim of the researcher was to design a course that would not face resistance from teachers or students; it would be a course that resembles the previously established one in every possible way. Consequently, the revisited course looks like a regular oral skill course though the objectives of the course were adapted to make them target critical thinking skills in addition to developing learners' communicative competence and communication skills. Following Halpern's (2003) suggestions on how to incorporate critical thinking when it comes to application exercises, the activities usually undertaken were turned into language tasks and the classroom practices were altered to help learners adopt a critical view over the content of lessons. As such, the researcher started by incorporating some critical thinking theory in the oral skill course; it was a thing that would not be considered atypical by the students as they were used to being taught the theory related to

the oral skill. Then, the researcher settled on regularly including the following tasks in the modified oral skill course: presentations, role-play, and listening comprehension activities. The remaining types of activities (games/riddles, and problem-solving tasks) were only used occasionally, when time allowed it. As far as the modelling part is concerned, the researcher made sure to reflect a critical attitude inside the classroom by adopting a critical view towards data, being open-minded, seeking truth, checking the reliability and validity of information… This was guaranteed through, as Young (1980) suggested, personal readings, attending workshops and conferences, and most importantly trial and error.

7.2.2.1. Theoretical Course

The researcher dedicated a week (four hours and a half) to teaching the theory related to critical thinking. The lessons presented to learners were basic; the researcher chose not to dig deep into critical thinking concepts and models due to time constraints.

7.2.2.1.1. Rationale of the Course

The theoretical course aims to provide learners with basic theoretical knowledge about critical thinking. Before training them to think critically, learners need to know what critical thinking is, why it is important, and some of its basic concepts and models. The course also presents learners with reasoning fallacies in order for them to avoid making them and detect them in the thinking of others. Finally, the course introduces the Socratic Method to learners in an attempt to help them adopt it in their coming classroom discussions (refer to appendix C).

7.2.2.1.2. Content of the Theoretical Course

The theoretical course opened with a PowerPoint presentation that introduced critical thinking to the ExG learners. The presentation focused on defining critical thinking, presenting the critical thinking framework suggested by Paul and Elder (refer to 1.6.2) as it is the one used in the test, the importance of critical thinking instruction, and its consequences on individuals and societies. Afterwards, the researcher provided an explanation of concepts such as assumptions, arguments and their evaluation, conclusions, and inferences. Additionally, a description and exemplification of the most common thinking fallacies were provided along with a hand-out and short videos to consolidate learners' understanding. Finally, the learners were introduced to an excerpt from a sample Socratic dialogue via hand-outs and were asked to analyse it in order to discern its characteristics. At last, the learners were provided with a hand-out that details the right types of questions to ask during a Socratic dialogue. By so doing, learners were encouraged to mimic the Socratic Method during discussions. One session (one hour and a half) was dedicated to this. It was intense, but the use of the data show and the hand-outs helped with time-management. All along the session, the learners were free to interrupt and ask questions (refer to appendix C).

After presenting learners with the necessary theory related to critical thinking, some direct practice was necessary to check their understanding. The ExG learners were therefore given a hand-out (refer to Appendix C) that includes a set of exercises and were asked to do them at home. The exercises were corrected during the three remaining hours of the week sessions. The first set of exercises contains five exercises with different instructions.

Exercise one: *In the following statements, reasons are given for some belief or practice. Explain whether the reasons are valid ones.*

This exercise contains nine statements and learners were asked to check the validity of the reasons/arguments provided. The objective of the exercise is to train learners to evaluate any reason/argument they are provided with before accepting it. By so doing, they learn not to take anything for granted, evaluate arguments, and avoid fallacies.

Exercise two: *For the following proposed definitions, find a counter-example. Identify whether it shows that the definition is too broad or too narrow.*

This exercise presents learners with six definitions that are all problematic in one way or another. Learners were asked to provide one counter-example for each to prove that the definition was either too broad or too narrow. This exercise teaches the ExG learners how important it is to define concepts before engaging in any discussion and to be accurate and precise in their definition to avoid misunderstandings.

Exercise three: *Write out the following arguments in standard form. You do not need to supply missing premises or change the words used unless it is necessary to retain the sense of a sentence, but you should omit indicator words.*

Six arguments were provided in this exercise and the ExG learners were asked to write them in standard form (premises + conclusion). The objective of this exercise is to help learners evaluate arguments especially when the latter are confusing by writing them in their standard form.

Exercise four: *Decide whether each of the following statements contains an argument. If it does not, write 'N/A'. If it does, identify its premises and conclusion by underlining the appropriate propositions and writing 'C' under the conclusion and 'P' under the premises.*

In this twenty-statement exercise, the learners were supposed to distinguish the argument from the non-argument and then identify the components of the arguments. Here again, the exercise focuses on the learners' ability to recognise arguments from non-arguments in texts/discussions and then to identify their components in order to evaluate them later.

Exercise five: *Decide which of the following are arguments, and which are explanations. Give reasons for your answers. Write the arguments out in standard form.*

This final exercise includes ten statements and the learners were asked to distinguish the arguments from the explanations, and then write the arguments in standard form. Similar to the previous exercise, this exercise targets learners' ability to identify arguments and their components in order to facilitate their evaluation afterwards.

The second set of exercises targets thinking fallacies and aims to help learners recognise them and identify their types. It includes only one exercise with twelve statements; the students were asked to analyse each statement and decide whether it was a fallacy or not, and in case it was, to identify its type.

After this theoretical course that initiated the ExG learners to critical thinking, a new phase of the experiment was launched: that of using language tasks to enhance learners' critical thinking.

7.2.2.2. Practical Course

In addition to the theoretical sessions, the course presented learners with opportunities to put into practice the newly acquired knowledge and skills. A wide variety of tasks was designed/redesigned to help learners become better critical thinkers.

7.2.2.2.1. Tasks

To develop learners' critical thinking, language tasks were used in both the listening and speaking sessions. The language tasks used were considerably similar to the activities habitually chosen by the first-year oral skill teachers at the ENSC except that the newly designed tasks target, in addition to learners' communicative competence and presentation skills, their critical thinking. The researcher made sure that the tasks obey the following characteristics: focus on meaning, purposeful use of the language, link with real-world activities, cognitive load, sense of completeness, presence of a gap, and an outcome through which the success of its completion is assessed. It is important to note that in oral tasks, getting the message through is the goal of the task (Bruton, 2005).

7.2.2.2.1.1. Listening Sessions

As in typical listening sessions, the students were presented with pre-listening, while-listening, and post-listening practice (Bao & Du, 2015; Bygate, 2016; Chou, 2017; Nunan, 2004; Rozati, 2014). This goes hand in hand with the three stages of critical thinking activities suggested by Gardner (2005) i.e., presenting the topic, reflecting on content, and discussion. In the pre-listening stage, the teacher's aim was to warm learners up and activate their schemata. Most of the time, the teacher referred to asking questions about the topic at hand to check learners' familiarity with it and presenting some vocabulary when needed. In the next stage (practice one and two), the learners watched/listened to a video/audio track, then answered some comprehension questions at first. The latter included wh/questions and yes/no questions. However, the researcher added other types of question (adopted with modification from Paul & Elder, 2018) and made sure to include them in every listening session. These questions came at the end of practice one and are:

- What is the question at issue?

- What is the purpose of the discussion?
- How many points of view are presented/discussed?
- What are the arguments in favour of/against …? Are these arguments strong or weak? Why?
- What are the counterarguments mentioned? Are they refuted? How?

Two other instructions were added to the questions:

- Extract some facts and opinions from the video.
- Extract some assumptions from the video/audio track. What are some of the assumptions you have/had about this topic?

The second practice presented learners with statements containing gaps, and it is the learners' task to find the missing words. However, the researcher deliberately hid words that presented concepts whose understanding is important for the understanding of the whole issue. Each time the learners found a word, they were asked to specify whether the word/concept was well defined by the speakers (not too broad, nor too narrow) and to write down the definition.

The third practice in the listening session is post-listening. It primarily aims to recycle the words freshly learned by the students by asking them to summarise the content of the video/audio track. Here again, the researcher made some modifications. She asked the learners some questions that would help them summarise while, at the same time, work on intellectual traits (also adopted with modification from Paul & Elder, 2018). The questions asked include:

- Were the arguments made clear? Were they well illustrated? (Clarity).
- Are the arguments accurate? Can we check their accuracy? (Accuracy).
- Were the speakers specific? Did they offer details? (Precision).

- Do the arguments relate to the problem? (Relevance).
- Are these the most important arguments? Is the problem itself important? (Significance).
- Does all this make sense? Is everything in the argument related? (Logicalness).
- Is another perspective possible? Do we need to consider other points of view? (Breadth).
- Is the issue at hand a real issue? Was the discussion deep or superficial? Why? (Depth).
- What are the attitudes of the presenters of the show towards the topic at hand? Do they seem to have any vested interest in it? Are they covering all viewpoints? (Fairness).

The researcher also asked the students for their own definitions of the words/concepts learned, and always concluded by asking the learners about their own opinions regarding the issue at hand and the arguments that support their views.

During the six weeks of the experiment, the researcher made sure to include these questions in every listening session. At first, the learners were reluctant and showed some hesitance to answer the new questions. With time, however, they felt more at ease and their participation became more spontaneous and regular.

7.2.2.2.1.2. Speaking Sessions

The speaking sessions typically last three hours per week; the three hours might be either successive or separate depending on the group's timetable. As in the listening session, the researcher purposefully avoided bringing up new types of practice. She rather adopted the activities customarily used by the first-year oral skill teachers and modified them to make them directed towards developing learners' critical thinking. The data obtained from the teachers' questionnaire show that the first-year oral skill teachers at the ENSC vary their activities to include controlled, semi-controlled, and creative activities, the most commonly-used activities being presentations, role-play, and debates/discussions. The rest of the activities (games/riddles, and problem-solving tasks) are only used occasionally (refer to 6.1.Q 6, 9). Consequently, the tasks used by the researcher were of the following types:

- **Presentations**

In a typical presentation, the student would gather data about the topic chosen, organise it, and then present it using the data show equipment available at the ENSC. The researcher could neither intervene in the learners' choice of topic, nor the way it was presented. Rather, she made sure to give the learners the time and space they needed. However, she also made sure that the presenter referred to some of the elements of reasoning as detailed in Paul and Elder's model (refer to 1.6.2.) by stating the topic, purpose, point of view, a definition of each of the concepts mentioned, the implications of each opinion, and inferences and assumptions whenever possible. This was achieved by presenting learners with a rubric for oral presentations (refer to appendix I), adopted with modification from Stroup (2017, November 9) to include some critical thinking aspects such as establishing the purpose, point of view, use of arguments to support one's opinions, depth, breadth, accuracy of data…. The rubric detailed the evaluation criteria used by the researcher and as such drew some guideline for learners as to what to include in the presentation. The aim of the researcher was to turn the presentations from a mere

description of the topic into a deep analysis of the data found. The presenters were also encouraged to make posters that summed up the whole presentation, including the questions asked and the extra explanation provided. Unfortunately, only one student prepared the poster (which was later stolen from the ENSC English Department's board!). By slightly modifying the presentation process, the researcher ensured a wider and deeper view of the topic. The aim was to push learners to abandon the superficial repetition of data and adopt a rather critical view by following the Paul-Elder model.

- **Role-play**

Role-plays are important in any speaking class because they allow learners to practice the language while working on their presentation skills. Controlled or creative, they push learners to face the public and focus on their acting skills instead of their English (Dendrinos, n.d). The researcher used two types of role-play in her class: controlled and creative. The controlled role-play consisted of very short scenes (lasting one minute at most) from movies that the learners had to act out. This type of role-play was not modified by the researcher. In the creative role-play, however, learners were asked to choose a topic, imagine characters and their dialogues, write them down, rehearse, and finally act them out in front of the whole class. Here again, the researcher did not intervene in the way the role-play was prepared and presented. However, she inserted a number of questions after the role-play to guarantee learners held a critical view while watching the play. Typical follow-up questions were:

- What is your most favourite/least favourite character in the play? Why?
- Do you like the ending? Why?
- If you could change anything in the play, what would that be?
- What is the moral of the play?

The aim of such questions is to transform learners from passive consumers into critical viewers. This would develop some of their intellectual traits such as autonomy, courage, and empathy (1.6.2.).

Another type of role-play was used once by the researcher. It was a combination of a murder mystery game and role-play (adopted with modification from Lavin, 2019). The students were presented with a scenario that involves a crime and asked to act it out, and then work together to discover the identity and motives of the murderer. This task combines role-play, game, and group discussion; it was greatly enjoyed by the students (refer to appendix J).

- **Discussions**

The three different types of dialogues/discussions i.e., spontaneous, exploratory, and focused (refer to 2.13.1.1.2.) were used by the researcher. Spontaneous discussions were used especially during and/or after students' presentations. The researcher noticed that when the topic was interesting to the learners, they engaged in spontaneous discussions with the presenter, the teacher, and each other. Exploratory discussions were most of the time prepared by the researcher beforehand; they either constituted a follow up activity to the listening session aiming to explore the topic in depth, or based on a topic chosen by the researcher for learners to discuss. Finally, the focused discussions were used mostly whenever there was a concept that needed further explanation.

In all three cases, the researcher proceeded following the Socratic Method that was already presented to learners during the theoretical course. At first, the learners tended to engage in discussions where each learner said what s/he has/wanted to say, without paying attention to what had been said before. Their participation in the discussion was more like a monologue in which they only answered the questions asked by the teacher. With time and practice, however, their discussions became more coherent where every learner picked up from where his/her

classmate left or simply reacted to what had been said. The teacher, in the meantime, made sure to insert the right questions and to orchestrate the discussion to push learners to elaborate on arguments, implications, assumptions, inferences, concepts… The questions typically asked by the teacher included:

- *Question to ensure clarity*
  - What do you mean by…?
  - Could you put that another way?
  - Is your basic point…..or ….?
  - Let me see if I understand you, do you mean ….. or ….?
  - What do you mean by this remark?
  - Is this what you meant?
  - Could you give me an example?
- *Questions to check for relevance*
  - How does this relate to our problem/discussion/issue?
- *Questions to dig for assumptions*
  - Why do you say/think that?
- *Questions to call for arguments*
  - Do you agree with your classmate? Why?
- *Questions to ask about implications*
  - What can you imply from this?
  - What are the consequences of this?

- *Questions to ensure depth*

- Are you/is your classmate dealing with the most significant factor?
- Did you/your classmate address the complexities in the question?

- *Questions to ensure breadth*

- Do we need to consider another point of view?
- Is there another way to look at this question?
- What would this look like from the point of view of…?

- *Questions to check for logic*

- Does this really make sense?
- Does that follow from what you said?
- Before you implied this and now you are saying that, can they both be true?

- *Questions to ensure fairness*

- Are we considering all relevant viewpoints in good faith?
- Are we more concerned about our vested interests than the common good?

- *Follow-up questions*

- Can you summarise in your own words what your classmate said?

After every discussion, the learners were informed that the discussion topics might be the topic they get during the speaking exam. Hence, they were encouraged to summarise its content using visual representations (webs, lists, graphs...). By so doing, the researcher ensured having an end-result that turned a simple discussion into a language task. One of the discussions was recorded then transcribed by the researcher (refer to appendix K).

- **Time Fillers**

Time fillers are tasks used by the researcher whenever there was time left during the speaking session. Most of the times, those tasks involved games, riddles, teasers, or just short questions that require critical thinking (refer to appendix L). Overall, the researcher used ten time-fillers; they were taken from Cohen (2015, pp. 68-75), Psychology Today's website (Danesl, 2015), The Best Schools website (Thompson, 2018), the Best School's website[6], and the Foundation for Critical Thinking website[7], and one was designed by the researcher.

The Picture Task

The first time-filler is a picture task, and it was divided into two parts. In the first part, the students were presented with pictures that represented common sayings. They were asked to find out what the saying was. In the second part, they were presented with a picture and asked to manipulate it in order to achieve a challenge. This type of tasks encouraged students to adopt a different perspective of the issue in an attempt to gain better understanding of it. It also encouraged them to look beyond the obvious and think outside the box.

Spot the Fallacy

In this time filler, students were presented with an argument that contains an error in thinking. The students were asked to identify the fallacy and explain it. The objective of this time filler is to practice evaluating arguments.

[6] https://thebestschools.org/magazine/15-logical-fallacies-know/

[7] www.criticalthinking.org

Riddle

In this time filler, students were presented with a small problem and were asked to solve it. The idea is to be as fast as possible while making sure that the thinking is logical. The students were encouraged to think aloud and share the information in order to speed things up.

Brain Teaser

The fourth filler time is a brainteaser that presents learners with a more complicated problem. They were supposed to think hard in order to find out the answer. This task calls for the use of mathematical thinking, combined with some creativity. Here again, the students were encouraged to negotiate meaning and engage in interaction in order to reach a solution.

Valid or Invalid?

In this fifth time filler, students were presented with arguments and asked to check their validity. No matter what their answer was, they were supposed to explain their choice.

Puzzles

This time filler gathered four puzzles that invited learners to think unconventionally in order to find out the answer. The three first puzzles were very short. The fourth puzzle was more demanding as it aimed to practice learners' evaluation of the data they had, whether they could recognise assumptions, make inferences, and draw logical conclusions.

Games

In this time filler, the students engaged in games. The researcher prepared many games that help develop learners' critical thinking, but only one was tried out (the 'where is the lie?' game). In this particular game, learners were asked to write down three facts about themselves, two of

which had to be true while the third one had to be a lie. Students, one by one, were invited to read their statements aloud. The rest of the students asked questions in order to discover which of the three statements was a lie. This task perfectly models the attitude the students should have towards any data they come across i.e., treat the data with scepticism and ask the right questions until truth is reached.

Word Benders

In this time filler, the students were presented with a number of mind-bending games that all involved words. Here again, the students were encouraged to think about the use of simple, everyday words in a deep, challenging way.

More Riddles

This time filler contained 27 riddles gathered from various online sources. The researcher read the riddles one by one, and each time, the students were given short time to find out the answer.

Fallacies

In this last time filler, the students were presented with definitions of fallacies and were asked to identify the fallacy in question. The objective was to familiarise them with thinking fallacies because, as the pre-test results showed, the latter represented the most problematic area for the students.

The ExG students were presented with these tasks during the remaining weeks of the experiment. The researcher made use of every available minute to insert critical thinking instruction and remind the students of the importance of adopting a critical view while performing any task. At first, the students showed some reluctance and hesitation. However, with time and the researcher's perseverance, they started to loosen up. Their questions and

involvement became more spontaneous and they started showing curiosity towards any view and/or concept mentioned.

After the experiment, the students were invited to take a post-test. The aim of the post-test was to see whether there was improvement in the critical thinking of the members of both groups after receiving the instruction. The control group took the test after receiving the usual, regular instruction and the experimental group took it after receiving the instruction aimed at developing learners' communicative competence and communication skills, on the one hand, and their critical thinking, on the other.

7.3. Post-test

After both groups received instruction from May 15th to June 20th 2019 (the CG in the previously established method and the ExG following the revisited course), they sat for the critical thinking post-test. The post-test took place on July 2nd 2019 after the experiment was undertaken. In form, it looked exactly like the pre-test: the learners received the same instruction and the questions targeted the exact same skills. The aim of the post-test was to determine whether there had been improvement in the learners' critical thinking after receiving the instruction.

7.3.1. Description of the Post-test Results

The post-test is made up of three sections. The results of both the CG and the ExG are presented in the section below.

7.3.1.1. Section One: Critical Thinking Skills

Section one of the post-test is similar to the first section of the pre-test. It is divided into five subsections and is scored out of 15.

Table 39

CG Section One Post-test Scores

	Student A	Student B	Student C	Student D	Student E	Student F	Student G	Student H	Student I	Student J	Student K	Student L	Student M	Student N	Student O	Student P
Making Inferences	01	02	00	00	01	01	00	01	02	00	02	01	01	02	01	02
Recognising Assumptions	01	01	03	03	02	02	03	01	00	02	03	00	01	03	01	02
Interpretations	00	01	02	02	01	00	01	01	03	00	03	00	01	03	02	02
Deduction	02	01	01	03	00	01	01	03	01	01	02	02	02	01	01	02
Evaluating Arguments	01	02	01	01	01	02	01	02	02	02	01	02	00	03	00	00
The Sum	05	07	07	09	05	06	06	08	08	05	11	05	05	12	05	08

Out of the 16 students who make up the CG, only six scored above the average. The group mean in section one is 7 and the SD is 2.22.

The scores of the ExG are displayed in Table 40.

Table 40

ExG Section One Post-test Scores

	Student 1	Student 2	Student 3	Student 4	Student 5	Student 6	Student 7	Student 8	Student 9	Student 10	Student 11	Student 12	Student 13	Student 14	Student 15	Student 16	Student 17	Student 18	Student 19	Student 20	Student 21	Student 22	Student 23	Student 24
Making Inferences	02	00	01	01	01	01	03	03	01	01	01	00	00	00	01	02	01	01	01	03	03	00	00	02
Recognising Assumptions	02	02	02	01	01	00	03	01	01	02	01	01	00	03	03	02	02	02	02	02	02	01	02	01
Interpretations	00	01	02	03	02	01	02	01	00	00	01	02	03	01	03	02	02	01	03	01	02	01	01	02
Deduction	02	01	01	02	02	03	03	02	03	03	03	03	02	00	01	03	03	03	01	02	02	02	02	03
Evaluating Arguments	01	02	02	02	03	01	02	03	01	03	01	03	02	01	02	01	01	02	02	02	02	01	01	02
The Sum	07	06	08	09	09	06	13	10	06	09	07	09	07	05	10	10	09	09	09	10	12	05	06	10

Table 40 shows the ExG section one scores. Out of the 24 students who make up the group, 15 got above the average. The ExG mean of the first section of the post-test is 8.37 and the SD is 2.10.

7.3.1.2. Section Two: Thinking Elements, Standards, and Traits

Section two of the post-test does not differ from section two of the pre-test. It is also divided into two parts and is scored out of 22. Table 41 shows the post-test section two scores of the CG.

Table 41

CG Section Two Post-test Scores

	Student A	Student B	Student C	Student D	Student E	Student F	Student G	Student H	Student I	Student J	Student K	Student L	Student M	Student N	Student O	Student P
Part One	08	7.5	5.5	2.5	03	4.5	3.25	08	7.5	4.75	8.75	5.5	7.5	6.75	02	04
Part Two	3.25	2.75	2.75	05	3.5	5.25	4.75	02	3.75	2.75	4.25	4.75	4.25	05	4.25	3.75
The Sum	11.25	9.75	8.25	7.5	6.5	9.75	08	10	11.25	7.5	13	10.25	11.75	11.75	6.25	7.75

As Table 41 shows, out of the 16 students who make up the group, only five got above the average. The CG mean for the second section of the post-test is 9.40 and the SD is 2.06. Table 42 displays the results obtained by the ExG.

Table 42

ExG Section Two Post-test Scores

	Student 1	Student 2	Student 3	Student 4	Student 5	Student 6	Student 7	Student 8	Student 9	Student 10	Student 11	Student 12	Student 13	Student 14	Student 15	Student 16	Student 17	Student 18	Student 19	Student 20	Student 21	Student 22	Student 23	Students 24
Part One	4.75	7.75	8.50	8.25	6.75	06	04	6.25	11.5	03	5.5	00	08	7.75	03	11.5	10.5	9.75	8.25	7	10.75	11.75	4.5	11
Part Two	5.5	6.75	2.75	4.5	5.75	4.75	3.75	06	3.25	5.75	4.25	7.25	04	4.75	3.75	3.75	6.5	3.25	3.75	4.5	07	05	6.5	6.75
The Sum	10.25	14.5	11.25	12.75	12.5	10.75	7.75	12.25	14.75	8.75	9.75	7.25	12	12.5	6.75	15.25	17	13	12	11	17.75	16.75	11	17.75

Table 42 shows that out of the 24 students who make up the group, 17 got above the average. The mean for the section two ExG post-test is 12.30 and the SD is 3.15.

7.3.1.3. Section Three: Thinking Fallacies

Section three deals with thinking fallacies and is scored out of 13. Table 43 displays the results obtained by the CG.

Table 43

CG Section Three Post-test Scores

	Student A	Student B	Student C	Student D	Student E	Student F	Student G	Student H	Student I	Student J	Student K	Student L	Student M	Student N	Student O	Student P
Thinking Fallacies	3.5	00	04	04	4.5	5.5	5.5	1.5	07	03	6.5	5.5	03	03	6.5	06

As Table 43 shows, out of the 16 students who make up the group, only 3 got above the average. The section three CG post-test mean is 4.31 and the SD is 1.93. Table 44 displays the results obtained by the ExG.

Table 44

ExG Section Three Post-test Scores

	Student 1	Student 2	Student 3	Student 4	Student 5	Student 6	Student 7	Student 8	Student 9	Student 10	Student 11	Student 12	Student 13	Student 14	Student 15	Student 16	Student 17	Student 18	Student 19	Student 20	Student 21	Student 22	Student 23	Student 24
Thinking Fallacies	9.5	02	02	5.5	3.5	5.5	4.5	07	4.5	06	7.5	05	5.5	02	04	02	4.5	01	03	2.5	9.5	05	7.5	10.5

Table 44 shows that out of the 24 students who make up the ExG, only 6 got above the average. The group has a mean of 4.97 and the SD is 2.59.

7.3.1.4. Overall Score of the Post-test

The total score of the post-test of the CG is displayed in Table 45. Out of the 16 students who make up the group, only three got above the average. The overall group mean is 20.71 and the SD is 4.04.

Table 45

CG Total Post-test Scores

	Student A	Student B	Student C	Student D	Student E	Student F	Student G	Student H	Student I	Student J	Student K	Student L	Student M	Student N	Student O	Student P
Section One	05	07	07	09	05	06	06	08	08	05	11	05	05	12	05	08
Section Two	11.25	9.75	8.25	7.5	6.5	9.75	08	10	11.25	7.5	13	10.25	11.75	11.75	6.25	7.75
Section Three	3.5	00	04	04	4.5	5.5	5.5	10.5	07	03	6.5	5.5	03	03	6.5	06
Total Score	19.75	16.75	19.25	20.5	16	21.25	19.5	19.5	26.25	15.5	30.5	20.75	19.75	26.75	17.75	21.75

The total score of the ExG is displayed in Table 46. The latter shows that out of the 24 students who make up the group, 11 got above the average. The mean of the total score of the ExG is 25.67 and the SD is 4.80.

Table 46

ExG Total Post-test Scores

	Student 1	Student 2	Student 3	Student 4	Student 5	Student 6	Student 7	Student 8	Student 9	Student 10	Student 11	Student 12	Student 13	Student 14	Student 15	Student 16	Student 17	Student 18	Student 19	Student 20	Student 21	Student 22	Student 23	Student 24
Section One	07	06	08	09	09	06	13	10	06	09	07	09	07	05	10	10	09	09	09	10	12	05	06	10
Section Two	10.25	14.5	11.25	12.75	12.5	10.75	7.75	12.25	14.75	8.75	9.75	7.25	12	12.5	6.75	15.25	17	13	12	11.5	17.75	16.75	11	17.75
Section Three	9.5	02	02	5.5	3.5	5.5	4.5	07	4.5	06	7.5	05	5.5	02	04	02	4.5	01	03	2.5	9.5	05	7.5	10.5
Total Score	26.75	22.5	21.25	27.25	25	22.25	25.25	29.25	25.25	23.75	24.25	21.25	24.5	19.5	20.75	27.25	30.5	23	24	24	39.25	26.75	24.5	38.25

Table 47

Normality Tests of the Post-test

Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
CGPostTest	,212	16	,053	,889	16	,054

a. Lilliefors Significance Correction

Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
ExpGPostTest	,205	24	,010	,827	24	,001

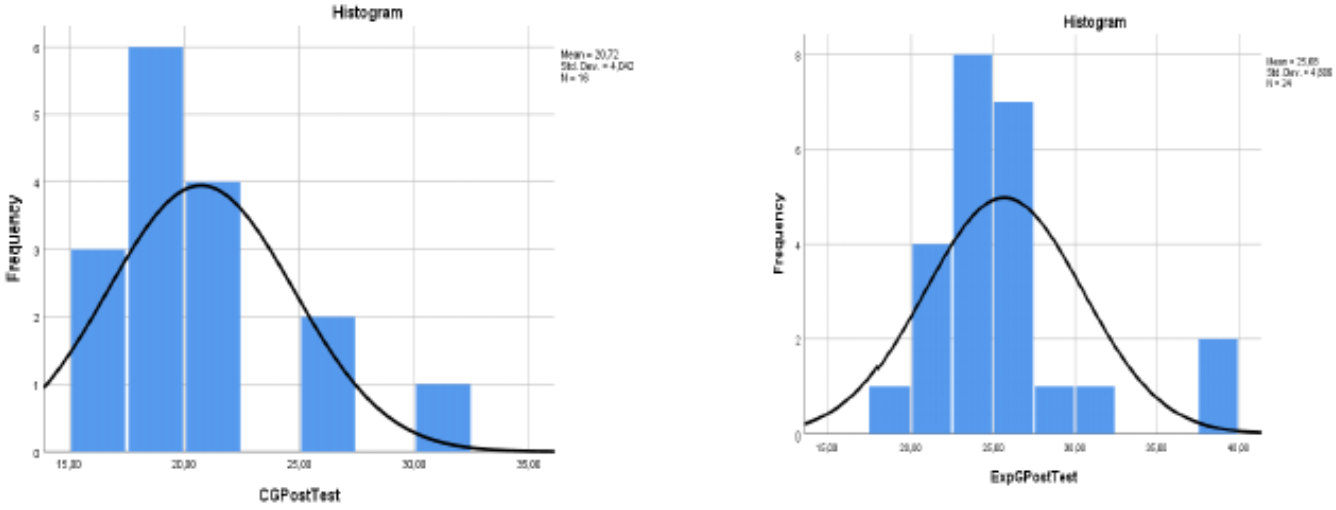
a. Lilliefors Significance Correction

The Shapiro-Wilk test was used to analyse the normality of the critical thinking post-test scores of both groups. As the Sig. value under the Shapiro-Wilk column for both groups is greater than 0.05 (0.053 for the CG and 0.010 for the ExG), we can conclude that the critical thinking post-test scores for both groups are normally distributed.

The same scores were also analysed to produce a histogram. From figure 14, we can conclude that the data, for both groups, appears to be normally distributed as the curves are somehow symmetrical.

Figure 14

Post-test Normal Distributions



7.3.2. Analysis of the Post-test Results

Table 48 shows the discrepancies between the pre and post-test results of the control group. The mean of the total score of the CG moved from 22.23 in the pre-test to 20.71 in the post-test and the SD from 4.12 to 4.04 respectively. In other words, the CG members' scores witnessed a decline after being taught the oral skill following the method-in-use adopted in the ENSC.

Table 48

Discrepancies between the Pre and Post-test Scores of the CG

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Control Group	22.2344	16	4.12257	1.03064
	CG Post-test	20.7188	16	4.04235	1.01059

The ExG, on the other hand, showed different results. Table 49 displays the discrepancies between the pre-test and post-test results of the ExG. The mean of the ExG moved from 20.73 to 25.67 and the SD remained somehow the same (4.82 in the pre-test and 4.80 in the post-test).

Table 49

Discrepancies between the Pre and Post-test Scores of the ExG

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Experimental Group	20.7396	24	4.82885	.98569
	ExpG Post-test	25.6771	24	4.80573	.98096

To establish that there was real improvement in the ExG learners' critical thinking test scores, a paired-samples t-test was used (Table 50).

Table 50

Paired Samples Test

Paired Samples Test

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference Lower	Upper			
Pair 1	Experimental Group - ExpG Post-test	-4.93750	3.71633	.75859	-6.50677	-3.36823	-6.509	23	,000

Table 50 shows that t (23) = -6.509, $p < 0.0005$. Due to the means of the scores of the critical thinking pre and post-test (Table 49) and the direction of the t-value, we can conclude that there was a statistically significant improvement in learners' critical thinking following the adapted English first year oral skill course at the ENSC from 20.73 ± 4.82 to 25.67 ± 4.80 ($p < 0.0005$); an improvement of 0.98 ± 0.98.

7.3.3. Interpretation of the Post-test Results

Six weeks separated the pre-test from the post-test. During those six weeks, the control group members were taught following the method-in-use in the ENSC. The students had four hours and a half per week. During the sessions, the control group learners were presented with a number of communicative activities that aim at developing their communicative competence and presentation skills. The experimental group, however, received different instruction. The activities customarily undertaken were turned into tasks and all the classroom details were modified to direct them towards developing learners' critical thinking in addition to their communicative competence and presentation skills. The results of the CG show a decline in the performance of the learners; their overall score plummeted to 20.71 after it was 22.23 in the pre-test. That goes against expectations as the researcher forecasted their results to level off at least. This could be explained by the fact that the post-test took place at the end of the school year; a time known by teachers to favour idleness among students. This being said, the drop in the post-test results of the CG certainly calls for further investigation.

The ExG results were satisfactory and encouraging. All students, with the exception of student 22, showed improvement in their critical thinking overall test results. As far as section one of the test is concerned, the students mean moved from 7.87 to 8.37. As for the second section, the mean moved from 10.59 to 12.30. Even section three, in which learners scored the least, moved from a mean of 2.60 to 4.97. The improvement varied from one student to another;

some showed slight improvement (student 10) while others' improvement was drastic. This could be explained by the differences in learners' profile and cognitive abilities.

Because the success of any experiment depends on whether the change in the dependent variable is based solely on the manipulation of the independent variable, after the post-test, the researcher resorted to comparing the scores of the post-test of the control group and the experimental group. The aim was to check whether there was a difference in scores between the control and experimental groups.

Table 51

Difference between the CG and the ExG Posttest Scores

Group Statistics

	Grouping	N	Mean	Std. Deviation	Std. Error Mean
Posttest	2.00	24	25.6771	4.80573	.98096
	1.00	16	20.7188	4.04235	1.01059

Table 52

Independent Samples Test

		t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
							Lower	Upper
Post-test	Equal variances assumed	3.399	38	.002	4.95833	1.45877	2.00521	7.91145

Tables 52 and 53 show that the experimental group (first year group two ENSC English students) had statistically significantly higher critical thinking (mean = 25.67 ± 4.80) at the end of the experiment compared to the control group (first year group four ENSC English students)

(mean = 20.71 ± 4.04). Since the t-value equals 3.39, and the p-value equals 0.002 (less than 0.025), we have significant statistical evidence to reject the null hypothesis in favour of the alternative hypothesis, i.e., there is a difference in critical thinking between the control group and the experimental group after the treatment.

7.4. Summary of the Findings

The control group did not receive any instruction directed towards developing learners' critical thinking. The researcher rather followed the traditional method of teaching the oral skill customarily adopted in the ENSC. The mean of the pre-test in the case of the control group reached 22.23. Then, during the post-test, it dropped to 20.71. If we observe the standard deviations, the value is 4.12 and 4.04 for the pre-test and post-test respectively. This means that there is no variance observed between the scores of the students. In addition, the value of the average of pre-test is moderately higher than the value of the average of the post-test; that means that in the absence of instruction targeting learners' critical thinking, there is no improvement in the students' scores.

The experimental group had an additional objective added to that of developing learners' communicative competence and presentation skills, that of improving learners' critical thinking. That was achieved through adapting the English first-year oral skill course and trying it with the group. The treatment was preceded by a critical thinking pre-test and followed by a critical thinking post-test. The students' critical thinking scores' mean moved from 20.73 in the pre-test to 25.67 in the post-test. If we observe the standard deviations, the value is 4.82 and 4.80 for the pre-test and post-test respectively. Consequently, we conclude that there was a statistically significant improvement in learners' critical thinking from 20.73 ± 4.82 to 25.67 ± 4.80 ($p < 0.0005$); it is an improvement of 0.98 ± 0.98.

These findings answer most of the research questions. The improvement in the critical thinking post-test scores of the ExG proves that critical thinking *can* be taught, and that one of the ways to teach it is *using language tasks*. As to whether it can be included in the first-year oral skill course, the answer is *yes.* The researcher managed to do that without affecting the objectives and content of the course or the materials and media typically used in it (which answers the main question of the present research: Can a critical thinking task-based course be integrated in the OE course without altering course objectives, and content?). Finally, we can conclude that the instruction given by the researcher to the ExG members had an impact on their critical thinking. In other words, the incorporation of critical thinking instruction helps develop first year English ENSC learners' critical thinking.

Conclusion

This chapter represents the gist of the present research. It describes in details the steps followed by the researcher to check the main hypothesis i.e., whether the use of language tasks in the first year ENSC English oral skill course enhances learners' critical thinking. The researcher proceeded by establishing the learners' cognitive profile by means of a critical thinking pre-test whose results were described, analysed, and interpreted. Then, a detailed description of the treatment undertaken with both control and experimental groups was provided. Finally, a critical thinking post-test was used to establish the learners' exit cognitive profile. Data gathered from SPSS were adduced to check for and explain the differences in scores between the control group and the experimental group. The data obtained using SPSS confirmed three findings/hypotheses. First, the control group and the experimental group, before the treatment, stood on the same ground in the sense that they had approximately the same entering cognitive profile. Second, after taking the regular oral skill first year course at the ENSC, the control group not only witnessed no improvement in critical thinking, but also deteriorated. A thing that could not be explained by the researcher and was then left for further

investigation. The experimental group, however, witnessed improvement in their critical thinking after the treatment. Thirdly, there was significant statistical evidence that there is a difference between the control group and the experimental group critical thinking post-test scores. This confirms that the incorporation of language tasks in the oral skill course for first year ENSC English students does improve their critical thinking.

CHAPTER EIGHT: PEDAGOGICAL IMPLICATIONS

Chapter Eight: Pedagogical Implications

Chapter Eight: Pedagogical Implications

Introduction

The previous chapter reported the research results; the present chapter aims to draw conclusions from what has been presented and discussed and highlights the significance of these findings. It opens with the pedagogical implications of the study for learners, teachers, oral skill teachers, evaluators, university pedagogical authorities, material developers, and decision makers. It then outlines a framework for the incorporation of critical thinking in instruction at university. Finally, the chapter closes with the research limitations that could form the departure point for further research.

8.1. Research Implications

Before getting into the nuts and bolts of how to incorporate critical thinking in instruction, some recommendations seem necessary. The findings of the study presented in the previous chapter have implications for the following people.

8.1.1 Implications for Learners

Most learners are unaware of critical thinking concepts and the importance of thinking critically in today's world. For many of them, studying involves coming to school/university, taking notes of what the teachers say, and then reproducing that during exams with the sole purpose of getting good marks. This mind-set needs to change as mere factual knowledge does not guarantee the development of critical thinking and problem solving, skills that are eminently desirable in any job, be it teaching or other. Consequently, learners need to avoid errors such as personalising issues, falling victim to emotional bias, failing to recognise and/or use valid arguments, basing beliefs on emotions, assuming the evidence they have is the best, adopting false definitions that are either too broad or too narrow, asking bad questions etc. All of which

are considered errors in thinking. They need to recognise thinking fallacies in their thinking and the thinking of others. If these practices and principles were not followed, in years gone by, generations would be, more than ever before, passive consumers of whatever the internet and TV bring to them.

8.1.2. Implications for Teachers

Critical thinking is a complex skill that needs to be developed consciously. In order to ensure critical thinking instruction, teachers need to not only infuse it in their teaching, but also model it and demand it of the students. Inside the classroom, the teacher is encouraged to take the role of a "critical thinking coach": checking for faulty assumptions, evaluating arguments, following implications, detecting fallacies…all while encouraging critical thinking traits such as humility, autonomy, open-mindedness and empathy. The question is how can such modifications be made without adding to the already existing burdensome tasks of the teacher?

Simply put, teaching is a decision-making process that involves making decisions on what to teach, how to teach it, and when and where. Some of those decisions are made prior to entering the classroom, others are made on the spot, yet others are made after giving instruction. If teachers make small modifications to those decisions, the impact on learners' achievement can be immense.

In the first stage of the teaching process lie prior decisions. They involve deciding on the objectives, the materials, the media, the activities… Here for instance, the teacher has to set objectives and choose activities and tasks that aim at developing learners' critical thinking. As has been shown in the present research, this does not necessarily mean reforming and redesigning lessons; it could be done through changing minor practices; it necessitates small steps from the part of the teacher that would lead to giant leaps from the parts of the learners.

On-the-spot decisions reflect the interactive aspect of the teaching process. It is common knowledge that teachers modify their lesson plans according to what happens inside the classroom. That is necessary if the teacher wants to keep up with the unpredictable learners and their needs. Such adaptations can be made whenever the teacher spots an opportunity for a discussion for instance; discussions, especially if conducted according to Socratic norms, provide great opportunities for learners to examine their individual beliefs and assumptions, foster intellectual traits, and promote active learning. Another adaptation could be stopping at every claim made or argument raised to evaluate and check the validity and reliability of the source. Such practices will have a tremendous impact on learners' critical thinking.

At last, there are subsequent decisions that teachers make after they leave the classroom. They represent a self-evaluation stage in which teachers reflect on their practices with the sole aim of making them better. In a critical-thinking-geared classroom, that involves reflecting on one's attitudes and behaviours whilst teaching to ensure that the latter provide a good example for learners to follow. Subsequent decisions can also be made regarding the content and activities undertaken.

The overall aim of all these decisions is making the classroom a thinking pot where every learner is sure to have a voice. To achieve this aim, teachers must design courses/lessons with the explicit objective of addressing critical thinking. They should also make every effort to render classes discussion-based. Following are some strategies that teachers might adopt to help students use critical thinking concepts in learning and it their lives.

- ✓ Asking for definitions for every key concept before engaging in any conversation.
- ✓ Always asking open-ended questions that prone thinking.
- ✓ Looking for examples and arguments to support views.

- ✓ Presenting/asking for counter examples and/or counterarguments to push learners to reconsider their own views.
    - ✓ Training learners to avoid personalising reasons.
- ✓ Training learners to take their time before making any decision or adopting any point of view.
    - ✓ Training learners to abstain from agreeing or disagreeing with an issue until the whole view has been explained and defended.
    - ✓ Training learners to take nothing for granted and be prepared to check the validity and reliability of information/source each time.
    - ✓ Using the elements of reasoning and intellectual standards to create critical thinking lessons.
    - ✓ Designing instruction that fosters explicit critical thinking.
    - ✓ Providing students with intellectual tools they need to engage in fair-minded critical reasoning.
    - ✓ Designing and conducting Socratic discussions using the concepts of critical thinking.

8.1.3. Implications for Oral Skill Teachers

Teaching the oral skill at university level is not just playing a tape and then engaging learners in speaking activities. The oral skill course provides an opportunity for teachers to infuse critical thinking instruction. The intensity of the course and its versatility coupled with the freedom teachers relish while choosing content make it perfect for critical thinking instruction. What is desired of the oral skill teachers is for them to make changes to their lessons using the concepts and principles of critical thinking and adapt the objectives of the course to make them more geared towards developing learners' critical thinking in addition to their communicative

competence. The teacher might make minor modifications in its two components (listening and speaking) that will lead to big changes in the learners' critical thinking.

8.1.3.1. In the Listening Session

During listening sessions, the teacher might target critical thinking by always asking learners to:

- identify the speaker's purpose,
- identify the question-at-issue or problem being discussed,
- identify basic concepts and provide their definitions,
- identify the point of view of the speaker,
- extract the implications of this view,
- identify, and evaluate the assumptions underlying this position,
- identify the evidence, arguments, and inferences,
- assess the credibility of the speaker,
- reason within the point of view of the speaker.

8.1.3.2. In the Speaking Session

Teachers should create situations to engage learners in conversations related to interesting or current issues and allow them to speak up their mind. Further, practice of finding arguments as well as counterarguments will help to develop learners' open-mindedness, empathy, curiosity, truth seeking, and tolerance.

During the speaking sessions, the teacher might ask learners to:

- explain the problem they are addressing,
- identify and explain their points of view and their implications,
- establish their assumptions about the issue,
- present arguments to support their views,

- keep an open mind to alternative positions and opposing points of view,
- evaluate evidence and key assumptions on both sides.

8.1.3.3. Implications for Evaluation

Because many learners only study for the exam, including critical thinking in evaluation will have a positive impact on learners' engagement. While designing tests and exams, instead of targeting rote memorisation, teachers should make sure their tests/exams test students' ability to distinguish between faulty and justified inferences, to make good inferences in their own reasoning, to recognise the material's purpose and the problem at issue, to identify the different points of view available, to discriminate between facts and opinions, to distinguish the good arguments from the bad ones, to identify key concepts and provide their definitions….. Adding such questions to tests/exams will encourage learners to practice them regularly and might turn them into habitual practices eventually.

8.1.2. Implications for University Pedagogical Authorities

A course that introduces a conception of critical thinking at tertiary level is necessary. However, the researcher is well aware of the fact that it is not an easy task to add yet another module to the set of modules already established in each academic level at university. The alternative would be to infuse critical thinking instruction in as many courses as possible. In order to do that however, teachers should be trained. University pedagogical authorities can organise training that aims at fostering understanding of how to teach critical thinking skills to students through any subject or discipline, and at any level of instruction. This could be done after teachers have been recruited. All new teacher-recruits from the east region of Algeria, for instance, come to the ENSC to get training (known as Formation des enseignants nouvellement recrutés); a module that introduces critical thinking concepts and trains teachers to infuse them in their instruction is feasible and manageable at that time.

Another way of ensuring critical thinking incorporation is making it a compulsory examination component. If the university pedagogical authorities incorporate critical thinking in the examination system, this will guarantee its infusion in courses by teachers and would push learners to pay more attention to it.

Teacher collaboration at tertiary level is another area on which university pedagogical authorities could improve. The synergy between teachers opens doors for exchanging knowledge and expertise, and invites parties to discuss and debate prominent practices in the field. University pedagogical authorities should not only encourage collaboration between teachers but also demand it from them. That would ensure matching objectives and aligning content so that all learners are sure to have approximately the same academic background.

Many other ways exist to make critical thinking a priority; one of them is establishing clubs and societies at universities. In the ENSC, for example, clubs such as the reading club in the English department or the 'reviving of sciences' club in the science department are appreciated by students. To these clubs can be added a debate club, where students, under the guidance of a teacher, engage in debates about contemporary and/or important issues that would help them better understand the world around them and develop their critical thinking skills.

Finally, Algerian university teachers have been debating the establishment of an entrance test for years. Such tests would secure a certain level of aptitude from learners. In the ENSC, such an entrance test has always existed; it requires English candidates, for example, to speak in front of a jury made up of ENSC teachers and to show that they are confident and competent speakers of English. If a critical thinking component were added to that test, it would guarantee a basic level of sound reasoning from the part of the candidates. This could be achieved through asking questions that call for defining concepts, evaluating arguments, making inferences, drawing conclusions, identifying fallacies…

8.1.3. Implications for Material Designers

Critical thinking is an active process in which the mind engages in making inferences, drawing conclusions, and evaluating arguments... Material designers need to diversify the materials used in order to ensure variety of content and perspectives. Getting information from multiple, perhaps diverging or contradictory, sources such as the radio/TV, newspapers/journals, and websites helps learners be up-to-date and teaches them that there are always two sides to every story. It also helps them evaluate arguments and check their source before taking sides. This would protect them from blindly following others' opinions, thus making learners 'smart consumers' of the information they get from their environment, be it their teachers, parents, siblings, books and articles, TV, or the internet.

8.1.4. Implications for Decision Makers

Decision makers should take some measures to improve the teaching and learning standards at Algerian universities. They have to incorporate critical thinking instruction in curricula and make critical thinking an important element of educational outcomes. When it comes to critical thinking instruction, too often, teachers fail to recognise the primacy of modelling over lecturing for example. That is the opposite of what a critical thinking geared classroom should look like. Professional development could bridge that gap. Professional development is a long-term process that offers opportunities for improvement. The teachers who benefit from it exhibit characteristics of collaboration, and collegiality. For that reason, decision makers should provide pre-service and in-service training opportunities to all teachers in order to improve teaching standards. This could be achieved through creating career-development services, and work-skills courses at universities, or via organising conferences, workshops, study days, and seminars/webinars.

Another priority for decision makers is creating links between employers and universities. This involves a whole process of identifying the key skills needed by employers, and reviewing curricula in order to meet the targeted needs and ensure better education. As most employers nowadays require at least a basic level of critical thinking skills, incorporating them in curricula will only increase graduates' employability.

Moreover, decision-makers need to improve access to high-quality teaching resources at universities as this would facilitate the teachers' job. Having better equipment and fewer learners per group facilitates the adoption of classroom practices, which hone critical thinking.

Most importantly, decision-makers need to raise learners' awareness of the importance of identifying and developing critical thinking skills as a key component of their employability. The earlier learners develop sensitivity to critical thinking, the more likely they will develop intellectual traits and habits that would serve them in their work life later.

8.2. Putting it together

Despite it being an indispensable subject in higher education, critical thinking has received little or no attention from designers, and decision makers. The answer to that conundrum lies in teachers. If teachers are made aware of the importance of critical thinking in today's world, and are provided with the necessary training to infuse it in their courses, then we could make classrooms critical-thinking-based. In the ENSC, as the analysis of the teachers' questionnaire has shown, the oral skill English teachers are perfectly aware of the importance of critical thinking; their perception of critical thinking reflects good understanding of this concept. The question is, then, how to go from this positive attitude to incorporating critical thinking in their classes. This section then briefly outlines a theoretical framework for the integration of critical thinking in the first-year oral skill course at the ENSC, sets some aims and objectives, suggests some tasks, and identifies some techniques which can facilitate its implementation.

8.3. Pedagogical Assumptions

The best way to teach learners how to think critically is to actually have an independent compulsory critical thinking course in universities across the country. Philosophy or psychology teachers might be solicited to teach such a course, or even teachers from different disciplines who received the necessary training. This, the researcher is aware, calls for huge resources and tremendous planning. The alternative would be to infuse critical thinking instruction in as many courses as possible. In the English department at the ENSC, the teachers of modules such as listening, speaking, reading, and writing might easily add critical thinking to their teaching, especially that the such modules require several hours of learning per week. The 'content modules' teachers might modify their classroom practices to involve less lecturing and more debating. Making classrooms more learning-centred and changing roles inside the classroom will ensure more engagement, motivation, and commitment from the part of the learners. This being said, the first-year oral skill course is the most fitting option; it relishes a considerable hourly volume and its objectives are flexible.

8.4. Aims and Objectives

While designing their lessons, teachers should add some critical thinking components to their objectives. Such objectives can be set either for independent lessons that directly target critical thinking skills, or as part of an already existing objective. Examples of such objectives include:

- ✓ By the end of the lesson, learners will provide examples of different types of reasoning skills (inductive, deductive, syllogisms, linear orderings, probability, and if, then statements).
- ✓ By the end of the lesson, learners will use analysis to solve such or such a problem i.e., they will analyse the argument, evidence, and language.
- ✓ By the end of the lesson, learners will be able to evaluate X's attitude towards….
- ✓ By the end of the lesson, learners will be able to evaluate the arguments presented by...

- ✓ By the end of the lesson, learners will be able to explain the definitions or define the concepts…
- ✓ By the end of the lesson, learners will be able to find out the fallacies in …. and explain them.

8.5. Expected Learning Outcomes

If teachers adopt some of the aforementioned objectives in their lessons, the outcome would be the cultivation of critical thinking skills and the development of learners' intellectual traits. Humility, autonomy, fair-mindedness, courage, perseverance, empathy, integrity, confidence in reasoning, tolerance, curiosity, and truth-seeking are all traits that will result as teachers move from ordinary classrooms to critical-thinking-geared classrooms.

8.6. Content of the Syllabus

In its best form, the critical thinking syllabus should contain a theoretical segment that presents learners with the concepts and principles of critical thinking such as types of reasoning, arguments and their components, assumptions, inferences, implications, defining concepts, evaluating arguments, etc. After students have been made aware of these concepts and principles, the next step is to engage them in communicative, reflective, and analytical tasks which stimulate critical thinking. The tasks used in the present research can be used for such an end.

8.7. Assessment

One way to establish critical thinking at universities is including it in assessment. While assessing learners, teachers should go beyond the lower order thinking skills and target skills such as analysing, synthesising, and evaluating. Test instructions should be formulated in a way that pushes learners to consider the assumptions underlying a position, look for inferences, and evaluate arguments. Mere reproduction of learnt-by-heart facts should not be targeted unless pure factual knowledge is tested.

8.8. Possible Hindrances

Change is hard; it requires effort, resilience, and planning. What makes it even harder is the fact that people get used to the status quo and enjoy the comfort that it provides. For that reason, incorporating critical thinking in instruction is expected to face resistance: from learners, teachers, university pedagogical authorities, and decision makers. Learners might only see it as yet another module to be added to the piles of modules they have to pass in order to graduate. University teachers in Algeria, who already function as needs analysts, syllabus designers, material designers, examiners, lecturers, and supervisors, will see added to their tasks that of understanding critical thinking and then teaching it to their learners. University pedagogical authorities who already complain about time constraints and space and resources management will be confronted to yet another module in addition to coordinating with other teachers/departments to bridge the gap of the dearth of critical thinking teachers. Finally, decision makers will face the challenge of providing the necessary training for teachers and the dilemma of whether to produce learners capable of thinking for themselves and questioning the established norms in society.

Conclusion

The important element to bear in mind is that critical thinking cannot be developed overnight; it is a process and, as such, there are many steps to be taken. Because teaching routines can easily lead to frustration, careful planning is required. Many parties need to take part in this planning in order to provide a quality learning experience including learners, teachers, university pedagogical authorities, materials developers, and decision makers. Equipped with this careful plan, teachers still need to understand that there is not one “right” way to develop and promote critical thinking; the best strategy would be to adopt a flipped classroom model where learners receive course content beforehand (via the many platforms available online for instance) and the class becomes the place to work through problems,

identify assumptions, inferences, and implications, define concepts, evaluate arguments, and exchange ideas. The second-best strategy is the “trial and error” approach. Ultimately, each teaching and learning context provides the teacher with some food for thought s/he will need to process by applying his/her own critical thinking when making changes in lesson plans.

GENERAL CONCLUSION

General Conclusion

The current research attempts to find out whether the use of language tasks during the oral skill classes with first year English students at the ENSC enhances their critical thinking. The researcher's interest in this research field stems from her fervent belief in the importance of critical thinking in today's world. With the technological development the world has known, information is available at the click of a mouse. Good as this might seem, it has become a source of danger to the youth. If one is unable to separate the wheat from the chaff, and to evaluate the information and arguments heading towards them, then the availability of information might turn into a curse. One of the solutions to this problem, maybe *the* only solution, lies in the incorporation of critical thinking in curricula. Critical thinking is of paramount importance nowadays because it relates to how we make decisions, use our judgment, and subsequently take action. This research work then suggests the infusion of critical thinking instruction in the first-year English oral skill course at the ENSC. The method opted for is task-based as tasks, with all their types, contain a cognitive potential that can be used to good advantage. In order to answer the research questions and check the validity of the hypotheses, the researcher settled on undertaking a quasi-experimental design. The perspective was to adapt the already existing oral skill course by slighting modifying it to make it target critical thinking in addition to communicative competence and presentation skills. The minor and slight modifications were purposeful in order to make sure ENSC oral skill teachers and learners would not be repelled by the new adapted course. Therefore, a teachers' questionnaire was administered to the ENSC first year oral skill teachers in order to unveil their classroom practices i.e., their objectives, content, material and media used, the types of activities undertaken and the amount of time dedicated to each practice… Another aim of the teachers' questionnaire is to find out teachers' perception of critical thinking and their attitudes towards its incorporation in the oral skill classes.

The findings yielded by the teachers' questionnaire show that teachers dedicate some classroom time to the teaching of theoretical aspects and spend the rest of the time doing controlled, semi-controlled, and creative activities, with presentations, role-play, listening comprehension activities, and debates being the most commonly used activities, in addition to games and problem-solving tasks. The findings also show that the teachers highly value the teaching of critical thinking and are fully aware of its importance in today's world. Consequently, though they highlighted some obstacles related to the incorporation of critical thinking in the oral skill course, they suggested recommendations to overcome such obstacles. In other words, the questionnaire helped answer the following research questions:

- ✓ How do OE teachers perceive critical thinking?
- ✓ What is their stance towards incorporating critical thinking in the OE course?
- ✓ What are the challenges of infusing critical thinking in university education?

The questionnaire also helped check the validity of one of the research hypotheses (If teachers had a positive attitude towards critical thinking, they would be willing/disposed to incorporate it in their lessons). After this preliminary phase, which served as a pedestal for the experiment, the researcher proceeded with the adaptation of the oral skill course.

The plan was to avoid a complete 'make-over- of the course in order to avoid resistance to it from learners, fellow teachers, and university pedagogical authorities. Hence, the researcher referred to the pedagogical knowledge and expertise she got during her post-graduate studies and years of teaching experience in addition to the understanding of critical thinking instruction accumulated from the many conferences/seminars she attended to slightly-tune the already existing oral skill course and make it task-based and directed towards developing learners'

critical thinking. This being achieved, the researcher moved to designing a critical thinking test in two versions (a pre-test version and a post-test version). The aim of the critical thinking test is to measure learners' critical thinking prior to receiving critical thinking instruction and following it. The designed critical thinking test reflects the researcher's understanding of critical thinking based on skills, traits, and avoidance of fallacies. The sample of the study was divided into a control group and an experimental one. Both sat for the critical thinking pre-test during the first week of the experiment. Then, they both received instruction for six weeks (the control group following the already-established ENSC first year oral skill course and the experimental one following the adapted course). After the six-week instruction, both groups sat for a critical thinking post-test to measure their improvement.

Before the treatment began, the pre and post-test results show that the experimental group and the control group stood on similar grounds i.e., a mean of 22.23 ± 4.12 of the control group and a mean of 20.73 ± 4.82 of the experimental group with a t-value equal to 1.015 and $p = 0.317$. In other words, there is statistical evidence that shows that there is no difference between the scores of the pre-test of the control group and the experimental one. Moreover, after taking the regular oral skill first year course at the ENSC, the control group's critical thinking did not improve, but deteriorated. The experimental group, however, witnessed improvement in their critical thinking after the treatment. Additionally, there was significant statistical evidence that there is a difference between the control group and the experimental group critical thinking post-test scores. This confirms that the incorporation of language tasks in the oral skill course for first year ENSC English students does improve their critical thinking.

The quasi-experimental design adopted in this research study helped answer the following questions:

- ✓ Can critical thinking be taught?
- ✓ How can it be taught?
- ✓ Can it be included in the oral skill course?
- ✓ Is the outcome of critical thinking observable and hence measurable using a formal test?
- ✓ Can a critical thinking task-based course be integrated in the oral skill course without altering course objectives and content?
- ✓ What are the challenges of infusing critical thinking in tertiary education?
- ✓ How good is learners' critical thinking?
- ✓ To what extent does the incorporation of critical thinking instruction help develop first year English ENSC learners' critical thinking?

The findings proved that critical thinking *can* actually be taught, and that one of the ways to teach it is mixing explicit instruction (the teaching of critical thinking concepts and their application) with language tasks that aim at developing learners' communicative competence and communication skills, on the one hand, and their critical thinking, on the other hand. The experiment also revealed that such a modification in the oral skill course does not affect its objectives, content, and assessment. Additionally, the experiment demarcated some of the challenges related to critical thinking instruction such as time constraints, teachers' lack of critical thinking grasp, and learners' habituation with the passive all-accepting role attributed to them. Finally, the test helped establish the entry and the exit of the learners' critical thinking profile, and by so doing, proved that the treatment *did* improve the experimental group's critical thinking. This was achieved by the application of the 'Law of Single Variable' (Singh, 2006) which proved the effectiveness of the adapted first year oral skill English course at the ENSC.

The results also proved that if first year oral skill teachers at the ENSC infused critical thinking in their regular lessons, they would achieve their objective of developing learners' communicative competence and communication skills in addition to their critical thinking.

Furthermore, it proved that if first-year English ENSC learners received systematic, purposeful critical thinking instruction via a task-based oral skill course, their critical thinking skills and traits would improve and their thinking errors would considerably abate.

As with the majority of studies, the design of the current study is subject to limitations that could be addressed in future research. The first is the duration of the experiment. The experiment lasted for eight weeks only. Though this was forced upon the researcher due to exceptional circumstances, future extended experimentation would yield better results and shed light on possible strengths and weaknesses that were overlooked because of time constraints.

The second limitation concerns the fact that the experiment was held in the ENSC, a renowned institution, reopened in 1999 (Hamada, 2007), that receives some of the best baccalaureate holders in the country (averages between 14.94 and 15.68 for Bac+4 and between 15.65 and 16.55 for Bac+5 according to the official document released in 2020)[18]. This might have been an influential factor in the final findings of this research. In addition to that, some of the problems universities across the country suffer from and which have a bearing on learners' outcomes are related to crowdedness of classrooms. Fortunately, when the researcher undertook the experiment, such problems were insubstantial in the ENSC. For example, there were only four first year English groups with a maximum of 30 students per group, which eased many classroom practices. Furthermore, the English department moved its premises to a new site located in Nouvelle Ville -Ali Mendjeli- in 2015; consequently, students have the chance to benefit from new equipment such as data shows and language laboratories, which make it easy for learners and teachers to have proper listening and speaking classes.

Another limitation is the administration of the critical thinking test in English. This means that respondents are required to devote a substantial amount of their thinking on the

[8] https://drive.google.com/file/d/1yw8FDvqBnn_irZx9wI6g4q3mBll7cbCt/view

comprehension of questions. It would be a good idea to provide translated versions of the test: one in Arabic and one in French to widen the scope of its use.

Critical thinking figures among the 21st century skills and has become an indispensable skill in any profession. Its importance goes beyond its benefits in one's education. Critical thinking serves so many aims. It increases learners' chances of gaining knowledge, fosters their autonomy by protecting them from ill doing and ill believing and allows them cultivating their emotions, values, and personal relationships. This research has focused on the design, and implementation of a task-based critical-thinking-geared first year oral skill English course. It also provided a framework for the design of a test to measure learners' critical thinking at university level (based on the assumption that critical thinking is observable and hence measurable) through assessing reasoning skills, mind-set attributes and thinking fallacies. The study closes with some recommendations addressed to learners, teachers, university pedagogical authorities, material designers, and decision-makers and a possible framework to adopt while designing or *re*designing courses and curricula to make them target critical thinking.

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APPENDICES

Appendix A

Teachers' Questionnaire

This questionnaire is part of a research study. It is used to gather data about oral skill teachers. Please, answer the following questions accurately and sincerely. All your responses will be strictly confidential and anonymous.

Thank you for your time.

Section One: Background Information

1. What is your gender?

a. Male b. Female

2. What is the highest level of formal education that you have completed?

a. Bachelor's Degree b. Master's Degree c. Doctoral Degree d. Professor

3. How long have you been teaching the oral skill? ..... years

4. Was the teaching of the oral skill part of your academic training?

a. Yes b. No

In case your answer to the previous question is 'yes', please explain how.

……

……

……

Section two: Teaching Practices

5. How often do you teach communication strategies and discussion skills in your class?

a. Never b. Rarely c. Sometimes d. Often e. Always

6. Do you vary your activities as controlled, semi-controlled, and creative?

a. Yes b. No

7. Do you encourage interaction between your learners?

a. Yes b. No

8. In case your answer to the previous question is yes, how do you encourage interaction amongst learners?

a. By providing them with a reason to speak (information gap, opinion gap activities…)

b. By changing seating arrangements so that learners are not always talking to the same partner.

c. By teaching communication strategies such as turn taking, follow up phrases, allowing thinking time…

9. What percentage of the oral skill time is typically spent on each of the following activities? (Please note that the sum should equal 100%).

a. Presentations ……. %

b. Discussions/Debates ……. %

c. Role-play …….%

d. Listening comprehension activities ……. %

e. Games/Riddles ……. %

f. Problem solving tasks ……. %

g. Other activities (please specify both the activity and the percentage)

……
…..

10. In your institution, do oral skill teachers coordinate with each other?

a. Yes b. No

In case your answer is **yes**, please answer questions **11**, **12**, and **13**. Otherwise, please skip to question **14**.

11. During coordination meetings, how often do you discuss and decide on the curriculum or on part of it? a. Never b. Rarely c. Sometimes d. Often e. Always

12. During coordination meetings, how often do you discuss and decide on the materials and media used?

a. Never b. Rarely c. Sometimes d. Often e. Always

13. During coordination meetings, how often do you discuss and decide on evaluation criteria?

a. Never b. Rarely c. Sometimes d. Often e. Always **three: Critical Thinking**

14. How would you define critical thinking?

……
……
……

15. How did you come to learn about critical thinking?

a. At school

b. In conferences/seminars

c. By Personal readings

d. Other means (please specify)

……..

……..

16. According to you, can critical thinking be taught?

a. Yes b. No

17. How do/would you foster critical thinking in your learners?

……

……

……

18. According to you, can critical thinking be measured?

a. Yes b. No

19. To test critical thinking, would you rather test:

a. The process of thinking (mental abilities such as analysing problems, evaluating arguments, considering alternate points of view …)?

b. The product of thinking (the change in one's opinions, attitudes, behaviours)?

Please explain why.

……

……

……

20. How important is critical thinking to your instructional objectives?

a. Of primary importance

b. Of secondary importance

c. Of little importance

21. In your view, how important is it for students to acquire criteria to use in the assessment of their own thinking and the thinking of others?

a. Of little importance

b. Of secondary importance

c. Of primary importance

22. What are the obstacles to implementing critical thinking in language curricula in Algeria?

……

……

……

23. Do you have any recommendations regarding the implementation of critical thinking in the oral skill course?

……

……

……

THANK YOU

Appendix B

Oral Expression Course Content

(Annual Hourly Volume: 135hrs. Weekly Hourly Volume: 4hrs 30mn. Coefficient 2)

- Expressing likes and dislikes.
- Expressing memories of past events.
    - Relating jokes.
    - Past experience.
    - Past events...etc.
- Describing objects.
    - Size.
    - Shape.
    - Colour.
    - Dimensions.
- Describing people.
    - Physical appearance and clothing.
    - Moral qualities.
    - Friendly/unfriendly and kinship relations.
    - Biographies etc…
- Describing places.
    - Situation.
    - Distance.
    - Space.
    - Topography.
    - Landscape.
    - Building, etc…
- Describing motion and locomotion.
    - Movement and speed direction, vehicles and means of transport.
    - Journeys.
    - Travels.
    - Tours.
    - Cruises, etc…
- Describing order.
    - Chronology.
    - Logic.
    - Phenomenon, etc…

- Inquiring
    - Formal – informal questions.
    - About time.
    - Place, space.
    - Manner, etc…
- Expressing arguments for and against various topics.

Appendix C

Theoretical Course

Academic Year: 2018/2019.

Participants: First year group two (ENSC).

Duration: Four hours and a half.

Objectives: By the end of the lesson, students will be able to:

- Form a basic understanding of critical thinking and its significance to their academic, professional, and personal success through:
    - Identifying and recalling the components of the Paul Elder critical thinking model.
    - Identifying and defining critical thinking concepts.
- Analyse a Socratic dialogue and understand the basic principles of Socratic questioning.
- Identify and explain thinking fallacies.

Definition of Critical Thinking

Critical thinking is that mode of thinking—about any subject, content, or problem—in which the thinker improves the quality of his or her thinking by skilfully analysing, assessing, and reconstructing it.

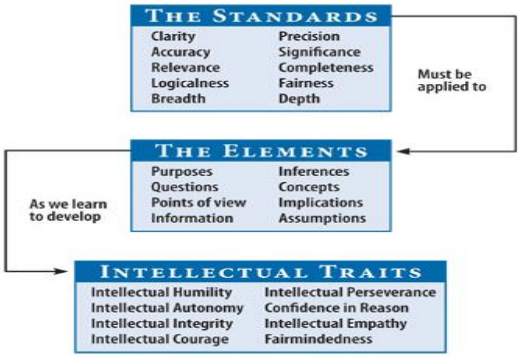
Critical thinking is self-directed, self-disciplined, self-monitored, and self-corrective thinking. It presupposes assent to rigorous standards of excellence and mindful command of their use. (Paul and Elder, Foundation for Critical Thinking, Consequential Validity)

It requires that, at any given moment in class, the students recognize that there is a question on the floor, information being processed, concepts being used, assumptions being made, interpretations at work, implications embedded in the reasoning, and points of view being engendered.

The Paul Elder Model to Critical Thinking

Episodes of critical thinking vary from the intellectually simple to the intellectually complex. They occur while reading, writing, speaking, listening, observing, and performing. They involve one or more elements of thought, one or more standards of thought, and one or more traits of mind.

Critical thinking applies *intellectual standards to the elements of reasoning in order to develop intellectual traits*



When we think critically, we realize that in every domain of human thought, it is possible and important to question the parts of thinking, and the standards for thought.

Examples of such questions include:

*Let's see, what is the most fundamental issue here?

*From what point of view should I approach this problem?

*Does it make sense for me to assume this?

*What may I reasonably infer from these data?

*What is implied in this graph?

*What is the fundamental concept here?

* Is this information consistent with that information?

*What makes this question complex?

*How could I check the accuracy of these data?

*If this is so, what else is implied? Is this a credible source of information? And so forth.

1. Elements of Thought

- The *purpose* of instruction
- The *question* at issue
- The *information* relevant to the question
- The key *concept* they need to understand
- Whatever *inferences* they are making
- Whatever *assumptions* they are making
- The *implications* of their thinking
- The *point of view* within which they are thinking.

Those elements of reasoning are classified according to a hierarchy. The **purpose** in any given material is to answer a **question** or solve a problem. Does this question/problem contain any **concept** that needs definition or explanation? The next step is to know the

information available and the **inferences/interpretations** one can make from that information. Finally, are there any other **points of view** that I should consider? And what are the **implications/consequences** of those views?

The rudiment of thought: the eight basic elements of thinking are: we think for a **purpose** within a **point of view** based on **assumptions** leading to **implications and consequences**. We use **concepts, ideas, and theories** to **interpret data, facts, and experiences** in order to **answer questions, solve problems and resolve issues**.

2. Intellectual Standards

They are standards which must be applied to thinking whenever one is interested in checking the quality of reasoning about a problem, issue, or situation. Teachers need to use them and ask learners questions to probe such standards in their thinking, until they become part of their thinking habits. The following are the most significant: clarity, accuracy, precision, relevance, depth, breadth, logic.

People should strive to make their thinking **clear** (our choice of words), **accurate** (data should be true/source reliable), **precise** (some judgments are vague and leave room for ambiguity), **relevant** (not everything found is relevant to the issue at hand), **deep** (not superficial, dealing with the complexities of the issue), **broad** (always considering the information), **logical** (the conclusions should follow the assumptions), **fair** (all viewpoints), and **significant** (beneficial).

People continue to develop their intellectual skills throughout a lifetime.

If students are taught these elements and standards, they will:

- raise vital questions and problems within it, formulating them clearly and precisely
- gather and assess information, using ideas to interpret that information insightfully
- come to well-reasoned conclusions and solutions, testing them against relevant criteria and standards
- adopt the point of view of the discipline, recognizing and assessing its assumptions, implications, and practical consequences

- communicate effectively with others using the language of the discipline and that of educated public discourse
- relate what one is learning in the subject to other subjects and to what is significant in human life.

3. Intellectual Traits

They are interrelated intellectual habits that enable students to discipline and improve mental functioning. Critical thinker must develop particular traits of the mind such as: intellectual humility, intellectual courage, intellectual empathy, intellectual integrity, intellectual perseverance, faith in reason, and fair-mindedness.

3.1. Intellectual Humility

Being aware of the limits of one's knowledge. Sensitivity to bias, prejudice, and limitations of one's viewpoint. It implies lack of intellectual pretentiousness.

Knowing one's own limits.

3.2. Intellectual Courage

Having this need/disposition to face and fairly address ideas, beliefs, or viewpoints toward which we have strong negative emotions and to which we have not given a serious hearing.

To see the truth in others' point of view and the fault in our own.

3.3. Intellectual Empathy

Being aware of the need to put oneself imaginatively in the place of others in order to genuinely understand them.

Putting oneself in others' shoes. Considering their point of view from their perspective.

3.4. Intellectual Integrity

Recognition of the need to be true to one's own thinking. To hold one's self to the same rigorous standards of evidence and proof to which one holds one's opponents. To practice what we advocate for others.

Being true to oneself, as harsh a judge to yourself as you are to others.

3.5. Intellectual Perseverance

Being aware of the need to use intellectual insights and truths in spite of difficulties, obstacles, and frustrations. A sense of the need to struggle with confusion and unsettled questions over an extended period of time to achieve deeper understanding or insight.

To think critically despite the difficulties/adherence to principles.

3.6. Faith in Reason

Confidence that giving the freest play to reason with eventually lead to one's own higher interests and those of humankind at large. The belief that people can learn to think for themselves and will come to their own conclusions.

Thinking will eventually win. With hard work, humans can achieve critical thinking.

3.7. Fair-mindedness

Having the tendency to treat all viewpoints alike, without reference to one's own feelings or vested interests, or the feelings and vested interests of one's friends, community, or nation.

Treating all viewpoints alike.

Importance of Affective Dimensions

Without intellectual perseverance, one could not solve the complicated, multi-faceted problems one confronts in industry. Without intellectual courage, one could not maintain a defence of citizenship rights in the face of scare tactics. Without fair-mindedness, one could not enter into another point of view and thus would lack that empathetic understanding necessary for a reasonable approach to living in a pluralistic society. Without developing insight into egocentricity and socio-centricity, one could imply one's reasoning skills in a merely self-serving and prejudices way. Without confidence in reason, one could not adequately address those complex and frequently ambiguous real-life problems that require reasonable decisions in the face of crucial uncertainties.

Consequences of Learning to Think Critically on Students

Make sure they understand class requirements, the manner in which the course will be taught, and what will be expected of them. The consequences are that they:

■ become active learners.

- think of each subject they study as a form of thinking (If they are in a history class, their goal is to think historically; in a chemistry class to think chemically).
- become questioners.
- look for interconnections. They do not memorize like parrots. They study like detectives, always relating new learning to previous learning.
- think of their instructor as their coach. They think of themselves as a team member trying to practice the thinking exemplified by their instructor.
- think about the textbook as the thinking of the author. They explain the main points of the text to other students, as if they were the author.
- think of class time as a time in which they PRACTICE. They do not sit back passively, waiting for knowledge to fall into their heads like rain into a rain barrel. They know it will not.
- relate content whenever possible to issues and problems and practical situations in their life. If they cannot connect it to their lives, they realize they do not really know it.
- figure out at which studying and learning skills they are not good. They practice those skills whenever possible.
- frequently ask themselves "Can I explain this to someone not in class?" (If not, then I have not learned it well enough.)
- seek to find the key concept of the course during the first couple of class meetings.
- routinely ask questions to fill in the missing pieces in their learning. "Can I elaborate and explain this? Can I give an example of that? If I do not have examples, I am not connecting what I am learning to my life."
- test themselves before coming to class by trying to summarize, orally or in writing, the main points of the previous class meeting.
- learn to test their thinking using intellectual standards? "Am I being clear? Accurate? Precise? Relevant? Logical? Am I looking for what is most significant?"
- use writing as a way to learn by writing summaries in their own words of important points from the textbook or other reading material. They make up test questions. They write out answers to their own questions.

- frequently evaluate their listening. “Am I actively listening for main points? Can I summarize what the instructor is saying in my own words? Can I explain what is meant by key terms?
- frequently evaluate their reading. “Am I reading the textbook closely? Am I asking questions as I read? Am I distinguishing what I understand from what I do not?”

Critical Thinking Concepts

1. **Assumptions**

Assumptions are statements that are assumed to be true in the absence of proof. Identifying assumptions helps in the discovery of information gaps and enriches views of issues. Assumptions can be unstated or directly stated. The ability to recognise assumptions in presentations, strategies, plans, and ideas is a key element in critical thinking. Being aware of assumptions and directly assessing their appropriateness to the situation helps individuals evaluate the merits of a proposal, policy, or practice.

2. **Arguments**

Arguments are assertions that are intended to persuade someone to believe or act a certain way. Evaluating arguments is the ability to analyse such assertions objectively and accurately. Analysing arguments helps in determining what weight to put on them and what actions to take. It includes the ability to overcome a confirmation bias—the tendency to look for and agree with information that confirms prior beliefs. Emotion plays a key role in evaluating arguments as well. A high level of emotion can cloud objectivity and the ability to accurately evaluate arguments.

3. **Drawing Conclusions**

Drawing conclusions consists of arriving at conclusions that logically follow from the available evidence. It includes evaluating all relevant information before drawing a conclusion, judging the plausibility of different conclusions, selecting the most appropriate conclusion, and avoiding overgeneralisation beyond the evidence.

4. **Inferences**

An inference is a conclusion that a person can draw from certain observed or supposed facts. For example, if the lights are on in a house and music can be heard coming from the house, a person might infer that someone is at home. But this inference may or may not be

correct. It is possible that the people of the house did not turn the lights and the radio off when they left the house.

Tips on How to Improve Critical Thinking Skills

1. Ask basic questions to identify assumptions. Ask yourself, “What is being taken for granted?”, “How do I know this is true?”

2. Rate the quality of different assumptions. (e.g., how likely is this assumption to hold for this situation? What if this assumption is wrong?)

3. Watch for persuasion techniques. Does the argument include excessive appeals to emotions in place of sound reasoning? Does it push you toward a conclusion without exploring alternatives? Has key information been left out? Is there anything suspicious about the figures or sources used to support the argument?

4. Be objective and balanced. Look for information that is clear, relevant, recent, credible and fair. Actively seek out strong evidence for and against all arguments, especially when you favour certain arguments. Take time to take control of your emotions. It is important to balance your emotions with objective evaluation approaches, especially when you deal with controversial topics.

5. Draw it out. Represent verbal information graphically by using pictures, matrices, hierarchical tree diagrams, flow charts, and/or any other visual representation that may be useful. You can clarify your thinking by translating the verbal into the visual. This will help you make connections that were not immediately apparent.

6. Evaluate different conclusions. Generate multiple alternative conclusions based on the evidence. Consider who stands to gain from certain conclusions. Be sure to explore the consequences and impact of different conclusions as part of this process.

Critical Thinking Application

Critical thinking, as applied in the Watson Glaser test, is the ability to look at a situation and assess it, to consider and understand multiple perspectives, and to recognize and extract the facts from opinions and assumptions.

Critical thinking is used in several stages of the problem-solving and decision-making process:

- Defining the problem.
- Selecting the relevant information to solve the problem.
- Recognizing the assumptions that are both written and implied in the text.
- Creating hypotheses and selecting the most relevant and credible solutions.
- Reaching valid conclusions and judging the validity of inferences.

These skills are necessary for the many professions in which you must be able to evaluate evidence thoroughly before making a decision. This is particularly the case in the law field, as lawyers need to read and evaluate large amounts of documents.

Common Reasoning Fallacies

They refer to flaws and errors in arguments. They are numerous; the following are the most common ones:

- Changing the subject

It happens when a person argues for something other than the question at hand. Examples of that include attacking the person offering the position (personal attack argument /argumentum ad hominem), his intelligence/integrity/background, or to argue for a position that is supportable but is not completely relevant to the question at issue.

- Circular Argument

This argument starts by explicitly assuming what it tries ultimately to prove or conclude (it goes in a circle). No evidence is provided to support the argument; it is also called begging the question.

- Equivocation or ambiguous language

Sometimes, an argument can look good, but not be so because it depends on shifting the meaning of a key term during the course of the argument. That is why, people are asked to define their concepts clearly whenever they are debating an issue.

- False or Dubious Assumptions

A good example of that is the straw person argument. In this fallacy, false assumptions are made about a position you oppose then the misdescribed position is presented and refuted. Your efforts are pointless because the assumptions are wrong in the first place.

- Insufficient Reason or Evidence

There are many ways in which reason and evidence offered can be insufficient:

- Other plausible explanations or possibilities: when a hypothesis explains the evidence, but other alternate hypotheses or possibilities might explain the evidence equally well.
- Overgeneralisation: beware of absolute terms such as ‘all’, ‘none’, ‘never’, ‘always’…
- Oversimplification: when one assumes that there are only two alternatives (right/wrong, good/bad) when in fact there are others, also called the either-or fallacy.
- Emotional language without sufficient substance: people often use words including glittering generalities (laudatory) or name-calling (derogatory) that set off emotional reactions, but do not offer substantial reasons.
- Faulty analogies: an analogical argument proceeds by showing that two things are alike in some respects and then concludes that they are therefore alike in some other respect.
- Neglect of a point of view: one’s conclusions depend on the point of view of the arguer. However, one has to show that from another point of view, the evidence is insufficient.
- Failure to follow: sometimes, the alleged connection between reasons or evidence and conclusions is just not there. The conclusion fails to follow from its supporter the support offered is irrelevant to the conclusion.
- False cause: they assume that because one event follows another, the first event caused the other.

Statistics

Statistics provide data or information, but they must be interpreted. Check statistics carefully to see if they really support the assertions being made.

Weak Sources

All information and arguments have sources, but their credibility is suspect. To determine if a source is credible, one should check the degree of expertise, possible conflict of interest, agreement with other sources…

Socratic Questioning

The Socratic Method was launched by no one but Socrates himself (the great Greek philosopher, also known as the founder of western philosophy). It is based on the use of dialogues which lead to reflective thinking. During those dialogues, the overall aim is not finding answers to the questions asked, but rather pushing the interlocutors to dig deep into their own thinking and the thinking of others.

Following is an excerpt from a Socratic dialogue called Gorgias. Read it, and then answer the accompanying questions.

The excerpt

Socrates: I see, from the few words, which Polus has uttered, that he has attended more to the art which is called rhetoric than to dialectic.

Polus: What makes you say so, Socrates?

Socrates: Because, Polus, when Chaerephon asked you what was the art which Gorgias knows, you praised it as if you were answering someone who found fault with it, *but you never said what the art was*.

Polus: Why, did I not say that it was the noblest of arts?
Socrates: Yes, indeed, but that was no answer to the question… And I would still beg you *briefly* and *clearly* …to say what this art is, and what we ought to call Gorgias: Or rather, Gorgias, let me turn to you, and ask the same question, what are we to call you, and what is the art which you profess?

Gorgias: Rhetoric, Socrates, is my art.

Socrates: *Then* am I to call you a rhetorician?

Gorgias: Yes, Socrates, and a good one too, if you would call me that which, in Homeric language, "I boast myself to be."

Socrates: I should wish to do so.

Gorgias: Then pray do.

Socrates: And are we to say that you are able to make other men rhetoricians?

Gorgias: Yes, that is exactly what I profess to make them, not only at Athens, but in all places.

Socrates: And …will you keep your promise, and *answer shortly* the questions which are asked of you?

Gorgias: Some answers, Socrates, are of necessity longer; but I will do my best to make them as short as possible; for a part of my profession is that I can be as short as any one.

Socrates: That is what is wanted, Gorgias; exhibit the shorter method now…

Gorgias: Well, I will; and you will certainly say, that you never heard a man use fewer words.

Socrates: Very good then; as you profess to be a rhetorician, and a maker of rhetoricians, let me ask you, with what is rhetoric concerned: I *might* ask with what is *weaving* concerned, and you would reply (would you not?), with the making of garments*?*

Gorgias: Yes.

Socrates: And *music* is concerned with the composition of melodies?

Gorgias: It is.

Socrates: By here, Gorgias, I admire the surpassing brevity of your answers.

Gorgias: Yes, Socrates, I do think myself good at that.

Socrates: I am glad to hear it; answer me in like manner about rhetoric: with what is rhetoric concerned?
Gorgias: With discourse.

Socrates: What *sort of discourse*, Gorgias--*such discourse as would teach the sick under what treatment they might get well?*

Gorgias: No.
Socrates: *Then* rhetoric does not treat of all *kinds* of discourse?

Gorgias: Certainly not.

Socrates: And yet rhetoric makes men able to speak?

Gorgias: Yes.
Socrates: And to understand that about which they speak?

Gorgias: Of course. . . .

Socrates: Come, then, and let us see what we really mean about rhetoric; *for I do not know what my own meaning is as yet.* What is the use of coming to you, Gorgias? About what will you teach us to advise the state?--about the just and unjust only, or about those other things also which Socrates has just mentioned?" How will you answer them?

Gorgias: I like your way of leading us on, Socrates, and I will endeavour to reveal to you the whole nature of rhetoric.

(From Part One of *Gorgias* by Plato, c. 380 BC. Translated by Benjamin Jowett)

Questions

1.

When Soc. says: "Now I am certain that this is not an invention of my own, who **am well aware that I know nothing**…"

Which principle of Socratic dialogue is Soc. emphasising?

2.

When Soc. says: "but as our question is whether the lover or non-lover is to be preferred, let us first of all agree in **defining the nature and power of love**, and then, keeping our eyes upon the definition and to this appealing, let us further enquire whether love brings advantage or disadvantage."

Which principle of Socratic dialogue is Soc. emphasising?

3.

When Soc. says: "Now ［desire］ has many names, and many members, and many forms… The desire of eating, for example, …is called gluttony, …the tyrannical desire of

drink, … has a name which is only too obvious, …it will be the name of that which happens to be eluminant." (Brackets added).

Which principle of Socratic dialogue is Soc. emphasising?

4.

When Soc. says: "The words of the wise are not to be set aside; for there is probably something in them; and therefore the meaning of… ［your］ saying is not hastily to be dismissed." (Brackets added)

Which principle of Socratic dialogue is Soc. emphasising?

5.

When Soc. says: "suppose that I persuaded you to buy a horse and go to the wars. Neither of us knew what a horse was like, but I knew that you believed a horse to be of tame animals the one which has the longest ears… in sober earnest I, having persuaded you of this, went and composed a speech in honour of an ass, … And when the orator instead of putting an ass in the place of a horse puts good for evil … falsely persuades them ［people］ not about "the shadow of an ass," which he confounds with a horse, but about good which he confounds with evil-what will be the harvest which rhetoric will be likely to gather after the sowing of that seed?" (Brackets added)

Which principle of Socratic dialogue is Soc. emphasising?

6.

In the Socratic Method, questions are more important than the answers.

Yes ☐ No ☐

7.

Following the Socratic Method, the best topics for a discussion are:

Moral issues ☐ Controversial issues ☐ Scientifically-proved Information ☐

Open-ended Inquiries ☐ Neutral topics ☐ Abstract Concepts ☐

8.

According to the Socratic Method, the teacher is always the opponent in the discussion.

Yes ☐ No ☐

9.

Among these classroom practices, which are part of the Socratic Method?

☐ ☐

Lectures Rote memorisation Responding to each question with a question ☐

Ignoring the origin of the assumption ☐ Following the implications ☐

Acting dump ☐ Focusing on the most important thoughts ☐

10.

The Socratic Method is a constructivist one.

Yes ☐ No ☐

Types of Questions to Ask during a Socratic dialogue

What do you mean by…?

Could you put that another way?

Is your basic point…..or ….?

Let me see if I understand you, do you mean ….. or ….?

How does this relate to our problem/discussion/issue?

What do you mean by this remark?

Can you summarise in your own words what your partner said?

Is this what you meant?

Could you give me an example?

Why do you say that?

Critical Thinking Exercises

Exercise 1: In the following statements, reasons are given for some belief or practice. Explain whether the reasons are valid ones.

a. Sally believes that it is wrong to eat meat. She once watched a documentary on the methods used to kill cows, and it made her so sad that she immediately became opposed to eating meat.

b. The glass of milk is empty. I can see with my own eyes that it is.

c. The glass of milk is empty. I cannot see it, but my mother just told me that it is.

d. We have to hold the party on Christmas Eve, because we have always held it then.

e. John believes that the sofa will fit up the stairs. He first measured the sofa and then the stairs, and decided that it would go up easily if tilted on its side.

f. Ashanti believes that Senator Doolittle's proposal is not cost effective. She finds that politicians are such hypocrites that she disagrees with everything they propose.

g. Robert believes that his car will not last much longer. He knows several people who own the same make of car and none of them lasted as long as his has lasted. So he figures that his car will not last much longer.

h. Susan believes that birds are a kind of dinosaur. She does not remember how she first came to believe it, but has decided to believe it until she finds some contrary evidence.

i. John thinks that smoking causes cancer. He believes it because his mother and two aunts died of cancer after smoking all of their lives.

Exercise 2: For the following proposed definitions, find a counter-example. Identify whether it shows that the definition is too broad or too narrow.

a. Oxygen: a colourless and odourless gas

b. Apple pie: a dessert made with apples

c. Triangle: a three-sided two-dimensional figure with a 90-degree angle

d. Violin: a stringed instrument

e. Parent: the father or mother of a human

f. Stove: a kitchen appliance used for cooking

Exercise 3: Write out the following arguments in standard form. You need not supply missing premises or change the words used unless it is absolutely necessary to retain the sense of a sentence, but you should omit indicator words:

Example

The government should regulate the sale of spray paint. Spray paint can be used for tagging, and tagging causes damage to private property. The sale of anything that causes damage to private property should be regulated. P is used for premise and C for conclusion.

P1) Spray paint can be used for tagging.

P2) Tagging causes damage to private property.

P3) The sale of anything that causes damage to private property should be regulated.

C) The government should regulate the sale of spray paint.

a. Mrs Brown says it is acceptable for parents to smack their kids. Mrs Brown raised eight kids successfully. It is acceptable for parents to smack their kids.

b. If we want to know if it is okay to believe or do something, we need to know if the arguments in support of it are good enough. Argument analysis helps us to ascertain the quality of arguments. So argument analysis can help us make better decisions.

c. Most people believe that fracking is environmentally damaging. What the majority believe is probably true. So fracking is environmentally damaging.

d. Almost everyone eats meat. What the majority does is okay to do. Eating meat, then, is not morally wrong.

e. If Manchester United win against Arsenal, Chelsea will go to the top of the Premier League. Manchester United have beaten Arsenal, so Chelsea will be top of the league.

f. History will show President Obama to have been a successful president after all. The reason is that he has managed to maintain the USA's reputation as a superpower and that is the most important criterion by which to judge a US president.

Exercise 4: Decide whether each of the following statements contains an argument. If it does not, write 'N/A'. If it does, identify its premises and conclusion by underlining the appropriate propositions and writing 'C' under the conclusion and 'P' under the premises.

a. You should tidy up after yourself since nobody likes to use this room after you.

b. The room is messy because John Campbell was in here earlier, and he is a messy person.

c. Is the dollar overvalued?

d. Isn't it obvious that the dollar is overvalued?

e. Jimmy thinks the dollar is overvalued.

f. Jimmy thinks the US dollar is overvalued, so the US dollar is overvalued.

g. Ilan is the lecturer for Critical Thinking. Falafel is yummy. So Ilan must like falafel.

h. Eat your greens!

i. Students should not have to pay any fees for tertiary education. A well-educated population benefits the country and the country should be prepared to pay for those benefits.

j. In order to think critically about a particular subject you need to have enough knowledge about that subject.

k. In order to think critically about a particular subject you need to have enough knowledge about that subject. So you should look for deficiencies in your beliefs.

l. Studying critical thinking can help you clarify your thinking, and make better choices in belief and action. Everyone should study critical thinking.

m. If you put an effort into your studies, and if you apply the material to other courses, then a critical thinking course can help to improve your academic skills.

n. Doing one critical thinking course will not automatically make you think any better.

o. Morality is culturally relative, so female circumcision is okay and we should not criticise it.

p. I am late because there was an unexpected traffic jam that I could not avoid.

q. I am in a traffic jam, so I am probably going to be late.

r. He has been on crutches since he was injured in the accident.

s. The biscuit tin is empty because the children ate all the biscuits.

t. If the children ate all the biscuits, the biscuit tin will be empty. The children ate all the biscuits, so the biscuit tin is empty.

Exercise 5: Decide which of the following are arguments and which are explanations. Give reasons for your answers. Write the arguments out in standard form.

a. The car will not start because I left the headlights on all night and the battery is flat.

b. I must buy a new car because my old Ford is unsafe and expensive. It is rusty and uses too much fuel.

c. She burnt the omelette because the pan was not hot enough when she put the eggs in.

d. If you want to make an omelette, you need eggs. But, we have run out of eggs, so if you want to make an omelette, you will have to go and buy some more.

e. You should vote for the Republican candidate because the Republicans will keep taxes low and lower taxes are better for the overall economy.

f. The fact that the economy is healthy can be explained by the fact that taxes are low.

g. The economy has remained buoyant because the government is investing in infrastructure projects such as new railways and roads.

h. In a recession, the best way for a government to keep the economy buoyant and keep people in jobs is to invest in infrastructure. The government's austerity policy, with its constant rounds of cuts to the public sector, is deeply mistaken. It has to change or the country will sink into an economic depression the likes of which has not been seen since the 1930s.

i. The coach was sacked because the team has not had a win all season, even at home!

j. The team has not won all season, even at home. If a team cannot even win at home, the coach should bear the responsibility. The coach should be sacked.

Exercise 6: Read the following statements and decide whether they represent errors in thinking. In case they do, decide which type of fallacies they are.

- Princess Kate wears Alexander McQueen. Are you trying to say you have better fashion sense than a royal princess?
- People have been praying to God for years. No one can prove He does not exist. Therefore, He exists.
- If we do not adopt that puppy today, they might put him down. Do you want to be responsible for that?
- If aliens did not steal my newspaper, who did?
- Katie is one of 16,400 students on her college campus. The only boys worth dating are Dave and Steve.
- How is talking about vaccinations going to help us find a cure for cancer?
- If we allow our 14-year-old to have her first date tonight, what is next? A wedding, kids?
- President Trump does not have middle class Americans in mind. He is part of the upper echelon of America.
- Dogs are good pets. Coyotes are dogs. Therefore, coyotes are good pets.
- That face cream cannot be good. Kim Kardashian is selling it.
- People who eat oatmeal have healthy hearts.

- Mary wore her favourite necklace today and aced her spelling test. That necklace must be lucky.

Answer Key

4(a) Argument. (b) N/A it is an explanation (hint: the text tells us why the room is messy. It does not try to persuade us that the room is untidy). (c) N/A it is a question. (d) N/A it is a rhetorical question (hint: this could legitimately be converted into the following proposition, 'The dollar is over-valued', but an argument needs at least one premise in support of a conclusion, and this proposition is unsupported). (e) N/A it is an unsupported proposition. (f)

Argument. (g) Argument. (h) N/A it is a command. (i) Argument. (j) N/A it is an unsupported proposition. (k) Argument. (l) Argument (hint: if you insert a conclusion indicator such as 'therefore', you see more clearly that this is an argument). (m) N/A it is a conditional. (n) N/A it is an unsupported proposition. (o) Argument. (p) N/A it is an explanation (hint: there is no attempt to persuade us that the speaker is late). (q) Argument. (r) N/A it is an unsupported proposition (hint: do not be misled by the use of 'since' here, it is used to talk about a period of time). (s) N/A it is an explanation (hint: there is no attempt to persuade us that the biscuit tin is empty). (t) Argument.

5 (a) Explanation. (b) Argument. (c) Explanation. (d) Argument. (e) Argument. (f) Explanation. (g) Explanation. (h) Argument. (i) Explanation. (j) Argument.

6 Appeal to authority, Appeal to ignorance, Appeal to pity, Begging the question, False dilemma, Red herring, Slippery slope, Straw man fallacy, Sweeping generalisations, Ad hominem, Cum Hoc, Ergo Propter Hoc, Post Hoc, Ergo Propter Hoc.

Appendix D

Critical Thinking Pre-test

General direction paragraph

This booklet contains three sections designed to find out how well you are able to think critically. Each section contains a number of questions; each question has separate directions that should be read carefully.

Please answer the questions as honestly as possible. Thank you for your collaboration.

Name: ……

Date: ……

SECTION ONE: THINKING SKILLS

This section deals with critical thinking skills and is divided into 5 subsections; each section is dealing with one critical thinking skill. For each critical thinking skill, a brief definition of the skill is provided in addition to three questions that you need to answer.

I. Making Inferences

An inference is a conclusion that a person can draw from certain observed or supposed facts. For example, if the lights are on in a house and music can be heard coming from the house, a person might infer that someone is at home. This inference may or may not be correct. It is possible that the people of the house did not turn the lights and the radio off when they left the house.

You will be given a statement that you are to regard as true. After the statement, several possible inferences are provided. Examine each one separately, and decide as to its degree of truth or falsity. It is **true** if you think the inference is definitely true. It is p**robably true** if, in the light of the facts given, the inference is probably true. There are i**nsufficient data** if you cannot tell from the facts given whether the inference is likely to be true or false. It is **probably false** if, in the light of the facts given, you think the inference is probably false. It is **false** if you believe the inference is definitely false. Tick the appropriate box.

Statement

During the past month, managers scheduled for international assignments voluntarily attended our company's cross cultural business training workshop. All of the managers reported that the quality of the training was high and focused on valuable work skills that could be immediately applied.

Proposed inferences

1. Most managers who attended the workshop were interested in learning more about cross-cultural issues.
   True □ Probably True □ Insufficient Data □ Probably False □ False □

2. The majority of the training was devoted to rules and regulations for doing business in this country.
   True □ Probably True □ Insufficient Data □ Probably False □ False □

3. Workshop attendance is likely to increase over the next few months.
   True □ Probably True □ Insufficient Data □ Probably False □ False □

II. Recognising Assumptions

An assumption is something presupposed or taken for granted. When you say: 'I will be a qualified teacher in four years', you take it for granted that you will be alive in four years, that you will pass the relevant examinations, and so on.

Below is a statement followed by a number of proposed assumptions. You are to decide for each assumption whether a person, in making the given statement, is really making that assumption i.e. taking it for granted justifiably or not.

Statement

"We need to save time in getting there so we would better go by plane".

Proposed assumptions:

1. Going by plane will take less time than going by some other means of transportation.
   Assumption Made □ Assumption Not Made □

2. There is a plane service available to us for at least part of the distance to the destination.
   Assumption Made □ Assumption Not Made □

3. Travel by plane is more convenient than travel by train.
   Assumption Made □ Assumption Not Made □

III. Interpretations

In this section, you are provided with a statement followed by several suggested conclusions. For the purpose of this test, assume the statement is true. The problem is to judge whether each of the proposed conclusions logically follows beyond a reasonable doubt from the information given in the statement. If it does, tick **Conclusion Follows,** if it does not, tick **Conclusion Does Not Follow.**

Statement

A study of carbon dioxide (CO2) emissions within the European Union from 1990 to 2010 shows that the volume of CO2 emissions fell consistently, from 24 billion tonnes per year in 1990 to 16 billion tonnes per year in 2010.

Proposed conclusions

1. The reductions in CO2 emissions demonstrate that energy efficiency initiatives have been successful.
   Conclusion Follows □ Conclusion Does Not Follow □

2. The amount of CO2 emitted within the European Union in 1992 was less than 24 billion tonnes.
   Conclusion Follows □ Conclusion Does Not Follow □

3. CO2 emissions in 2001 were lower than in 1990.
   Conclusion Follows □ Conclusion Does Not Follow □

IV. Deduction

In this section, you are provided with several statements (premises) followed by several suggested conclusions. For the purpose of this test, consider the statements as true without exception. Read each conclusion beneath the statement. If you believe it necessarily follows from the statement, choose **Conclusion Follows.** If you think it is not a necessary conclusion from the statement given, tick **Conclusion Does Not Follow.**

Statement

It sometimes snows in January. Schools are always closed when it snows. Therefore:

Proposed conclusions

1. Schools are never closed on days when it is not snowing.
   Conclusion Follows □ Conclusion Does Not Follow □

2. Schools are sometimes closed in January.
   Conclusion Follows □ Conclusion Does Not Follow □

3. Sometimes, schools are open in January.
Conclusion Follows □ Conclusion Does Not Follow □

V. Evaluating Arguments

In making decisions about important questions, it is desirable to be able to distinguish between arguments that are strong and arguments that are weak. For an argument to be strong, it must be **both** important and directly related to the question.

Below is a question followed by several arguments. For the purpose of this test, you are to regard each argument as true. The problem then is to decide whether it is a strong or a weak argument.

Statement

Should the voting age in Algeria be lowered to 16?

Proposed arguments

1. Yes, voting provides an opportunity for young people to feel like adults.
Strong Argument □ Weak Argument □

2. Yes, young people will be affected in the future by decisions made today.
Strong Argument □ Weak Argument □

3. No, 16-year-olds are overly influenced by celebrities like singers, actors, youtubers...
Strong Argument □ Weak Argument □

SECTION TWO: THINKING ELEMENTS / STANDARDS / TRAITS

This section deals with some thinking elements, standards, and traits. In this section, you will use the video you watched in the filler task to answer some questions.

PART ONE

1. What is the purpose of the debate in the video?

……
……

2. What is the issue/question being discussed?

……
……

3. What are the different points of view regarding the issue at hand?

……
……

4. Extract some of the concepts discussed in the video.

……
……

5. What is your own point of view regarding this issue? What are the implications of such an opinion?

……
……
……
……

6. Evaluate three of the arguments mentioned in the video according to the table below. Specify if the argument is clear or unclear, accurate or inaccurate, relevant or irrelevant…

Arg 1:

……

……

A**rg 2:**

……

……
…

arg 3:

……

……

Intellectual Standard / Arguments	**Clear / Unclear**	**Accurate / Inaccurate**	**Relevant / Irrelevant**	**Consistent / Inconsistent**	**Fair / Unfair**	**Well-evidenced / Not evidenced**
Arg 1. **Arg 2.** **Arg 3.**	…… …… ……	…… …… ……	…… …… ……	…… …… ……..	…… …… ……	…… …… ……..

PART TWO

1. Regardless of your own point of view, which point of view do you believe makes the most sense?

a. Rebecca Jane's point of view;

b. Claire Paye's point of view;

c. Both of them;

d. Neither of them.

Explain why you chose a, b. c. or d. Feel free to add any extra comments.

……
……
……

2. Do you think the guests on the show might be called experts? Why?

Yes No

Because……
……
……

3. Would you try to study the issue longer in order to find out more about it?

Yes No

4. Do you think the issue at hand is:

a. Straightforward and essentially easy to pick a side;

b. Highly complicated and difficult to pick a side;

c. Highly complicated, but still easy to pick a side;

d. Straightforward, but still difficult to pick a side?

5. Did you think about this issue a long time before you decided on which side you were?

Yes No

Approximately how long did you think about the issue before you made up your mind?

a. Few days

b. Few months

c. One year or more

6. Has your view on this issue changed over the last few years?

Yes No It has changed somewhat

Explain why your view has or has not changed.

……
……
……

7. Are you willing to change your mind about this issue when presented with more information/arguments?

Yes No

8. What do you think of the opposite point of view?

a. Stupid and not worth listening to

b. Reasonable, but you still oppose it for no particular reason

c. Reasonable, but you understand why some people might think like that

d. Unreasonable

SECTION THREE: RECOGNISING FALLACIES

General direction paragraph: a logical fallacy is a common error in reasoning. The following arguments/statements might contain some fallacies. Decide if there is a fallacy first, and then explain why you consider it a mistake in thinking.

1. I deserve a better mark in the exam because my mom was really sick, and I was supposed to take care of her, so I could not concentrate.

……
……
……

2. Jane says: I am against working mothers because a mother is supposed to stay at home in order to take care of her children instead of leaving them with a nanny.

Jill responds: you did not even go to university. You do not have the right to have an opinion in any serious matter.

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……
……

3. In a TV commercial, a particular product is described as the best product because a certain celebrity uses it.

……
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……

4. When your parents ask you why you did not do well in your exams, and you start talking about how you feel homesick all the time and how you miss them, your friends and the food …

……
……
……

5. The doctors could not explain how Jane was completely healed from her cancer. It must be a miracle!!

……
……
……

6. When Jane says that she believes in free speech (people's right to express their views/opinions). Jill says: "I cannot believe that Jane is OK with the caricatures portraying prophet Mohamed in newspapers!!"

……
……
……

7. A kid to his parents: "either you raised me well, taught me the right from the wrong, and hence you trust that I will do the right thing, or you just did not".

……
……
……

8. Consuming drugs can kill you because some drugs are deadly.

……
……
……

9. After meeting one Australian man that she thought was very cold, Jane assumed that all Australian people are cold.

……
……
……

10. I wore my silver ring when taking the exam today. I did well in the exam. I will wear that ring each time I have an exam to bring me luck.

……
……
……

11. Jane is angry with Jill because she spoke to Ann after she promised not to do it. Jill explained that she did not talk to Ann, just waved to her.

……
……
……

12. If we go to that fast food restaurant now, we will like the food, and we will become addicted to it. Next thing, we will be overweight with no jobs or social life!!

……
……
……

13. When Jane explained to Jill all the downsides of smoking and advised her not to do it. Jill responded by: "how can you ask me not to smoke when you smoke yourself?!"

……
……
……

End of the Test

Appendix E

Critical Thinking Post-test

General direction paragraph

This booklet contains three sections designed to find out how well you are able to think critically. Each section contains a number of questions; each question has separate directions that should be read carefully.

Please answer the questions as honestly as possible. Thank you for your collaboration.

Name: ……

Date: ……

SECTION ONE: THINKING SKILLS

This section deals with critical thinking skills and is divided into 5 subsections; each subsection is dealing with one critical thinking skill. For each critical thinking skill, a brief definition of the skill is provided in addition to three questions that you need to answer.

VI. Making Inferences

An inference is a conclusion that a person can draw from certain observed or supposed facts. For example, if the lights are on in a house and music can be heard coming from the house, a person might infer that someone is at home. This inference may or may not be correct. It is possible that the people of the house did not turn the lights and the radio off when they left the house.

You will be given a statement that you are to regard as true. After the statement, several possible inferences are provided. Examine each one separately, and decide as to its degree of truth or falsity. It is t**rue** if you think the inference is definitely true. It is **probably true** if, in the light of the facts given, the inference is probably true. There is i**nsufficient data** if you cannot tell from the facts given whether the inference is likely to be true or false. It is **probably false** if, in the light of the facts given, you think the inference is probably false. It is **false** if you believe the inference is definitely false. Tick the appropriate box.

Statement

The first newspaper in France, edited by Pierre Lebrun, appeared in Orléans on September 25th 1690, and was banned the same day by Justice George Bonet. The editor's subsequent long fight to continue to publish his paper and print what he wished marks an important episode in the continuing struggle to maintain a free press.

Proposed inferences:

1. Information about the first issue of Pierre Lebrun's newspaper promptly came to Justice Bonet's attention.
   True □ Probably True □ Insufficient Data □ Probably False □ False □

2. Pierre Lebrun persisted in holding to some of his aims.
   True □ Probably True □ Insufficient Data □ Probably False □ False □

3. The editor of the first French newspaper died within a few days after his paper was banned on September 25th 1690.
   True □ Probably True □ Insufficient Data □ Probably False □ False □

VII. Recognising Assumptions

An assumption is something presupposed or taken for granted. When you say: 'I will be a qualified teacher in four years', you take it for granted that you will be alive in two months, that you will pass the relevant examinations, and so on.

Below is a statement followed by a number of proposed assumptions. You are to decide for each assumption whether a person, in making the given statement, is really making that assumption i.e. taking it for granted justifiably or not.

Statement

"We need to save money, so we would better take a holiday in the UK".

Proposed assumptions

1. Holidays in the UK are cheaper than holidays elsewhere.
   Assumption Made □ Assumption Not Made □

2. Transport costs make international holidays more expensive than those in the UK.
   Assumption Made □ Assumption Not Made □

3. It is possible to take a holiday within the UK.
   Assumption Made □ Assumption Not Made □

VIII. Interpretations

In this section, you are provided with a statement followed by several suggested conclusions. For the purpose of this test, assume the statement is true. The problem is to judge whether each of the proposed conclusions logically follows beyond a reasonable doubt from the information given in the statement. If it does, tick **Conclusion Follows,** if it does not, tick **Conclusion Does Not Follow.**

Statement

A study of vocabulary growth in children from eight months to six years old shows that the size of spoken vocabulary increases from 0 word at the age of eight months to 2562 words at the age of six years.

Proposed conclusions

1. None of the children in this study had learned to talk by the age of 6 months.
   Conclusion Follows □ Conclusion Does Not Follow □

2. Vocabulary growth is slowest during the period when children are learning to walk.
   Conclusion Follows □ Conclusion Does Not Follow □

3. All the children in this study were unable to talk when the study began.
   Conclusion Follows □ Conclusion Does Not Follow □

IX. Deduction

In this section, you are provided with several statements (premises) followed by several suggested conclusions. For the purpose of this test, consider the statements as true without exception. Read each conclusion beneath the statement. If you believe it necessarily follows from the statement, choose **Conclusion Follows.** If you think it is not a necessary conclusion from the statement given, tick **Conclusion Does Not Follow.**

Statement

No responsible leader can avoid making difficult decisions. Some responsible leaders dislike making difficult decisions. ***Therefore:***

Proposed conclusions:

1. Some difficult decisions are distasteful to some people.
   Conclusion Follows □ Conclusion Does Not Follow □

2. Irresponsible leaders avoid things they dislike.
   Conclusion Follows □ Conclusion Does Not Follow □

3. Some responsible leaders do things they dislike doing.

Conclusion Follows □ Conclusion Does Not Follow □

X. Evaluating Arguments

In making decisions about important questions, it is desirable to be able to distinguish between arguments that are strong and arguments that are weak. For an argument to be strong, it must be **both** important and directly related to the question.

Below is a question followed by several arguments. For the purpose of this test, you are to regard each argument as true. The problem then is to decide whether it is a strong or a weak argument.

Statement

Should the government provide 'baby grants' to help support each dependent child in a family so that the family standard of living is not lowered by having children?

Proposed arguments

1. Yes, many families who cannot now afford it would then provide better childcare, and this would greatly improve the general health of the nation.
   Strong Argument □ Weak Argument □

2. No, such grants would seriously undermine parents' sense of personal responsibility for their own families.
   Strong Argument □ Weak Argument □

3. No, government provision of 'baby grants' would involve additional public expenditure of money.
   Strong Argument □ Weak Argument □

SECTION TWO: THINKING ELEMENTS / STANDARDS / TRAITS

This section deals with some thinking elements, standards, and traits. In this section, you will use the video you watched in the filler task to answer some questions.

PART ONE

1. What is the purpose of the debate in the video?

……
……

2. What is the issue/question being discussed?

……
……

3. What are the different points of view regarding the issue at hand?

……
……

4. Extract some of the concepts discussed in the video.

……
……

5. What is your own point of view regarding this issue? What are the implications of such an opinion?

……
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6. Evaluate three of the arguments mentioned in the video according to the table below. Specify if the argument is clear or unclear, accurate or inaccurate, relevant or irrelevant…

Arg 1:

……

……

A**rg 2:**

……

……

arg 3:

……

……

Intellectual Standard / Arguments	**Clear / Unclear**	**Accurate / Inaccurate**	**Relevant / Irrelevant**	**Consistent / Inconsistent**	**Fair / Unfair**	**Well-evidenced / Not evidenced**
Arg 1. **Arg 2.** **Arg 3.**	…… …… ……	…… …… ……	…… …… ……	…… …… ……..	…… …… ……	…… …… ……..

PART TWO

1. Regardless of your own point of view, which point of view do you believe makes the most sense?

   a. Piers Morgan's point of view;

   b. Harriet Minter's point of view;

   c. Both of them;

   d. Neither of them.

Explain why you chose a, b. c. or d. Feel free to add any extra comments.

……
……
……

2. Do you think the guests on the show might be called experts? Why?

Yes No

Because……
……
……

3. Would you try to study the issue longer in order to find out more about it?

Yes No

4. Do you think the issue at hand is:

   a. Straightforward and essentially easy to pick a side;

   b. Highly complicated and difficult to pick a side;

   c. Highly complicated, but still easy to pick a side;

   d. Straightforward, but still difficult to pick a side?

5. Did you think about this issue a long time before you decided on which side you were?

Yes No

Approximately how long did you think about the issue before you made up your mind?

   a. Few days

   b. Few months

   c. One year or more

6. Has your view on this issue changed over the last few years?

Yes No It has changed somewhat

Explain why your view has or has not changed.

……
……
……

7. Are you willing to change your mind about this issue when presented with more information/arguments?

Yes No

8. What do you think of the opposite point of view?

a. Stupid and not worth listening to

b. Reasonable, but you still oppose it for no particular reason

c. Reasonable, but you understand why some people might think like that

d. Unreasonable

SECTION THREE: RECOGNISING FALLACIES

General direction paragraph: a logical fallacy is a common error in reasoning. The following arguments/statements might contain some fallacies. Decide if there is a fallacy first, and then explain why you consider it a mistake in thinking.

1. Katherine loves Tom Cruise. One day, she meets Tom Cruise and he tells her unicorns live in New York City. Without searching to find out if fairy tales have sprung to life in the midtown Manhattan, she believes it to be true.

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……

2. Since the students have no questions concerning the topics discussed in class, the students are ready for a test.

……
……
……

3. I know we do not love each other. But, if we do not get married, it will crush my mother. You know she has a weak heart. Do you really want to do that to her?

……
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……

4. I have a right to free speech so I can say what I want and you should not try to stop me.

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5. In Latin America, only two countries offer travel and tourism options: Mexico and Guatemala.

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6. There are starving children in Africa. Eat your carrots.

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……

7. If we teach Tommy how to drive the car, he'll want to learn how to fly helicopters next!

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……
……

8. Jill says: "We should be doing more to make cars greener and more fuel efficient." Jane responds: "Our cities are built for cars, do you want to affect the economy?"

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……

9. Divorce is widespread in America. We only stand a 50 percent chance of survival. So, we cannot get married.

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10. Do not listen to Dave's argument on gun control. He is not the brightest bulb in the chandelier.

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11. Roosters crow before sunrise. Therefore, roosters cause the sun to rise.

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12. Right when I sneezed, the power went off. I must have caused the outage.

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13. When Jill said: “The Government should enact minimum-wage legislation so that workers are not exploited”. Jane responded: “Nonsense. You say that only because you cannot find a good job”.

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……

End of the Test

Appendix F

Filler Task (Pre-test)

Activity one: watch the video then answer the following questions.

1. The video compares between two types of mothers. Who are they?
2. According to Rebecca Jane, why is it important for mothers to work?
3. When exactly did Rebecca Jane go back to work after having her kids?
4. Claire Paye spoke about 'altruism'. How did she explain it?
5. Besides being a mother, Claire Paye achieved so much. Name some of her achievements.
6. How does Rebecca Jane deal with the downside of being a working mother?

Activity two: watch the video again then fill in the gaps.

* …who would say that ---------- a baby, looking after a child, watching it grow actually adds to your self-worth.

* For you, being a stay-at-home mom was the right ----------, so why did you choose to do that?

* Do you think you ---------- them? Are you doing them a disservice? Are you damaging them as our lady here says...

* …talk of the guilt of being at work knowing that their children are at ----------, or knowing...

* …little things, but I would not say you ever miss any ---------- if you really want to be there...

* I think the real problem is that ---------- is totally undervalued…

* …and there is constant ---------- in the press about stay-at-home mothers are ---------- children, ---------- children…

* Are you more ---------- after a weekend of being with your kids than after a few days at work?

Activity three: Many arguments were laid in this debate about working mothers. Extract them and classify them in the following table.

Arguments in favour of working mothers	Arguments against working mothers
…….....	……
…….....	……
……	……

Appendix G

Filler Task (Post-test)

Activity one: Watch the video, and then answer the following questions.

1. On which criteria are beauty pageants judging women? What should these criteria be according to Harriet Minter?

2. According to Harriet Minter, what is wrong with celebrating beauty?

3. Laura Gooderham defended beauty pageants. What argument did she use?

4. Piers Morgan mentioned that the five most powerful people in Britain at the time the episode was shot were women. How did Harriet Minter refute this argument?

Activity two: watch the video again then fill in the gaps.

* I find them very -------- and --------, and actually in this era when really we are talking about -------- and -------- and -------- of women…

* What is wrong with -------- --------?

* …...they are all one -------- of --------. They are all -------- --------, they are all -------- the same --------, they are all pretty much under 24……where is the -------- within these pageants?

* Until that is all that women hear. That is why we've seen a rise of -------- --------, that is why we see a rise of -------- -------- --------.

* The point of being a -------- is the right of any woman ----- ----- ----- ----- ------ --------.

* In 2017, it is very sad that we are still holding women in these kinds of -------- -------- ---------- to celebrate only their physical beauty.

Activity three: Many arguments were laid in this debate about beauty pageants. Extract them and classify them in the following table.

Arguments in favour of beauty pageants	Arguments against beauty pageants
…… …… ……	…… …… ……

*Which side are you in this matter? Why?

*What are YOUR standards of beauty?

Appendix H

Permission to Use the WGCTA

Talentlens, Info <info@talentlens.co.uk> 9 janvier 2018 à 17:01
À : meriem boulkroun <meriem.boulkroun@gmail.com>

Dear Meriem,

Our sincere apologies, but regrettably we cannot help you on this occasion in lowering the costs of the paper & pencil materials. We understand and appreciate your position but have minimum prices that we are able to go to, as set by our invoicing system.

We do have a test link you could use online for free: http://practice.talentlens.co.uk/?wid=2&tid=1 however for paper and pencil materials our other suggestion would be to look for verbal reasoning tests elsewhere.

Kind regards, Lucy
[Texte des messages précédents masqué]

Appendix I

Rubric for Oral Presentations

Purpose: does the presentation meet its intended objective?

4. Well done	The objective of the presentation is easily identified; content supports objective.
3. Acceptable	The objective is not immediately clear; some additional content needed to support the objective.
2.Some weaknesses	The objective is difficult to determine; additional content needed to support objective.
1. Problematic	The objective cannot be determined.

Structure: does the organisation reflect the purpose of the presentation? Is the presentation coherent?

4. Well done	Presentation well organised; relationships between ideas clear; strong introduction and conclusion.
3. Acceptable	Organisation is evident but maybe undermined by weak transitions or occasional digressions; introduction or conclusion does not accomplish its intended function.
2.Some weaknesses	Organisation is confusing or unclear; weak introduction or conclusion.
1. Problematic	No discernible organisation; thoughts in random order without connections between them.

Delivery: how strong are the oral components of the presentation?

4. Well done	Speaker is fluent and poised; uses language comfortably and appropriately; speaks at an effective rate and volume; few fillers.
3. Acceptable	Some degree of nervousness apparent; minor problems with language usage; speaker may speak too slowly or quickly, too loudly or softly; fillers are noticeable.
2.Some weaknesses	Speaker seems uncomfortable; several problems with language usage; speaker speaking slowly or quickly, too loudly or softly; fillers are noticeable.
1. Problematic	Speaker is unable to deliver presentation coherently.

Presentation Skills: how strong are the nonverbal components of the presentation?

4. Well done	Speaker uses gestures comfortably in line with his/her own style; eye contact is appropriate for audience; use of space appropriate for the situation.
3. Acceptable	Speaker gesturing too much or too little; eye contact may be slightly too much or too little; speaker may be moving around a little too much or not quite enough.
2.Some weaknesses	Speaker gesturing too much or too little; using distracting gestures (e.g., playing with a ring); not enough eye contact; inappropriate use of space.
1. Problematic	Nonverbal components of the presentation distract from ability of the audience to receive the message.

Critical Thinking: does the presenter show a critical view towards the topic as a whole (data, concepts, assumptions, implications…).

4. Well done	Data accurate and relevant; concepts well defined; strong arguments (if any); deep analysis of data by establishing assumptions and following implications.
3. Acceptable	Data accurate and relevant; some concepts defined; use of arguments to support opinions; analysis of data either by establishing assumptions or following implications.
2.Some weaknesses	Data inaccurate or irrelevant; concepts poorly defined; weak arguments; shallow analysis of data.
1. Problematic	Data inaccurate or irrelevant; concepts undefined; no arguments; no analysis of data.

Presentations' scoring:

	Purpose	**Structure**	**Delivery**	**Presentation Skills**	**Critical Thinking**	**Mark**
Name: ……..... **Topic:** ……..……	**4 3 2 1**	**4 3 2 1**	**4 3 2 1**	**4 3 2 1**	**4 3 2 1**	**…**

Appendix J

Murder in the classroom: Teacher's notes

Skills: Reading, speaking, listening
Grammar: Past tenses, past continuous action interrupted by a past simple action.
Level: Pre-intermediate +
Age group: Teens/young adults
Materials: Character cards, worksheet
Time: +/- 50 minutes
Procedure:
Step one:
Explain to the class that you are going to play a murder mystery game. Everyone will be a character in the game and one of them is the murderer! Give them the background information:
Background Information
During a school reunion a scream is heard from one of the classrooms. It is 8:30 pm. A few minutes later, the dead body of Miss Eliza McGowan, a cranky old English teacher, is found. She has been hit on the head. Also found were a number of items that may lead us to the killer: a book written by one of her ex-students, Simon Donnelly, a photograph of one of her fellow teachers, a young man called Saul Sheen, and a handkerchief with the initials I.W. At the moment, these are the three main suspects but everyone who was at the party and saw or spoke to Miss McGowan needs to be questioned.
Step two:
You need 7 students to play the game. The main character cards all contain clues to working out the mystery. For bigger groups use the supplementary cards (they contain no real clues) or for groups of fourteen or more, split the students into two groups and play the game as a competition to see who can work out the mystery first.
Give each student a character card. They need to read and memorize the information. The aim is to act out the game, become the character and not to just read the information from the card. At this point answer any questions students might have about their character.
Step three:
Hand out the worksheets; explain to the class they need to collect information about everyone who was at the party, and fill any relevant information on the sheet. At this point go over key vocabulary: alibi, motive, clue.
Elicit from the class the questions they need to ask and write on the board for reference:
What is your name?
Why were you at the party?
What was your relationship with Ms. McGowan?
When did you last see Ms. McGowan?
What were you doing when you heard the scream?
Step four:
This stage is a mingling activity with students asking questions and collecting information. Monitor the language used at this point and correct where necessary.
Step five:
When the students have spoken to everyone who was at the party, have them go back into their original groups. Take back the character cards. Using the information they have collected, the students try to work out *who* killed Ms. McGowan and *why* they did it. This part of the lesson usually leads to some lively discussion, most students will quickly guess who the killer is but the information needs to be carefully looked at to work out the why.
Solution

Mr. Green is Saul Sheen's father; he and Miss McGowan had a relationship in college. Miss McGowan has always kept it a secret but after the last argument with Saul she plans to tell him the truth. She tells Mr Green about her plan and they argue. Louise King overhears them. Mr Green is furious and it is he who follows Miss McGowan to the classroom and hits her over the head. He was not in his office when everyone heard the scream, that is why when Saul Sheen knocked on the door he got no answer.

Main character cards: these 7 cards need to be used to solve the mystery

Your name is Simon Donnelly; you are an ex-student.
Memories of Miss McGowan: She was a very tough teacher, she made you do extra writing assignments and she said you had talent but you hated all the extra work. But now you are grateful, you are a writer, you have just written a new book and you dedicated it to Miss. McGowan.
Last time you saw Miss. McGowan: You saw Miss McGowan at about 7 pm, you gave her a copy of your new book and she was pleased.
When you heard the scream: You were talking to Louise King, another ex-student.

Your name is Louise King; you are an ex-student.
Memories of Miss McGowan: You thought she was an old hag, you hated her class, she gave too much homework, she made you hate school so you stopped going. You did not do your exams and now you work in a chicken factory. You think it is all Miss McGowan's fault. You are glad she is dead!
Last time you saw Miss McGowan: You went outside for a cigarette at about 8 pm, you saw her with Mr Green, it looked like they were arguing and it seemed serious. Anyway, they were talking about someone called Paul or Raul or something….you could not hear very well.
When you heard the scream: You were glad for the distraction; you were trying to escape from boring Simon Donnelly.

Your name is Saul Sheen; you are a teacher at the school.
Opinion of Miss McGowan: She was a very serious woman, she was not easy to like.
Last time you saw Miss McGowan: Nobody at school knows this but Miss McGowan was your mother, she gave you up for adoption when you were a baby. You were having an argument because she would not tell you who your father was. It was about 7:30 pm.
When you heard the scream: You were looking for Mr Green, the headmaster, you knocked on his office door but there was no answer.

Your name is Ivan Williams; you are the caretaker at the school.
Opinion of Miss McGowan: You thought that she was a very classy lady; it surprised you that she was not married. You wanted to invite her to dinner but you were afraid she would say no.
Last time you saw Miss McGowan: You saw her arguing with Mr Sheen. You never liked him; he was always upsetting poor Miss McGowan. You went to see if she was okay, you loaned her your handkerchief, you always carry one because you have allergies.
When you heard the scream: You were cleaning the floor in the men's toilets.

Your name is Lily Simmons; you are an ex-student.
Memories of Miss McGowan: She was a very scary teacher, most of the students worked hard because they were afraid of her. You did very well in English and, because of Miss McGowan, you are training to be a teacher.

Last time you saw Miss McGowan: You spoke to her briefly at about 7:45, you were telling her about your studies; she did not seem interested, she kept looking around, then she saw Mr Green and said she had to go. You thought she was a bit rude.
When you heard the scream: You were dancing in the Sports Hall with some of the other ex-students.

Your name is Edward Green; you are the headmaster at the school.
Opinion of Miss McGowan: You have known Miss McGowan since you were both students in college, you thought she was a wonderful woman; you will miss her very much.
Last time you saw Miss McGowan: You were very busy this evening, you did not see Miss McGowan.
When you heard the scream: You were in your office working on the computer.

Your name is Patricia Woods; you are a teacher at the school.
Opinion of Miss McGowan: She was a good teacher but she did not have very many friends.
Last time you saw Miss McGowan: She was walking to her classroom, it was about 8:15 pm and she looked upset. You think she was crying; she was wiping her eyes with a handkerchief.
When you heard the scream: You were serving drinks with some of the other teachers in the Sports Hall...

Supplementary character cards: these cards can be used for larger groups; they do not contain information for solving the mystery

Your name is Janice Carroll; you are a teacher at the school.
Opinion of Ms McGowan: You only just started at the school so you did not really know Ms. McGowan.
Last time you saw Ms McGowan: You did not see Ms McGowan at all.
When you heard the scream: You were talking to some of the other new teachers in the Sports Hall.

Your name is Mike Newell; you are an ex-student.
Opinion of Ms McGowan: She was not one of your teachers when you were at school but you always heard from your friends that she was very strict.
Last time you saw Ms McGowan: Early in the evening, the party was just starting.
When you heard the scream: You were getting something to drink in the Sports Hall.

Your name is Judy Hall; you are an ex-student.
Opinion of Ms McGowan: She was very strict, not very friendly, most of the students were afraid of her.
Last time you saw Ms McGowan: When you arrived at the party, before 7 pm.
When you heard the scream: In the Sports Hall dancing with an old school friend, Lily Simmons.

Your name is Hal Johnson, you are the receptionist at the school.
Opinion of Ms McGowan: She was a polite woman, not very friendly but you did not have any problems with her.

Last time you saw Ms McGowan: This afternoon while we were getting ready for the party. You arrived late for the party and you did not see her all evening.
When you heard the scream: You were washing your hands in the men's room.

Worksheet:

Name	Motive	Alibi	Clue
Simon Donnelly			A copy of Simon Donnelly's book was found in the classroom where Miss M
Saul Sheen			A photograph of Saul Sheen was found in Miss McGowan's pocket.
Ivan Williams			Miss McGowan was holding a handkerchief with the initials I.W. in her hand when she was killed.

Appendix K

Transcription of the Discussion

T: So? What do you have to say to her? You gave her an example, a very specific example, you said it is the case of someone who is about maybe to die and it is wrong to give him hope because there is no hope in his case because…

S: No that is hope for you madam. If someone mmm if you are mmm for instance if a woman is married for a man who is sick

T: Married to a man

S: To a man who is sick like H4 or something, some disease

T: A fatal.

S: Fatal, yes.

T: Though HIV is not fatal, but OK I got your point

S: It is like the only disease who crossed my mind and she is putting hope that mmm he will live with her for the next thirteen years or something, she is not going..

T: She is not realistic in her hopes.

S: She is not realistic in her hope.

T: You are saying that we can be hopeful, but there are limits to hope like reality. We should be realistic in our hopes.

S: So, she must try to get something to work or to start another plan.

T: What do you think? Do you have another opinion?

S: Yes.

T: Why?

S: …mmm like you said. It is like living day like there is a lot of things that I know that one is a writer and will do a lot of things in his life. His name is Ibrahim Elfikki. He arrived to a stage that he is going to die. He got a disease like to just lay on his bed and if he just move, he will die. Then, he after, he just to, he depressed and so on and so forth. He tried to, he just talking to himself like "what am I just lying here waiting for noth.. mmm something like that is coming for everyone?" So, he just stand up and just start to pray, start to get his life. It is about living your life and just death is coming for all of us just yes. It is not hoping. It is like she is dreaming like they will live for thirteen years. Why don't you just hope that he will just.. I do not know they live every second they still got. I just call that hope.

T: OK. You would say that it is hope, but it is not hope to believe in the impossible. It is rather just having hope will let me live the moment fully. Is that what you are saying?

S: Yes.

T: OK. What about the rest of you? Riham, do you have an opinion about that? What is your opinion about hope?

S2: Hope…

T: Limited? Limitless? You can give examples to make it more specific.

S2: In situations, it is limitless. In situations, it is limited. For example, OK, for example mmm Einstein tried seven years for his baccalaureate exam and he mmm every time he failed. Every year he failed. And the reason he failed was because he was testing his own theory in the exam. Yeah. And they did not accept it, but based on logic, it is true, we now work with it. So, he kept trying and trying and trying until mmm they told him to repeat from the beginning, from elementary school, to repeat his years. And while he was repeating, he was working on his theory until when he got to his baccalaureate exam the seventh time, he got mmm he got his theory proved.

T: OK

S2: And he worked with it and he got the highest mark in it. So, for his case, if he gave up, if he did not continue, his theory would not be mmm

S3: Also, his mother, she was the one who supported him.

T: Yes, of course. Support is important in this case.

S2: Yeah, and also in mmm

T: So, you believe hope should be limitless?

S2: Limitless, yeah, but in some cases, it is mmm when hope is limitless, you find mmm it would be false hope for example if mmm for example in her case, when she said that a patient would die mmm was going to die and mmm when we see that in movies, some cases the doctor will not say to the patient that he was going to, he is going to die, he releases him and tells him to live his life and he tells him he is cured, but in that case; I think mmm if he told him that he was going to die mmm he mmm

S3: He would not have a hope to live.

S2: No, not like that. He mmm

S4: He will not enjoy his last moments?

S2: He will not enjoy his last moments of his life. Like mmm when you tell someone mmm you are going to die, they are going to lose either they lose hope and they stay mmm I do not know…

T: They give up on life.

S2: Yeah, in general. And some people in their case, they will mmm live their life to the fullest yeah I think. That is my opinion.

T: So, you do not think.. So, for you, it depends on the situation itself. You need to analyse the situation in order to decide whether it should be limited hope or limitless hope. OK. What about the rest of you? Yes, Miss?

S5: I mmm I think it is limitless mmm mmm I believe that mmm only from God mmm you can ask mmm the impossible because mmm in my case, I want, I really want to mmm to see my idol so I know that it is (laughing) impossible (laughing), but…

T: Who is it?

S5: You do not know it

T: It? (laughing) OK. Just give me his name

S5: It is a Korean idol.

T: Ah, OK. So, you still have hope?

S5: I still hope to.

S6: Wiam also. She has her idol

T: You have a crush on the same guy?

S6: No, not the same.

S5: It is Harry Styles from One Direction. It is a British band.

T: What is his name?

S5: Harry Styles.

T: No, I do know One Direction. I watched one mmm There was one that everybody was talking about…Zayn or something..

S: Yes.

T I knew him because he left the band.

S: yes.

T: The rest of them, I cannot really make the difference between them. You still have hope, big hope.

S: It is impossible they say. Why would buy their things? Why would you post on Facebook about them? They will not see them. I was like…who knows..

T: yeah. I believe people who believe in limitless hope are the same people who believe in miracles.

S: Yes.

T: What is mmm because what is a miracle? What is it?

S: Something that is impossible to happen.

T: Something that logic says it is impossible to happen…and yet it happens.

S: Yes, and sometimes, it happens.

T: I think not everybody of course believes in miracles because sometimes they are just part of a belief system. Lots of people who believe in religion believe in miracles. Other people do not, so if you are a person who believes in miracles, then maybe you will be on the side of the limitless hope. Otherwise…So, it really depends. It really depends on the person. Any other comments you want to make? None? Thank you.

S: So, mmm like we have seen in this movie mmm I did not maintain hope only for himself…

Appendix L

Time Fillers

Time filler 1: The picture task

1. Each picture is made up of words, but also represents a common saying. Can you see what the everyday adage is?

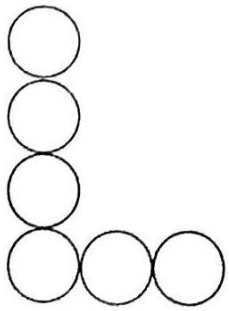
GET IT
GET IT
GET IT

ICE^3

MILL1ON

2. Look at the picture carefully then do the task.

Six circles are arranged in an "L" shape with the horizontal part containing 3 circles and the vertical part containing 4 circles. The corner circle is counted as both horizontal and vertical. Move one circle so there are 4 circles in both the horizontal and vertical parts of the "L."



Time filler 2: Spot the fallacy

In the following examples, try to pin down the precise problem with the argument.

1. Many vegetarians believe that killing animals is wrong. If they could have their way, anyone who eats meat should go to prison.

(a) Slippery slope.

(b) Begging the question or circular argument.

(c) Straw man.

(d) Non sequitur.

(e) Ad hominem.

2. Tea and coffee both contain caffeine, which is a drug. Excess caffeine intake has dangerous side effects, potentially including heart attacks. Therefore, drinking tea or coffee is dangerous.

(a) Slippery slope.

(b) Begging the question or circular argument.

(c) Straw man.

(d) Non sequitur.

(e) Ad hominem.

Time filler 3: Riddle

Bodge-It Rental Cars rent out cars at a cost of £19.99 per day plus free mileage for the first 100 miles. An extra charge of £1.00 applies for every mile travelled over 100 miles. Luxury Limos charge £100.00 per day for just taking the car out of their showrooms, and 20 pence for every single mile travelled.

How many miles would you need to travel before it paid for you to hire a Luxury Limo?

(a) 101

(b) 131

(c) 151

(d) 171

(e) It is always cheaper to hire Bodge-It

Time filler 4: Brain teaser

The Munchkins family makes tea following the traditional rule: ‘warm the pot, and add one spoonful of tea per person plus one for the pot’. The family used to buy a packet of Green Lion tea every week but because Grandma came to live with them, their tea buying has gone up. Now, every fifth week they buy an extra packet of tea.

How many people were at home before Grandma arrived?

Time filler 5: Valid or invalid?

Which of these arguments is logical and valid?

1. ✓✓All dogs have fur.

   ✓✓Boa is a python.

   ✓✓Therefore, Boa does not have fur.

2. ✓✓Some cats like milk.

   ✓✓Toby is a cat.

   ✓✓Therefore, Toby likes milk.

3. ✓✓Red berries are dangerous to humans to eat.

   ✓✓Raspberries are a kind of red berry.

   ✓✓Therefore, raspberries are dangerous.

Time filler 6: Puzzles

1. What do the following animals have in common?
   - ✓ Cat
   - ✓ Fox
   - ✓ Raccoon
   - ✓ Squirrel
   - ✓ Mouse

2. What feature do the following words have in common?

    - ✓ Armchair
    - ✓ Egg
    - ✓ Imagination
    - ✓ Over
    - ✓ Understand

3. Put these bodies of water in order in terms of volume, from smallest to largest.

    - ✓ Lake
    - ✓ Pond
    - ✓ Ocean
    - ✓ Brook
    - ✓ Sea

The Concert

The ticket stub Sam found in his mom's desk drawer.

[1]Sam wants to go with his best friend James and his other two friends Stu and Robert to the Green Day concert on Thursday night. [2]Sam suspects there is a good chance that his parents might forbid him from going to a rock concert, especially on a school night. [3]He also knows they wouldn't be happy that he and his friends would only be accompanied by Robert's sixteen year old sister and her seventeen year old boyfriend.

[4]When Sam asks his dad if he can go to the concert he says, "I want to go to the Green Day concert, and you should allow me to go because all of the kids in my class are going and their parents say it's okay. [5]I don't want to be the only one left out and miss all the fun. [6]Besides, you told me you went to a Rolling Stones concert when you were my age, so I should be allowed to go too."

[7]"Yes," replied his dad, "but your grandmother insisted she go with us."

Smarty Pants Puzzles™ Level 1 Puzzle

Assume all the statements and facts in the puzzles are true. Select the best answer, a-e, for each statement. Then write the sentence number(s) and/or check the box that provides the best evidence for answers a–d.

a. This is true.
b. This is probably true but might be false.
c. This is false.
d. This is probably false but might be true.
e. None of the above. There is not enough evidence.

_____ 1. If Sam goes to the concert with his friends, he will be chaperoned by an adult.

____ Sentence ❒ Picture ❒ Caption

_____ 2. All of the parents of Sam's friends have given permission for them to go to the concert.

____ ____ Sentences ❒ Picture ❒ Caption

_____ 3. Sam's parents do not want him to go to a rock concert on a school night.

____ Sentence ❒ Picture ❒ Caption

_____ 4. Sam's parents will let him go to the concert.

____ ____ ____ Sentences ❒ Picture ❒ Caption

_____ 5. All of Sam's friends are going to the concert.

____ Sentence ❒ Picture ❒ Caption

_____ 6. The ticket stub Sam found in his mom's desk drawer is from his dad's Rolling Stones concert.

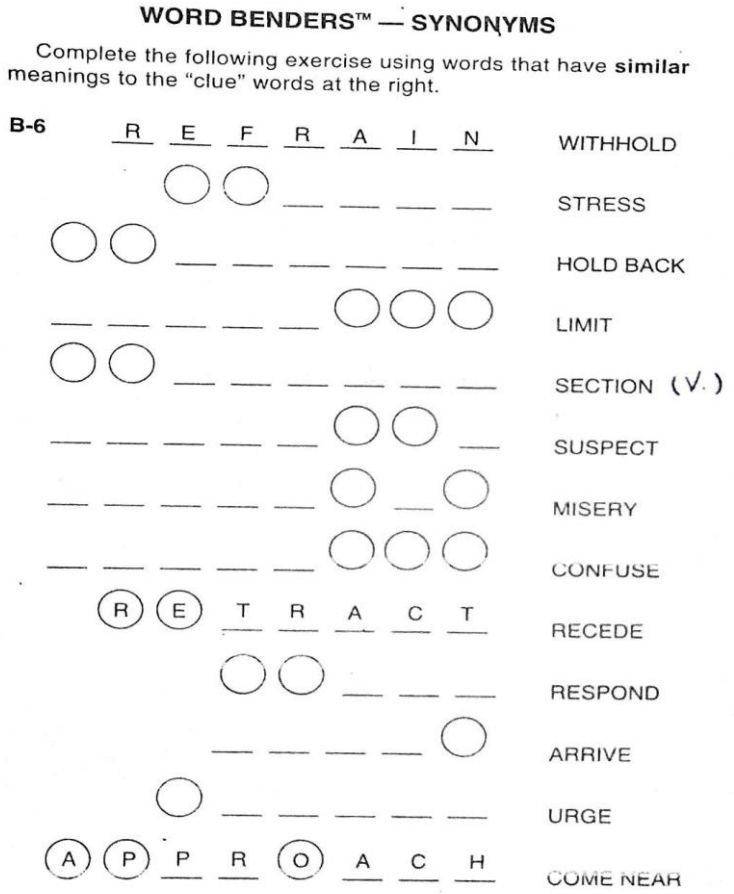
____ ____ Sentences ❒ Picture ❒ Caption

Time filler 7: Games

The teacher askes the students, each, to write three statements about themselves, two of the statements are true while one is a lie. Afterwards, a student is invited to the board and asked to read his/her three statements out loud. The rest of the group are supposed to find out which two statements are true and which is the lie. In order to do that, they ask the student a number of questions to which s/he needs to answer. The first to make the right guess gets a point. All the students come to the board and read their statements.

Time filler 8: Word benders

This time filler consists of presenting learners with short mind-bending language games that trigger their thinking.



WORD BENDERS™ — SYNONYMS

Complete the following exercise using words that have **similar** meanings to the "clue" words at the right.

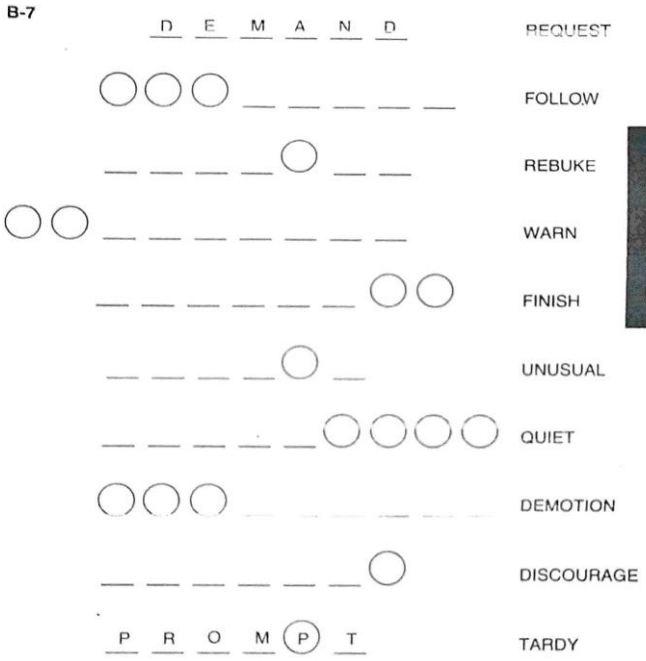
B-6

R E F R A I N	WITHHOLD
◯ ◯ _ _ _ _	STRESS
◯ ◯ _ _ _ _ _ _	HOLD BACK
_ _ _ _ _ ◯ ◯ ◯	LIMIT
◯ ◯ _ _ _ _ _ _	SECTION (V.)
_ _ _ _ _ ◯ ◯ _	SUSPECT
_ _ _ _ _ ◯ _ ◯	MISERY
_ _ _ _ _ ◯ ◯ ◯	CONFUSE
R E T R A C T	RECEDE
◯ ◯ _ _ _	RESPOND
_ _ _ _ ◯	ARRIVE
◯ _ _ _ _ _	URGE
A P P R O A C H	COME NEAR

WORD BENDERS™ — ANTONYMS

Complete the following exercise using words that have the **opposite** meanings to the "clue" words at the right.

B-7



SEQUENCES

HOW ALIKE ?—SELECT

Each line contains two words. Think about the ways the two are alike, then underline the sentences that are true of **both**.

A-174 danger
risk

a. Both suggest exposure to injury or loss.
b. Both suggest willingness to take a perilous chance.
c. Both suggest the need for caution.

A-175 blame
criticism

a. Both usually cause discomfort.
b. Both suggest evaluation of fault.
c. Both stress the fixing of responsibility for an error or fault.

A-176 error
lie

a. Both are efforts to deceive.
b. Both are incorrect.
c. Both can have unfortunate consequences.

A-177 salary
wage

a. Both refer to hourly or piecework rates.
b. Both refer to pay.
c. Both are fixed amounts usually paid monthly or twice a month.

HOW ALIKE AND HOW DIFFERENT?

Each line contains two words. Describe how the words are alike and how they are different.

A-178 bush
vine

HOW ALIKE?

HOW DIFFERENT?

A-179 garbage
trash

HOW ALIKE?

HOW DIFFERENT?

A-180 borrow
steal

HOW ALIKE?

HOW DIFFERENT?

A-181 alarm
signal

HOW ALIKE?

HOW DIFFERENT?

Time filler 9: More riddles

1. I can fly but have no wings. I can cry but have no eyes. Wherever I go, darkness follows me. What am I?
2. Mr Smith has four daughters. Each of his daughters has a brother. How many children does Mr Smith have?
3. You can see me in water, but I never get wet. What am I?
4. I am tall when I am young. I am short when I am old. What am I?
5. People buy me to eat, but never eat me. What am I?
6. There was a plane crash. Every single person died. Who survived?
7. What gets broken without being held?
8. You are my brother, but I am not your brother. Who am I?

9. What four-letter word can be written forward, backward, or upside down, and can still be read from left to right?
10. Feed me and I live, yet give me a drink and I die.
11. What three letters change a girl into a woman?
12. What has a heart, but no other organs?
13. One day, a little boy names John went over to his parents and said that he wanted to shoot people and blow them up. His parents were really proud of his career choice. What does John want to do?
14. In a one-story pink house, there was a pink person, a pink cat, a pink fish, a pink computer, a pink chair, a pink table, a pink telephone, a pink shower, everything was pink. What colour were the stairs?
15. What kind of tree can you carry in your hand?
16. Mr Brown was killed on Sunday afternoon. The wife said she was reading a book. The butler said he was taking a shower. The chef said he was making breakfast. The maid said she was folding clothes. The gardener said he was planting tomatoes. Who did it?
17. Which word contains 26 letters, but only three syllables?
18. Take off my skin; I will not cry, but you will. What am I?
19. What does December have that other months do not have?
20. Look at me. I can bring a smile to your face, a tear to your eye, or even a thought to your mind, but I cannot be seen. What am I?
21. I am a fruit. If you take away the first letter of my name, I become a crime. Take away the first two letters of my name and I become an animal. Take away the first and last letter of my name and I become a form of music. What am I?
22. What never asks questions but is always answered?
23. What has hands but cannot clap?

24. I am a ship that can be made to ride the greatest waves. I am not built by tool, but built by hearts and minds. What am I?
25. What falls often but never gets hurt?
26. John bets Tom $100 that he can predict the score of the football game before it starts. Tom agrees but loses the bet. Why did Tom lose the bet?
27. There were five children in a room. Iris drew a picture, Barry played videogames, Andrew played chess, and Trina read a book. What is the fifth child, Mindy, doing?

Time filler 10: Fallacies

Following are definition of common fallacies. Try to find out the fallacy that goes with every definition.

1. An argument that attacks a person associated with an idea rather than the idea itself.
2. An argument that attacks a different subject rather than the topic being discussed.
3. An argument that a proposition must be true because it has not been proven false or there is no evidence against it.
4. An argument that presents limited options, typically by focusing on two extremes — when in fact more possibilities exist.
5. An argument that assumes that a certain course of action will necessarily lead to a chain of future events. It takes a benign premise or starting point and suggests that it will lead to unlikely or ridiculous outcomes with no supporting evidence.
6. It occurs when a person's argument repeats what they already assumed before, without arriving at a new conclusion.
7. A claim based on a few examples rather than substantial proof. The claim might be true in one case, but that does not mean it is always true.
8. It occurs when an argument incorrectly concludes that a cause is related to an effect.

9. It happens when a word, phrase, or sentence is used deliberately to confuse, deceive, or mislead. In other words, saying one thing but meaning another.
10. An argument that relies on provoking emotions to win an argument rather than factual evidence.

Answer Key

Time filler 1: Word pictures

1. Each picture is made up of words, but also represents a common saying. What are they?

(a) Forget it.

(b) Ice cube.

(c) One in a million.

2. Move the top circle from the vertical part so it is on top of the corner circle (bird's-eye view).

Time filler 2: Spot the fallacy

Slippery slope arguments are ones where someone plays on the fact that often the line between two things is hard to draw, but nonetheless, there is a generally accepted difference to be respected. Begging the question or circular arguments assume at the outset what is supposed to be demonstrated later on. Straw man arguments pose ridiculous examples only to easily knock them down later. Non sequiturs, from the Latin, are claims that do not actually follow in any logical sense. Ad hominem, again from the Latin, are arguments which attack the person making the claim, rather than deal with what they are saying.

1. You can legitimately say that this argument contains many fallacies, but I claim that the 'Straw Man' is the most relevant one to note. No vegetarians argue this and so the claim that they do is, well, made of straw.

2. This fallacy is ‘begging the question’ meaning that it is a circular argument. The idea is that the explanation used to back up your point relies on the assumption of what it is supposed to be proving.

Time filler 3: Riddle

It is 151. It took me absolutely ages to work it out. Turn it into an equation, though, and it is easy to solve:

50 + (mileage – 80) — 1 = 60 + (mileage) — 0.5

Time filler 4: Brain teaser

The key thing here is that the amount of tea being drunk is up 25 per cent. You also know that Grandma is one person. One person thus requires one extra packet of tea every fifth week, which is a complicated way of saying that one packet of tea lasts one person five weeks, or that one person would be drinking one the fifth of a packet in a week. So previously, when one packet lasted a week, five spoons must have been in the pot, which corresponds not to five people but four people plus that extra spoon ‘for the pot’. The answer is therefore four people, and previously four spoons of tea must have been in the pot.

Time filler 5: Valid or invalid?

Neither of the first two arguments is valid. Although pythons do not have fur, the first argument has not proved that — it does not even look like it will! So, I hope you weren’t taken in. In the second argument, you may have been tempted to ‘give the argument some rope’, because Toby probably does like milk if he is a cat. Nonetheless, if all you know is that ‘some’ cats like milk, again the conclusion is not proved.

The third argument is sort-of-valid. I say sort-of because the wording contains a bit of fudge. The first premise ‘Red berries are dangerous to humans to eat’ is true in one sense and not true in another. Far too many arguments depend on such ambiguities!

Time filler 6: Puzzles

Answers

1. They all have a tail. They are also all quadrupeds.

2. They start with a vowel: a, e, i, o, u

3. Brook, pond, lake, sea, ocean.

4. The Concert:

1. C, 3. We know that this has to be false because only Robert's sixteen year old sister and her seventeen year old boyfriend were going to go with Sam and the other boys (sentence 3). Neither Robert's sister nor her boyfriend are adults.

2. e. There is not enough evidence. Since we do not know if Sam's friends are members of his class, then we have no evidence that all, or even any, of the parents of Sam's friends have given their permission for them to attend the concert.

3. b; 2. Sam suspects there is a good chance that his parents will not allow him to go to the concert, especially on a school night. The fact that he "suspects there is a good chance" seems to indicate that his parents do not want him out on school nights and have told him this in the past. Of course, there might always be an exception.

4. d; 2, 3, 7. Sam's parents probably will not let him go to the concert because 1) it is on a school night, 2) no adults are going, and 3) he suspects his parents are not keen on rock concerts. Sentence 7 underscores that when his dad went to The Rolling Stones concert he went with an adult. However, we do not know for certain that they will say no.

5. e. There is not enough evidence. We do not know if Sam's friends, mentioned in sentence 1, are members of Sam's class. If they are, then they are going to the concert. If they are not, then we do not have any evidence that they are going or even want to go. Regardless, we simply do not know whether they are a part of Sam's class.

6. e. There is not enough evidence. While Sam's dad told him that he went to a Rolling Stones concert when he was Sam's age, we do not know that the ticket stub Sam found in his mom's desk drawer is his dad's ticket. Perhaps his mom also went and that is why it is in her desk drawer. Perhaps it is his grandmother's ticket. We do not have any evidence on which to base the inference that this ticket is his father's ticket.

Time filler 7

The answers provided depend on the students.

Time filler 8: Word benders

Synonyms/antonyms:

- Strain, restrain, restrict, district, distrust, distress, distract, react, reach, preach.
- Command, commend, recommend, commence, common, commotion, promotion, promote.

How alike and how different

- a, c.
- a, b.
- b, c.
- b.
- Alike: both have roots, branches, and leaves. Both are generally smaller than trees. Different: a bush is typically low and spreading. A vine is typically long and thin.

- Alike: both are wastes that must be collected and disposed of. Different: garbage refers to food waste; trash refers to product (metal, plastic, paper, etc.) waste.
- Alike: both refer to possession of something that belongs to someone else. Different: borrow suggests intent to return an item to its owner; borrow does not. Borrowing is legal; stealing is not.
- Alike: both concern the sending and receiving of information. Different: a signal primarily conveys directional or factual information; an alarm primarily warns or alerts.

Time filler 9: More riddles

1. Clouds.
2. He has 5 children; all of the daughters have the same brother.
3. A reflection.
4. Candle/pencil.
5. Plates and cutlery.
6. Married couples.
7. A promise.
8. I am your sister.
9. NOON.
10. Fire.
11. Age.
12. A deck of cards.
13. Become a photographer.
14. There were not any stairs. It was a one-storey house.
15. A palm.

16. The chef. Mr Brown was killed in the afternoon, and yet the chef claims he was making breakfast.
17. Alphabet.
18. An onion.
19. The letter D.
20. Memories.
21. Grape, rape, ape, rap.
22. A doorbell.
23. A clock.
24. Friendship.
25. Snow, rain.
26. John said the score would be 0-0 and he was right. ‘Before’ any football game starts, the score is always 0-0.
27. Mindy is playing chess (with Andrew).

Time filler 10: Fallacies

1. Ad Hominem

2. Straw man

3. Appeal to ignorance

4. A false dilemma or false dichotomy

5. A slippery slope

6. Circular argument

7. Hasty generalisation

8. Causal fallacy

9. Equivocation

10. Appeal to pity

SUMMARIES IN ARABIC AND FRENCH

Résumé

La présente recherche a pour objectif de remodeler le cours d'expression orale en première année au département d'anglais à l'Ecole Normale Supérieure de Constantine (ENSC) pour qu'il devienne basé sur les tâches langagières et, en même temps, orienté vers l'apprentissage de la pensée critique grâce à un fin réglage des activités langagières habituelles en classe. Les hypothèses émises sont : Premièrement, si les enseignants d'oral avaient une attitude positive envers la pensée critique, ils seraient disposés à l'incorporer dans leurs cours. Deuxièmement, s'ils instillaient la pensée critique dans leurs cours, ils développeraient la compétence communicative et la pensée critique de leurs apprenants. Et, finalement, si les apprenants étaient enseignés la pensée critique dans un cours basé sur les tâches langagières, leur habileté de pensée critique s'améliorerait. Un questionnaire est administré aux enseignants sur leurs pratiques en classe, ainsi que leurs points de vue et leurs attitudes à l'égard de la pensée critique. Ensuite un échantillon de deux groupes de première année a participé à l'expérience. Le groupe de contrôle a reçu un enseignement régulier tandis que le groupe expérimental a été enseigné en suivant le cours restructuré. Les deux groupes ont passé un test de pensée critique avant le début du traitement et un autre par la suite. Les résultats montrent que les enseignants de l'expression orale de première année à l'ENSC ont une attitude positive vis-à-vis de la pensée critique et de son intégration dans les cursus de langues. Ils montrent également que le cours de l'expression orale de première année peut être modifié pour le rendre basé sur les tâches langagières et orienté vers l'acquisition de la pensée critique sans pour autant altérer son contenu ni ses objectifs. Ils révèlent aussi que la pensée critique peut être enseignée aux apprenants et mesurée via l'utilisation d'un test de la pensée critique, et qu'après avoir reçu l'instruction, la pensée critique des apprenants du groupe expérimental s'est considérablement améliorée. Par conséquent, l'intégration de l'enseignement de la pensée critique est recommandée par le biais de certaines lignes directives mises à la disposition des enseignants, des apprenants, des autorités pédagogiques universitaires, des concepteurs de programmes scolaires, et des responsables.

ملخص

يهدف هذا البحث إلى إعادة تصميم مقياس التعبير الشفهي في السنة أولى لغة إنجليزية في المدرسة العليا للأساتذة بقسنطينة، بحيث سيعتمد أساسا على التعلم بمقاربة استعمال الأنشطة اللغوية Task-based Approach ومن أهم ما سيسعى إلى تلقينه هو التفكير النقدي لدى المتعلمين. وثمة ثلاث فرضيات وهي: أولا، لو كانت مواقف أساتذة التعبير الشفهي في السنة الأولى إيجابية إزاء التفكير النقدي فستكون لهم رغبة في إدماجه في هذا المقياس. ثانيا، لو تم ادماجه في هذا المقياس فسيحسن الكفاءة التواصلية لدى الطلبة وكذا قدرتهم على التفكير النقدي. وأخيرا، إذا تم تلقين التفكير النقدي ضمن مقاربة تعليمية ترتكز على الأنشطة اللغوية فإن تفكير الطلبة النقدي سيشهد تحسنا أيما تحسن. وُزع استبيان على أساتذة مقياس المهارة الشفوية لمعرفة ممارساتهم داخل القسم، وكذا آرائهم ومواقفهم تجاه التفكير النقدي. وشاركت عينة تتكون من مجموعتين من طلبة السنة الأولى في التجربة. تلقت المجموعة الضابطة درسا تقليديا بينما تلقت المجموعة التجريبية تعليما حسب البرنامج المعاد تصميمه. وخضعت كلتا المجموعتين لاختبار في التفكير النقدي قبل بداية التجربة وآخر بعد انتهائها. أظهرت النتائج أن أساتذة المهارة اللغوية لديهم موقف إيجابي اتجاه الفكر النقدي وادماجه في مناهج اللغة. كما تظهر أنه يمكن تعديل منهاج مادة المهارة اللغوية لجعله يقوم على ممارسة الأنشطة اللغوية وينحو نحو تطوير الفكر النقدي لدى الطلبة دونما تغيير جذري لمحتواه أو أهدافه. تكشف البيانات أيضا أنه يمكن تطوير الفكر النقدي لدى الطلبة ويمكن قياسه بواسطة اختبار الفكر النقدي، وأن الفكر النقدي لطلبة المجموعة التجريبية، تحسن بشكل ملحوظ. لذا، توصي الباحثة بإدماج تعليم الفكر النقدي في التعبير الشفهي وتقترح بعض الخطوط العريضة من أجل ذلك للمعلمين والمتعلمين والسلطات التربوية بالجامعة ومصممي المناهج التعليمية وصناع القرار.