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CRITICAL THINKING SKILLS FOR READING

HISTORICAL DOCUMENTS: A CASE STUDY OF FIRST-YEAR LMD

STUDENTS OF ENGLISH AT BLIDA UNIVERSITY

Par

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ABSTRACT

Critical thinking skills have received a wide attention among educators in the 20th and the 21st centuries. Almost every educational agenda stresses the need and importance of these skills and set them a major priority in all schools and universities. Yet a task delivered to 3rd year LMD students of civilisation enrolled in the English department at Saad Dahlab University of Blida revealed that these students on the verge of their graduation lack critical thinking skills. This shows that the focus on developing these skills is absent in the civilisation course where students are supposed to build up the skills that enable them evaluate historical information. From here emerged the need to set forth an experimental research that aims at investigating whether infusing an explicit instruction in critical thinking elements and critical reading strategies into a first-year LMD American Civilisation course develops the critical thinking skills of freshman students of English enrolled at Saad Dahlab University of Blida.

The present experimental research is composed of four chapters. The review of the literature presented in the first chapter explores the concept of critical thinking and reveals that developing students' critical thinking skills is highly praised by educators and researchers. The second chapter of this thesis discusses the methodology followed in this research. An experimental design is adopted for the present one-semester research with randomly selected one experimental group which received the experimental treatment and one control group which did not receive such treatment. Both groups received a questionnaire, a test and a task at the beginning and again at the end of the semester. Chapter two also discusses data analysis procedures. Both descriptive and inferential statistics were run with assistance of the Statistical Package for the Social Sciences (version 17.0) to analyze the data obtained from the three research instruments (questionnaire, test and task) and determine whether experimental students' critical thinking skills improved due to the treatment they received. Chapter three reports and discusses the results obtained from the research instruments (questionnaire, test and task). The results demonstrate significant differences in experimental and control group's performance. The experimental group performed higher than the control group, thus revealing an improvement in experimental students' critical thinking skills that can be attributed to the instruction they received over a semester period. These results confirm the effectiveness of critical thinking instruction in developing students' abilities to think critically. The last chapter of this research concludes with some suggested

recommendations and pedagogical implications which highlight the importance of integrating an instruction for critical thinking into civilisation classes with the aim of developing students' critical thinking skills.

ملخص

تلقت مهارات التفكير الناقد اهتماما كبيرا وخاصا خلال القرنين العشرين و الواحد و العشرين , فمعظم المقررات التعليمية أكدت أهمية وضرورة تنمية ههذه المهارات لدى طلاب المدارس والجامعات على حد سواء. و بالرغم من ذلك, عند قيام طلبة السنة الثالثة إنجليزية من قسم الحضارة بجامعة سعد دحلب بالبليدة بتحليل وثيقة تاريخية كشفت النتائج المتحصل عليها أن هؤلاء الطلاب يفتقرون إلى مهارات التفكير الناقد مع أنهم على وشك التخرج. هذا يدل على أن تدريس مهارات التفكير الناقد التي تساعد الطلبة على تحليل وتقييم الوثائق التاريخية غير موجود ضمن مقرر تدريس الحضارة. هذا الأمر الذي دفعنا للقيام بدراسة تجريبية بهدف تقصي ما إذا كان تدريس عناصر التفكير الناقد واستراتيجيات القراءة الناقدة يساهم في تنمية مهارات التفكير الناقد لدي طلاب السنة الأولى إنجليزية بجامعة سعد دحلب بالبليدة.

تتألف هذه الدراسة من أربعة فصول موضحة كالآتي.الفصل الأول وهو الفصل النظري للبحث يستعرض مفهوم وماهية التفكير الناقد بالإضافة إلى الدراسات والبحوث السابقة حول موضوع هذه الدراسة.

الفصل الثاني من هذه الأطروحة يتناول الخطوات المنهجية المتبعة . هذه الدراسة اعتمدت المنهج التجريبي ودامت لمدة فصل دراسي حيث تم اختيار فوجين عشوائيا من الطلبة, فوج تجريبي تلقى التجربة وفوج ضابط لم يتلق التجربة. تم تطبيق استبيان, اختبار وواجب على طلبة الفوجين التجريبي والضابط مرتين على التوالي قبل وبعد الفصل الدراسي.

الفصل الثاني من هذه الدراسة كذلك يناقش الأساليب والإجراءات المتبعة لتحليل البيانات التي تم الحصول عليها من أدوات البحث الثلاثة (الاستبيان, الاختبار والواجب). تم الاعتماد على كل من الإحصاء الوصفي, والإحصاء الاستدلالي, لتحليل البيانات وذلك بمساعدة برنامج السلسلة الإحصائية للعلوم الاجتماعية (Satistical Package for the Social Sciences) الإصدار 17.0 لتحديد ما إذا تلقى طلبة الفوج التجريبي تحسينا في مهارات التفكير النقدي لديهم.

الفصل الثالث من هذه الأطروحة يناقش النتائج المتحصل عليها في البحث. أظهرت النتائج فروقا ذات دلالة إحصائية بين أداء طلبة الفوجين التجريبي والضابط. الفوج التجريبي الذي درس عناصر التفكير الناقد واستراتيجيات القراءة الناقدة تفوق على الفوج الضابط الذي درس بالطريقة التقليدية, وهذا ما يكشف تحسنا في مهارات التفكير الناقد لدى الطلاب في الفوج التجريبي وهو التحسن الذي يمكن أن يعزى إلى الطريقة التي درسوا بها عبر التجربة التي قمنا بها خلال الفصل الدراسي 2010-2011 . أظهرت هذه النتائج دور وفعالية تدريس التفكير الناقد في تنمية قدرة الطلاب على التفكير الناقد.

الفصل الأخير وهو الرابع من هذه الدراسة يستعرض بعض التوصيات والاقتراحات التي تسلط الضوء على تشجيع إدماج تعليم التفكير الناقد في مقرر الحضارة وذلك بغية تنمية قدرات ومهارات التفكير الناقد لدى الطلبة.

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LIST OF ABBREVIATIONS

CALLA: Cognitive Academic Language Learning Approach

CR: Critical Reading

CRS: Critical Reading Strategies

CT: Critical Thinking

CTE: Critical Thinking Elements

CTR: Control Group

DBT: Document-Based Task

EFL: English as a Foreign Language

EXP: Experimental Group

HOTS: Higher-Order Thinking Skills

ICTET: International Critical Thinking Essay Test

LMD: Licence-Master-Doctorate

LOTS: Lower-Order Thinking Skills

N: Number

OT: Original Taxonomy

S: Student

SPSS: Statistical Package for the Social Sciences

USDB: University Saad Dahlab of Blida

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INTRODUCTION

The transmission of a predetermined body of knowledge from the teacher to the students in the form spoon feeding and lecturing have started to be looked at with a suspicious eye and have begun to be increasingly criticized. Urged by a need to substitute the traditional teacher-centered approach which renders students passive recipients of information, learner-centredness was introduced as an alternative approach. The inclination towards this approach reflects educators' desire to see students play a more active role in the learning process as independent thinkers able to think on their own, and more aware about how they think instead of just what to think.

Learner-centeredness focuses on students' mental processes and stresses that students should be given opportunities to process information, make judgments, solve problems and make decisions at their own. This emphasis reflects the growing attention directed towards developing students' critical thinking skills. This latter has become a major agenda and one of the most persistent and ambitious aspirations of education. In different EFL curricula, for instance, the cultivation of students' critical thinking skills is increasingly recognised and it has been integrated as an essential ingredient. Yet, this widespread interest in nurturing students' critical capacities calls for a better instruction; an instruction that goes beyond a mere transmission of knowledge from teacher to student, to also include as a primary task the development of the knowledge, the skills as well as the dispositions associated with critical thinking.

Changing instruction from a mere didactic delivery of bodies of knowledge to a course that focuses on developing knowledge and skills was also the intent of the proponents of the LMD (Licence, Master, Doctorate) system in Algerian universities. A system in which what the learner does—his cognitive activities, intellectual skills and abilities—is acknowledged more than what the teacher does, or syllabus coverage. Introduced since the years 2004/2005, the LMD has been spreading to almost all Algerian universities, and is designed so that students

cease to be mere spectators receiving information as in the classical system. For instance, critical reading (henceforth CR) is to be introduced in the second year of the Licence (see Appendix A page 136) aiming at developing students' critical thinking skills like abilities to analyze, synthesize and evaluate reading materials. Students at university are supposed to read considerably complex materials as they progress through their studies and at the University of Saad Dahlab of Blida (henceforth USDB) students of English enrolled in the LMD system are not an exception. In the civilisation courses, for instance, students reading for the BA (Licence) degree are required to read different historical documents. These reading demands compel students to go beyond reading words on the page, i.e., beyond reading comprehension, to analyze and critique what they read and do more other challenging reading activities that require critical thinking skills. Retaining as much information as possible from the text or merely comprehending the text, therefore, is not what students are expected to do. Rather, it is their ability to puzzle about the author's reasoning with the aforementioned skills what render them successful critical thinkers and readers.

The cultivation of students' critical thinking skills, as stated formally, is vital for an effective critical reading of historical documents. These capacities are also critical to the success of students inside and even outside the classroom. However, despite the importance of these skills and the general consensus that the goals of teaching should be towards improving them, there has been much uncertainty and a growing controversy about how educators can most effectively foster these valuable skills. In order to understand how instructors can develop their students' critical thinking skills and more specifically in history classes, more empirical studies are needed. The present experimental research attempts to add to the knowledge of how civilisation courses can be used to develop students' critical thinking skills. This is by assessing the effectiveness of infusing an explicit instruction in critical thinking elements (henceforth CTE) and critical reading strategies (henceforth CRS) into a first-year LMD American civilisation course on improving the critical thinking abilities of first-year LMD students of English at University Saad Dahlab of Blida (henceforth USDB). If this instruction can effectively foster students' critical thinking skills, then it needs to be more widely integrated into the LMD English curriculum and needs to gain the attention of

civilisation teachers who ought not only recognize the importance of critical thinking and the need for critical thinking skills but also endeavour to challenge students to think critically and help them develop critical thinking abilities.

This introduction gives an overview of the research. It presents the problematics of the research, the research rationale and objectives, the main question and sub-questions addressed in this research, the main hypothesis and the sub-hypotheses, as well as the research means adopted to carry out the experimental research. Finally, it explains how this research work is organized.

Reading critically historical documents often represents a formidable challenge to many students. This is because it requires basic skills like understanding to higher-order critical thinking skills like extracting arguments and reasons, making inferences, recognizing assumptions among other skills. This implies that focusing on literal interpretation and comprehension of words and even on summarizing main ideas are not enough, although this is what many students in the Department of English at University Saad Dahlab of Blida (henceforth USDB) resort to when approaching historical documents. In other words, they lack the critical thinking abilities that would enable them analyse and evaluate these documents and provide comments of their own.

Evidence to support this judgment was obtained from a task (see Appendix B page 137) assigned to students of English on the verge of their graduation at University Saad Dahlab of Blida (henceforth USDB). These include fifteen students from third Year LMD, chosen randomly to take part in this research. The students have been studying civilisation for three years, and they were chosen on the basis of their acquaintance with historical documents and because it is supposed that they had been trained to analyse reading materials. Hence, a speech of Margaret Thatcher (British Prime Minister 1979-1990) was given to them to be read and analysed (see appendix B page 137). Their work revealed that they merely provided a summary of the document without examining its historical and social context, or when, why and by whom it was delivered. In fact, the majority of these students did not go beyond the level of extracting information from the document. This is grossly ineffective as it rendered their answers without analytical and critical depths.

From the observation of students' analysis of Mrs. Thatcher's speech, it has become apparent that many students expressed a difficulty in fulfilling the analysis task. The lack of critical thinking skills is a great hamper to students as they will find it difficult to analyze and evaluate reading materials. To that end arises the necessity to investigate this issue so as to find out ways to help students develop critical thinking skills that enable them read critically historical documents, without stopping merely at the level of comprehension.

This research work is conducted to advance an understanding of the effects of infusing an explicit instruction in critical thinking elements (henceforth CTE) and critical reading strategies (henceforth CTS) into a first-year LMD American civilisation course on the critical thinking skills of first-year LMD students enrolled in the Department of English at University Saad Dahlab of Blida (henceforth USDB). It seeks to assess empirically whether this instruction significantly improves students' critical thinking skills. Moreover, it seeks to gain an in-depth understanding of the concepts of critical thinking and critical reading. Another aim of this work is to examine the critical thinking skills and critical reading strategies identified in the literature on critical thinking and gauge the effectiveness of the Cognitive Academic Language Learning Approach (henceforth CALLA model) adopted to implement this instruction.

Based on the aforesaid objectives of this research, the present research intends to inform the following main research question and other three sub-questions:

- Does infusing an explicit instruction in critical thinking elements and critical reading strategies into a first-year LMD civilisation course improve the critical thinking skills of first-year LMD students of English at University Saad Dahlab of Blida?

    • Will student participants in the experimental group undergoing the explicit instruction in critical thinking elements and critical reading strategies use these strategies more effectively than participants in the control group?

- Will there be any significant difference between the pretest and post-test means of the experimental group and between the pretest and post-test means of the control group, as measured by the International Critical Thinking Essay Test?

- Will there be any significant difference between the pre-task and post-task means of the experimental group and the pre-task and post-task means of the control group, as measured by the Document-Based Task?

In order to answer the formally stated research questions, the following main hypothesis and sub-hypotheses will be tested:

- Infusing an explicit instruction in critical thinking elements and critical reading strategies into a first-year LMD civilisation course would likely foster the critical thinking skills of first-year LMD students of English at University Saad Dahlab of Blida and enable them read critically historical documents.

- Student participants in the experimental group will demonstrate an effective use of critical reading strategies better than the control group following the instruction.

- There be will no difference between the pretest and post-test means of the control group but there will be a difference between the pretest and post-test means of the experimental group.

- There be will no difference between the pre-task and post-task means of the control group but there will be a difference between the pre-task and post-task means of the experimental group.

To test the previous hypotheses and answer the main research question and sub-questions, this research carried out an experimental design through which the explicit critical thinking elements (henceforth CTE) and critical reading strategies (henceforth CTS) instruction infused into a first-year LMD American Civilisation class and executed through the cognitive academic language learning approach (henceforth CALLA) model is assessed for its ability (or not) to develop

the critical thinking skills of first-year LMD students of English at University Saad Dahlab of Blida (henceforth USDB). The research comprises two groups; an experimental group (henceforth EXP group) and a control group (henceforth CTR group) and employs three research instruments administrated at two points in time: i.e., before and after instruction. These three tools are a students' questionnaire, the International Critical Thinking Essay Test (henceforth ICTET) and a Document-Based Task (henceforth DBT). These research tools are administered to the two groups at the beginning of the semester, prior to the instruction in critical thinking elements (henceforth CTE) and critical reading strategies (henceforth CRS) and once again at the end of the semester to test whether or not any significant differences occurred in the two groups' use of critical reading strategies (henceforth CRS) and performance on the test and task. The results obtained are statistically analyzed using the Statistical Package for the Social Sciences (SPSS version 17.0) to help assess the effectiveness of the instruction and hence inform the main research question of whether this instruction would improve the critical thinking skills of first-year LMD students of English at University Saad Dahlab of Blida (henceforth USDB).

The present research comprises four chapters. The first chapter constitutes a review of the literature on critical thinking. It discusses the concept of critical thinking starting with a brief historical overview of this concept, then attempting a comprehensive definition of critical thinking including the skills and the dispositions that associate with it. It then presents an explanation of critical thinking skills instruction and assessment. The chapter also examines two classifications of critical reading strategies. It concludes with a discussion of some frameworks of strategies instruction, providing a justification for the use of cognitive academic language learning approach (henceforth CALLA) in this research.

Chapter two is concerned with the practical part of this research work. It gives an account of the research sample and the research instruments including the administration procedures. It, then, discusses the experimental design of the research and the procedures followed to implement the experimental treatment. Finally, this chapter provides an overview of the data analysis procedures.

Chapter three of this research relates the analysis procedures and interpretation of the data generated by the research instruments. It provides the statistical analysis of the questionnaire, the test as well as the task in separate sections with a discussion and interpretation of the results obtained from the aforementioned tools in terms of answers to the research main and sub-questions. The results of the research are examined to assess whether infusing an explicit instruction in critical thinking elements (henceforth CTE) and critical reading strategies (henceforth CTS) into a first-year LMD American civilisation course succeeds to develop students' critical thinking skills.

Chapter four firstly summarizes the research findings and then tackles some suggested recommendations and pedagogical implications for teachers of civilisation which centre around the need and benefits of integrating explicit instruction for critical thinking in the civilisation classes as a means for developing students' abilities to think critically. The chapter also draws the teachers and administrators' attention to some key factors necessary for the success of the instruction. Limitations of this research and suggestions for further research are finally discussed. With these four chapters, this research is wrapped up with a general conclusion presented at the end of the thesis.

CHAPTER 1
LITERATURE REVIEW ON CRITICAL THINKING

1.1. <u>Introduction</u>**:**

Cultivating students' critical thinking skills has been a longstanding goal in education. Instruction for critical thinking (henceforth CT) that aims at developing students' critical thinking abilities thus is pivotal. It requires engaging students actively in the learning process and in practising critical thinking skills, focusing on the process of learning itself, not merely on the content to be taught, and using assessment tools that provide students with opportunities to apply these skills rather than merely to recall memorized knowledge. This chapter is a review of the relevant literature regarding the concept of critical thinking (henceforth CT) and the role of instruction in developing students' critical thinking skills for reading critically historical documents. It starts with a distinction between higher-order thinking skills and lower-order thinking skills, trying to highlight whether critical thinking and higher-order thinking skills are synonymous concepts. It then discusses the concept of critical thinking, including a detailed explanation of critical thinking skills instruction and assessment. Previous research on critical reading (henceforth CR) and history will be then presented, then the term critical reading (henceforth CR) will be explained followed by two classifications of critical reading strategies (henceforth CRS). Strategy-based instruction is discussed and some frameworks for conducting such instruction are presented at the end of this chapter.

1.2. <u>Thinking Skills:</u>

Learning with thinking and learning without thinking are quite distinct. In the case of learning without thinking (learning by rote), learning relies vitally upon memorization. However, in learning with thinking, thinking skills are at the centre of the thinking process. In fact, thinking relies on a wide range of acquired skills or abilities that might be used for different purposes, like in performing an activity well [1]. According to FISHER [2] thinking skills are "practical abilities to think in ways that are judged to be more or less effective or skilled". Another definition of thinking skills is that of ASSAF who argues that:

"Thinking skills are not content to be placed into the brain. Rather, they are processes which, when practiced, empower the brain to work more efficiently" [3]

This implies that thinking skills can be taught, learnt and practiced in the course of teaching and learning.

1.3. Categorization of Thinking Skills:

Despite the importance of thinking skills in education and the general consensus that they are acquired abilities when practised well, they render thinking more effective and skillful; there is no single list of such skills. JOHNSON and SIEGEL [4] argue that there are several thinking skills taxonomies and there is much controversy over what they are and how they can be taught. This section of the literature review is devoted to present Bloom's Taxonomy which categorizes thinking skills into lower-order thinking skills (henceforth LOTS) and higher-order thinking skills (henceforth HOTS).

Bloom's taxonomy of educational objectives, also known as the Original Bloom's Taxonomy (henceforth OT) is often referred to when delineating and categorizing thinking skills. The OT, as defined by KRATHWOHL [5], is a means for determining and classifying the appropriate sort of thinking skills that should be emphasized in a unit, course, or curriculum. Bloom's Taxonomy consists of a hierarchical arrangement of six cognitive skills organized in terms of complexity and arranged from concrete to abstract: Knowledge at the bottom of the hierarchy, then comprehension, application, analysis, synthesis and at the highest level or at the top of the hierarchy, evaluation (see Table 1 page 19). The three first cognitive skills are considered as lower-order thinking skills, whereas the last three ones are higher-order thinking skills.

The categorization presented in this section (i.e., Bloom's Original Taxonomy) gives more details about the kind of thinking skills that students need to acquire. It shows that instruction should go beyond the basic, lower level cognitive processes of remembering, understanding and applying to guide

students towards higher levels of thinking. Improving students' skills for analyzing, synthesizing and evaluating are too crucial goals to achieve. Higher-order thinking skills are exalted and encouraged as the kind of skills which educators wish to promote [6]. Yet they are not valued at the expanse of lower-order skills. These latter, because of the hierarchical nature of the taxonomy, are held to be necessary before higher skills can be acquired or developed.

Category	Definition	Cognitive Processes within each category
Knowledge 1.1Knowledge of specifics 1.2 Knowledge of ways means of dealing with specifi 1.3 Knowledge of universals and abstractions in a field	Student recalls or recognizes information, ideas, and principles in the approximate form in which they were learned.	Recognizing, recalling, identifying, retrieving
Comprehension 2.1 Translation 2.2 Interpretation 2.3 Extrapolation	Student translates, comprehends, or interprets information based on prior learning.	Interpreting, exemplifying classifying, summarizing inferring, comparing explaining
Application	Student selects, transfers, and uses data and principles to complete a problem or task with a minimum of direction.	Executing, implementing
Analysis 4.1 Analysis of elements 4.2 Analysis of relationships 4.3 Analysis of organizatio principles	Student distinguishes, classifies, and relates the assumptions, hypotheses, evidence, or structure of a statement or question.	Differentiating, organizing, attributing
Synthesis 5.1 Production of a unique communication 5.2 Production of a plan, or proposed set of operations 5.3 Derivation of a set abstract relations	Student originates, integrates, and combines ideas into a product, plan or proposal that is new to him or her.	Checking, critiquing
Evaluation 6.1 Evaluation in terms of internal evidence 6.2 Judgments in terms external criteria	Student appraises, assesses, or critiques on a basis of specific standards and criteria.	Generating, planning, Producing

Table 1. Summary of Bloom's Taxonomy of the Cognitive Domain

1.4. Higher-Order Thinking Skills and Critical Thinking:

In spite of the agreement over the importance of higher-order thinking skills in education, disagreement still rests over terminology. Many scholars have come to associate these skills with CT and use them as a synonym for it. As REED [7]

notes, "some scholars use "critical thinking" and "higher order thinking" interchangeably (Halpern 1993), others make a sharp distinction (Facione 1990)", and still many other scholars have viewed higher order thinking skills as an umbrella term that includes critical thinking, problem solving, decision making, and creative thinking, like RUDD who argues that:

> "…critical thinking and higher order thinking are not equivalent. Critical thinking is not a 'catch-all' category for higher order thinking. It is one of a family of closely related forms of higher order thinking. Others include problem solving, creative thinking and decision making"[8]

In addition, others think that Bloom's Taxonomy and mainly the top three categories (i.e. analysis, synthesis, evaluation) which constitute higher order thinking are sometimes equated with critical thinking [9]. Because of these differences in experts' views, and because the need for CT has gained widespread attention for decades now, CT will be defined and discussed thoroughly in the following section.

1.5.   Critical Thinking:

In the 1990s and early 2000s, several scholars (Halpern [10], [35]; Lipman [11], [12]; Sternberg [28]; Robyns [13]; Facione [14], [15], [16]; Brookfield [17]; Cottrell [18]; Ennis [19], [20]; Paul [21]; Paul and Elder [22], [23]; Paul, Elder and Bartell[24]; McGregor [25], Fisher [26], Glaser [27]; among others) in various fields including, educational psychology, philosophy, cognitive and developmental psychology, to name a few, have produced a myriad of books, studies and articles on CT. This latter is now a 'buzz' word in education and there exist several attempts to define it in the huge relevant literature of CT. The breathtaking multitude of definitions available share to a great extent similar content, hence complicated the issue of having one encompassing worldwide accepted definition of this concept. TSUI [43] argues that because CT is complex, "any attempt to offer a complete and definitive definition of it would be futile". Consequently, to understand the nature of CT, a brief historical overview of the origin of the term is warranted followed by some definitions proposed by experts in the field of CT.

1.5.1. <u>Origin of Critical Thinking:</u>

The term critical thinking derives from roots in Ancient Greek [24]. The word 'critical' and 'critic' derive etymologically from two Greek roots, 1) Kriticos, from Kites meaning 'a judge' and 'judgment' and 2) Kriterion meaning 'standards' or 'means of judging' (Concise Oxford Dictionary 11th Edition).

Greek philosophers like Socrates, Plato and Aristotle are generally considered the first promoters of CT, notes MCGREGOR [25]. Socrates, for instance, is renowned for the 'Socratic Method' which is based on inquiry in terms of asking and answering questions to induce ideas from the respondents and stimulate them to think. Socrates's method of questioning encourages probing deeply into others' beliefs and claims to scrutinize them for clarity, evidence and consistency before accepting them as reasonable and worthy [29].

Plato, the disciple and a student of Socrates, carried out much of Socrates' work in stimulating thinking through questioning. Plato emphasized that all what appear to people at the surface is very different from reality, and from here emerged the need to think in a systematic manner, to trace implications, for only thinking that is well-reasoned can take people beyond the surface to understand the deeper realities [24].

Aristotle also continued Plato's intent to promote CT. Moreover, he set forth formal rules of correct reasoning to avoid contradictions in thinking. His system of logic, with syllogism at its heart, had a great influence on many other thinkers and philosophers like Kant (1724-1804). Syllogism places emphasis on the process of drawing inferences (conclusions) from initial information (premises) [30]. The famous syllogism which is often attributed to Aristotle is: All men are mortal, Socrates is a man, therefore Socrates is mortal. Aristotle syllogistic logic is based on deductive inference, that is, the conclusion in the aforementioned syllogism (Socrates is mortal) is inferred or deduced from the major premise (all men are mortal) and the minor premise (Socrates is a man). For Aristotle the only way to an unerring reasoning is stating arguments in syllogistic forms. Put differently, an argument is deemed valid only when its conclusion is deductively inferred from the

premises. This means validity comes from the structure not from the content of the argument.

It is noteworthy that Greeks valued CT and the idea of nurturing it is as ancient as antiquity itself. According to PAUL, ELDER and BARTELL [24], hundreds of thinkers (such as Thomas Aquinas, Francis Bacon, Rene Descartes, Sir Thomas Moore, Machiavelli, John Locke, Kant) in the intervening decades have immensely added to the development of CT. In the 20th and 21st centuries, CT has received the attention and focus of many researchers and experts whose definitions of this concept are the goal of the following section.

1.5.2. Definitions of Critical Thinking:

Several definitions of CT exist, and many of these definitions have a similar content and present the same elements and principles underlying CT. A review of all these definitions available is quite impossible because professional literature on CT overflows with research on this concept. Therefore, to facilitate the task of defining CT, some definitions proposed by leading researchers are discussed in this section.

DEWEY is considered the modern-day founder and pioneer in the CT movement [28]. DEWEY calls CT reflective thinking, that is the:

> "active, persistent, and careful consideration of
> any belief or supposed form of knowledge in
> the light of the grounds that support it and the
> further conclusions to which it tends" [31]

DEWEY believes that CT is an active process, i.e., a process of raising questions, inquiring and searching. Further, he believes that accepting hastily a solution to any problem without scrutinizing and hunting for additional evidence to support it, leads to 'uncritical thinking'. This implies that CT gives much importance to reasoning, to giving reasons and justifications and to judgment.

GLASER [24] defines CT as "1) an attitude of being disposed to consider in a thoughtful way the problems and subjects that come within the range of one's experience; 2) knowledge of the methods of logical enquiry and reasoning; and 3) some skill in applying those methods". GLASER's definition is quite interesting as it explains what individuals need to possess to think critically. That is, having critical dispositions and attitudes, knowledge of elements of reasoning and inquiry and certain skills to apply this knowledge. This implies that having the knowledge and the skills is essential but not enough, for individuals must be disposed to use them.

STERNBERG [28] believes that CT comprises "the mental processes, strategies, and representation people use to solve problems, make decisions, and learn new concepts". As this definition reveals, STENBERG has narrowed and connected CT with problem-solving and decision- making, making them synonymous concepts. He also overlooks the role of seeking reasons and justifications. Moreover, he has emphasized only the skills and strategies ignoring the importance of dispositions, GLASER for instance in the CT definition stated previously deemed as necessary.

ENNIS [20] believes that "critical thinking is reasonable, reflective thinking focused on deciding what to believe or do". He focuses on reasonableness, i.e., having sense and good judgments, on reflection and on the process of making decisions. However, this definition is vague, and it is much like the three upper levels in Bloom's Taxonomy (i.e. analysis, synthesis and evaluation) which are often taken as a definition of CT [9].

PAUL [21] further defines CT by considering that metacognition is one of its crucial components. Among his various definitions of CT is "thinking about your thinking while you're thinking to make your thinking better" [21]. A second definition of PAUL delineates CT as

> "the intellectually disciplined process of actively and
> skillfully conceptualizing, applying, analyzing,
> synthesizing and or evaluating information gathered
> from or generated by observation, experience,

reflection, reasoning or communication as a guide to belief and action" [32]

PAUL considers CT as a skillful and active thinking and is the process of analyzing and assessing what he terms elements of thought. To analyze and assess the thinking of others or one's own thinking, the thinker 1) should recognize all the elements of reasoning and then 2) apply the intellectual standards (clarity, accuracy, precision, relevance, depth, breadth, logic, fairness) to evaluate them. Upon these elements and standards, PAUL and ELDER [33] designed the International Critical Thinking Essay Test (ICTET) to assess CT. This test will be used as pretest and post-test in this research. Chapter two (page 54) contains additional information about how this test is used.

The last definition reviewed in this section is that of the Delphi Panel. This panel comprises forty-six (46) experts in CT instruction, assessment and theory (Facione 1990:2) who conducted an inquiry into the state of CT thinking on behalf of the American Philosophical Association (henceforth APA). The panelists have reached a consensus on this concept as being "one among a family of closely related forms of higher-order thinking, along with, for example, problem-solving, decision-making, and creative thinking" [14]. Moreover, the Delphi Panel defines CT as:

> "…purposeful, self-regulatory judgment which results in interpretation, analysis, evaluation, and inference, as well as explanation of the evidential, conceptual, methodological, criteriological, or contextual considerations upon which that judgment is based. Critical Thinking is essential as a tool of inquiry […] and a powerful resource in one's personal and civic life" [14].

This comprehensive definition of CT includes skills of interpretation, analysis, evaluation, inference, explanation, and recognizes the importance of metacognition (self-regulation i.e., self-examination and self-correction) as a central component in CT to help individuals be mindful of and monitor their own thinking processes. Due to the comprehensiveness of this definition, it is used as the definition of CT in this research. The survey of definitions reviewed in this section reflects scholars' diverse views on the concept of CT. These definitions

reveal the extent to which CT is extolled and is widely recognized as vital necessity now in the 21st century as it was more than 2500 years ago. The following section is devoted to a discussion of scholars' views on the importance and need for critical thinking skills.

<u>1.5.3. Critical Thinking Skills:</u>

According to NORRIS [34] it might seem like a needless question to ask why CT is desirable, because it is like asking why education is desirable. Instruction for CT, STERNBERG [28] writes, should be the right of every student and "it is our responsibility to […] enable them exercise this right". But much like looking for reasons and justifications is part of the CT process, the assumption that CT is important needs support and justifications based on grounds that would be regarded as sound. Several justifications are examined in this section.

HALPERN [35] believes that every generation and more specifically the 21st generation needs more instruction in CT because the world is becoming more technical and complex. She argues (also HIROSE [36]) that the changes in the workplace require workers to be endowed with critical thinking skills that enable them make decisions, face and solve problems. In addition, the sheer information explosion or what is termed the 'information flux' is yet another reason to prove the benefits of developing critical thinking skills. Several researchers (VAN DUZER and FLOREZ [37]; YERBOUB 2011 [38] ; BREM and BOYES [39]) argue that the multitude of data available on the internet (which is not necessarily accurate and unbiased) require students to develop abilities to interpret, analyze, synthesize and evaluate this wealth of information and not accept everything they read as reliable.

The ability to make sound decisions and choices has been also a shared aspiration among those who have long advocated the need for developing critical thinking skills (HALPERN [35]; FACIONE [16]; TAMA [40]). Whether politically and economically, vocationally, socially or part of their' personal life, individuals are called upon to make countless decisive and not impulsive decisions all the time. This demands possessing skills to interpret, analyze and evaluate among other critical thinking abilities.

Turning to learning and education, a preponderance of research from the huge literature on CT (MCCOLLISTER and SAYLER [41]; TSUI [42], [43]; NORRIS [34]; PAUL [21]; HIROSE [36]; BESSICK [29]; YERBOUB [38]; SWARTZ [44]; REED [7]; FACIONE [14], [16]; DE LOPEZ 1992 CITED IN HALPERN[35]) accentuate the substantial need for improving the critical thinking skills of students in schools and universities. FACIONE [16] reports that in a study of over 1100 college students, scores on a CT test significantly increased, thus enhancing academic achievement and revealing the usefulness of CT instruction in making students think better. PAUL, BINKER and WEIL [45] as well as MCCOLLISTER and SAYLER [41] argue that critical thinking skills are essential in education because these skills increase the 'rigor' and 'readiness' of students and make them more motivated, active, engaged, challenged, and more importantly able to question and 'use the full power of their minds'. Rather than expecting the teacher to spoon-feed them and tell them every little thing, students with critical thinking abilities search and inquire to figure out things for themselves.

In a recent study-day presentation entitled "Developing Critical Thinking Skills among Undergraduate and Postgraduate Students of EFL", YERBOUB [38] highlighted the benefits of encouraging critical thought among university English students at Blida University-Algeria. Through many observations she made at the university level and after an examination of many exam sheets, she found that the majority of undergraduate students rely mostly on the memorization and the reproduction of their teachers' lectures in their examinations. Many of these students' responses show no analytical reasoning or evaluation but simply a blind repetition of what is learnt in courses. In another observation of undergraduate students, YERBOUB found that a vast majority preparing for their final research projects have a difficulty in reading critically the literature related to their research topics. Considering this, YERBOUB made a strong claim that nurturing critical thinking skills in students is fundamental because 1) they will help them express their own opinions and beliefs and not merely passively restate what others pass onto them. 2) Students will think more independently and consequently they will be less manipulated by what they hear or read. Finally 3) students will be able to

differentiate between facts and opinions and therefore will read the literature review with a more critical eye.

In sum, a vast number of researchers (FACIONE [16], STERNBERG [28], MCCOLLISTER and SAYLER [41], PAUL [23] among others) acknowledged the importance of CT and the invaluable need for fostering critical thinking skills. Taking all the aforementioned reasons and justifications these researchers present in favour of these skills, it is, thus, safe to conclude that developing critical thinking skills is an important goal that both teachers and faculties should strive to support. In the following section, several taxonomies of critical thinking skills will be presented.

1.5.4. Taxonomies of Critical Thinking Skills:

Being adept to CT involves a proficiency in critical thinking skills and an inclination to use them when appropriate. The depth and scope of the literature on CT reveal that ample lists of critical thinking skills exist. This section presents some selected taxonomies which are by no means exhaustive. Critical thinking skills taxonomies not presented in this section are quite similar, hence listing all the taxonomies is a mere repetition.

GLASER [27] among the first modern experts interested in CT has produced a list of critical thinking skills, which he considers as fundamental to students' success. This includes the abilities to:

- To recognise problems
- To find workable means for meeting those problems
- To gather and marshal pertinent information
- To recognise unstated assumptions and values
- To comprehend and use language with accuracy, clarity and discrimination
- To interpret data
- To appraise evidence and evaluate statements
- To recognise the existence of logical relationships between propositions
- To draw warranted conclusions and generalizations
- To put to test the generalisations and conclusions at which one arrives

- To reconstruct one's patterns of belief on the basis of wider experience
- To render accurate judgments about specific things and qualities in everyday life.

ENNIS [20] also proposes a set of abilities that underlie critical thinking. These skills are quite similar to the skills proposed by Glaser. In addition to ENNIS, FISHER [26] and COTTRELL [18] developed taxonomies of critical thinking skills that have much in common with the list of skills introduced previously.

Despite the plurality of the critical thinking skills taxonomies, the Delphi Panel of CT experts reached unanimity and classified a number of cognitive skills and sub-skills central to CT. The goal of any CT instruction is to develop good critical thinkers. By good critical thinkers, the experts meant individuals who have proficiency in critical thinking skills and who are inclined (i.e. disposed) to use them in the classroom, in their other studies and in everyday situations. The critical thinking skills proposed by the Delphi experts are characterized as 'pervasive' and 'purposeful' because they transcend specific subjects or discipline and can be applied in different settings. These skills, while they seem general skills that transcend specific subjects, but the Delphi experts believe that teaching them in domain-specific contexts results in a more successful excision of the skills (FACIONE [14]). The list of the critical thinking skills developed by the panel includes:

1. **Interpretation**
   - Categorization
   - Decoding Significance
   - Clarifying Meaning
2. **Analysis**
   - Examining Ideas
   - Identifying Arguments
   - Analyzing Arguments
3. **Evaluation**
   - Assessing Claims
   - Assessing Arguments
4. **Inference**
   - Querying Evidence
   - Conjecturing Alternatives

    - Drawing Conclusions
5. Explanation
    - Stating Results
    - Justifying Procedures
    - Presenting Arguments
6. Self-Regulation
    - Self-examination
    - Self-correction

Metacognition and self-regulation are fundamental to CT and take on a central part as critical thinking abilities that "educators (and researchers) want to see students acquire" (DEAN and KUHN [46]). These notions are discussed further on page 43.

As shown previously, the professional literature is abounded with various listings of critical thinking skills. A critical reading of these taxonomies reveals that several commonalities exist and the range of critical thinking skills identified by different scholars overlap enormously. However, due to their convergence, the taxonomies add more confusion rather than accord about what skills underlie CT. Although using a combination of critical thinking skills taxonomies help overcome the limitations of each, the list of critical thinking skills and sub-skills proposed by the Delphi experts is used in this experimental research. This is because it is exhaustive and closely matches the definition of CT which has been adopted throughout this research. The taxonomy also includes skills that students taking civilisation courses need to read critically historical documents. The cognitive dimension is not the only dimension of CT for it also involves attitudes and emotions. This will be the focus of the following section.

1.5.5. Dispositions for Thinking Critically:

Research (for e.g. the Delphi Report 1990) indicates that good critical thinkers have more than a bunch of well-cultivated critical thinking skills, in fact, they are also abidingly motivated, and have personal habits or what Paul [21] terms special 'traits of mind'. Researchers refer to these personal traits as 'dispositions'. These dispositions are to determine whether or not critical thinkers

are inclined to apply the skills they have, and whether they apply them in an appropriate way.

Critical thinking skills are closely linked to critical thinking dispositions. Several scholars (FACIONE [16]; NORRIS [34]; LIPMAN [12]; HALPERN [35]; ENNIS [47]; PAUL [21]; TISHMAN et al. [48]) endorse this view, thus, confirming the need for any CT instruction to cultivate dispositions rather than rely solely on instilling cognitive skills. But of course without minimizing neither the dispositions nor the important role of the skills. In a synthesis of research on CT, NORRIS [34] reports that "no matter what level of critical thinking skills someone possesses, it is of no practical benefits unless the person is disposed to use these skills when they are appropriate". He refers to this as a 'critical spirit' in a more positive sense. The Delphi Panel also stresses this critical spirit believing that an ideal critical thinker does not only possess skills but also is

> "… habitually inquisitive, well-informed, trustful of reason, open-minded, flexible, fair-minded in evaluation, honest in facing personal biases, prudent in making judgments, willing to reconsider, clear about issues, orderly in complex matters, diligent in seeking relevant information, reasonable in the selection of criteria, focused in inquiry, and persistent in seeking results which are as precise as the subject and the circumstances of inquiry permit" [14].

The importance of critical thinking dispositions is widely stressed in the literature. Space does not permit to list all these taxonomies, which overlap greatly and emphasize roughly similar traits and attitudes of ideal critical thinkers. Although the aim of this research is to develop freshman students' critical thinking skills, critical thinking dispositions are not disregarded. However, unlike the skills, they are not the primary focus of this research because they can only be cultivated through modeling and molding and not taught or imparted directly. Because of this, the instruments used in this research test for skills and not for dispositions. The dispositional dimension outlined by the Delphi Panel is adopted because it matches with the skills and the definition of CT used throughout this research.

1.6.   Critical Thinking Instruction:

As discussed previously, the necessity of enhancing students' critical thinking skills and dispositions has been widely addressed. In spite of the widespread recognition that critical thinking skills should be enhanced in schools and universities, there has been a growing controversy about what makes a good CT instruction that successfully develop students' critical thinking skills to a qualitatively higher level. Tsui [42] argues that uncertainty exists as to how educators can most effectively foster these critical thinking skills, despite their importance and "centrality to the educational enterprise". Questions have been raised about whether it is better to teach critical thinking skills explicitly or to make situations which call for students to apply these skills (embedded instruction). Another question is about how much time is required and what best classroom climate needs to be established in order for the CT instruction to be effective. A third question is about whether this instruction should be infused into regular curriculum or should be separated from it. This line of inquiry supplies the structure for this section of the literature review.

1.6.1. Explicit vs. Embedded Instruction:

COTTON [49] in a review of thirty-three research studies and twenty-three descriptive and theoretical documents concerned with research in instruction in critical thinking, found that some studies support an explicit instruction of critical thinking, while others favour an embedded instruction through guidance. Still a third category exists supporting both approaches as being most effective if blended together. REBOY [50] supporting an explicit instruction of critical thinking skills believes that in instructing these skills teachers should select the specific skills they wish to teach, and should explicitly define those skills with clear, objective descriptions. This uncertainty among educators reveals that little substantiated knowledge on what best instructional approach (i.e., explicit or implicit teaching of critical thinking) emerges from empirical research on CT instruction.

1.6.2. <u>Time Requirements and Classroom Climate:</u>

Time requirements is also more a subject of uncertainty rather than controversy; even among experts who seem to be unsure as to how much time should be dedicated to teaching critical thinking in order for students to develop critical thinking skills. POGROW [51] argues that "It takes an extensive amount of time to produce results—at least 35 minutes a day, four days a week, for several months, for true thinking skills development to occur". This implies that an effective CT instruction, with these quite intensive time demands, necessitates a high level of commitment among all participants, teachers and students, as well as administrative support.

Classroom environment or climate is another crucial aspect of every successful CT instruction. According to COTTON [49] and FACIONE [14], teachers should emphasize supportive and stimulating classroom climates which are essential for the development of critical thinking skills. A good classroom climate supports questions and questioning, promote collaboration, thought-provoking discussions, debates and discovery rather than merely delivering lectures and anticipating students to memorize them. It is, therefore, particularly crucial to establish a positive classroom atmosphere for critical thinking instruction. This positive climate "breaks the mind barrier" [38] and boosts students' dispositions and attitudes to actively participate and freely express their opinions and ideas, question, talk about and apply critical thinking skills inside and even outside the classroom.

1.6.3. <u>Approaches for Developing Critical Thinking Skills:</u>

In addition to time requirement and classroom climate, the debate about the nature of CT instruction suggests different responses to the question of whether to infuse such instruction into or separate it from regular curriculum. In other words, should CT be taught as a separate program, or should it be implemented within curriculum content to a course or broadly to all courses? MCGUINESS [52] in a review that analyses what is currently understood by thinking skills in general (including critical thinking skills) and the different approaches for their development, indicates that approaches are categorized into separate (Enrichment

Approaches) and infused (Infusion Approaches). While it is not possible to adequately review all the approaches, the worldwide known approaches will be elaborated.

1.6.3.1.   Enrichment Approaches:

Enrichment approaches support specialized CT courses, i.e., programs that instruct critical thinking skills in isolation without reference to any context or as separate disciplines. Feuerstein's Instrumental Enrichment [50] (henceforth IE) is one of the best known separate programs, or what HATCHER [53] terms stand-alone courses, with "commercially produced curriculum materials, staff training opportunities and a track record evaluation in classroom settings" [52]. This program is characterized as an enrichment approach because it is organized in parallel with existing curriculum. The IE embraces two theories, cognitive modifiability and cognitive mediation. The former assumes that cognitive functioning can be modified. On the other hand, cognitive mediation or mediated learning implies that an 'agent' or a teacher acts as a mediator in instructing learners in order to enhance their cognitive skills. This can be done by helping students develop a language for talking about and explaining their thinking. Many reviews of the effects of this program have been published, yet the more recent one [52] is a meta-analysis of 40 studies applying pre- and post-test designs and control groups. Modest effects were reported in achievement, and because of its nature as a separate program that teaches thinking skills independent from any content area, it was seen to be less useful than programs which teach skills in a curriculum context (i.e., programs that infuse skills in content areas).

1.6.3.2.   Infusion Approaches:

Infusion approaches contextualize CT within a curricular content area so that the lessons are restructured to infuse an explicit teaching of critical thinking skills. Infusion is defined as the addition of something that alters usually for the better (Online Merriam-Webster Dictionary). This implies that CT in a content-based course is helpful and renders it more effective. At the college level, Warren et al. [54] argue that using this infusion approach is crucial to the success of CT instruction and is better than teaching critical thinking skills in isolation. However,

promoting CT instruction in the classroom is not simply a matter of ensuring that students have adequate content knowledge in the topic area they are learning, but also requires infusing the teaching of critical thinking skills and cultivating the dispositions supporting CT.

In a literature review on thinking skills, ASSAF [3] explains the benefits of infusion approaches. He states five reasons as a basic rationale for infusing rather than separating thinking skills into content instruction:

- The more the teaching of thinking skills is integrated into content instruction, the more students will think about what they are learning.
- The school time table is crowded and no place for a separate thinking programme.
- A separate programme means extra money for teaching material which will be resisted by many administrations.
- Teachers and students spend thousands of hours studying the contents of school subjects, and it is better to use this time by also developing thinking skills.
- Students understand the content better and when thinking skills are infused, students become more involved and they have a purpose to learn.

In addition to ASSAF, researchers (HATCHER [53]; WARREN et al. [54]) revealed that infusion or integrated approaches are more successful than separate courses in CT because teaching critical thinking skills to students using a topic they know little about is difficult. Other researchers have shown the significant effects and superiority of infusing CT into a college U.S. history course [7], a secondary school history course [44] and first-year Biology course [55]. These three research studies reveal that infusing the teaching of CT into regular course content, significantly improved students' abilities to think critically. For this reason, the present research adopts an infusion approach for developing the critical thinking abilities of a group of first-year LMD students of English at USDB.

1.7. <u>Critical Thinking Skills Assessment:</u>

As discussed in the previous section, critical thinking skills instruction is essential. Yet to evaluate the effects of such instruction, to assess its strengths and redress its weaknesses, heedful assessment of critical thinking skills is imperative. Many researchers (ENNIS [20]; PAUL and NOSICH [56]; FACIONE [14]) believe that critical thinking skills assessment requires being clear about the purposes of the assessment, and using multiple measures for assessing these skills.

Purposes of critical thinking skills assessment are expanded by ENNIS [20] who states that assessment procedures are aimed at:

- Diagnosing the levels of students' critical thinking abilities before and after conducting any critical thinking instruction
- Giving students feedback about their critical thinking prowess
- Motivating students to be better at critical thinking
- Informing teachers about the success of their efforts to teach students to think critically.
- Doing research about critical thinking instruction questions and issues.

Researchers (SPICER and HANKS [57]; FACIONE [14]; JONES et al. cited in BESSICK [29]) favour multiple assessment measures because no single test covers all aspects of CT. According to REED [7] three main approaches to assessing critical thinking skills have commonly been used: 1) commercially available standardized general CT tests, 2) researcher or instructor designed assessments, and 3) teaching students to assess their own thinking.

Several standardized published CT tests are available and can be grouped into subject-specific or general-content based CT tests, and into multiple choice tests or open-ended tests. Subject-specific critical thinking tests assess CT within one subject matter area, whereas general-content based CT tests used content from a variety of areas (ENNIS [20]). The majority of the standardized tests available are, however, general-content based tests, and hence do not provide an adequate measure of students critical thinking skills in subject matter areas (e.g.

history). Despite that, these tests are carefully tested for validity and reliability and are widely used in several studies (e.g. REED [7]; BESSICK [29]; DAVIDSON and DUNHAM [58]; SAADATI et al. [59]) to determine the effects of independent variables intended to heighten students' critical thinking skills.

Standardized CT tests are also grouped into multiple choice tests (e.g. Watson-Glaser Critical Thinking Appraisal (1980), California Critical Thinking Skills Test: College Level (1990), the Cornell Critical Thinking Tests, Levels Z and X (1985), New Jersey Test of Reasoning Skills (1983)), and open-ended critical thinking tests (e.g. The Ennis-Weir Critical Thinking Essay Test (1985), Assessment of Reasoning and Communication, Reasoning Subtest (1986), The International Critical Thinking Essay Test (2007), The International Critical Thinking and Writing Test (2006)). However, multiple choice tests are deemed as invalid indicators of students' critical thinking abilities because 1) of the difficulty with which they can be used to assess whether students are able to generate clear arguments, and 2) they do not directly and effectively test for many aspects of CT [20]. Unlike multiple choice tests, open-ended tests are more favourable as they allow for students-generated answers. This research opts for an open-ended essay test; the International Critical Thinking Essay Test (ICTET) developed by PAUL and ELDER [33]. See Chapter two page 60 for a description of and a rationale for using this test.

The limitations of some standardized tests led many educators and researchers to prefer researcher or instructor-made assessments. These assessment techniques are developed mainly for such purposes as to "testing subject-specific critical thinking, testing for transfer, evaluating a critical thinking program or intervention… etc" [7]. Although they are a good alternative approach to standardized tests, but requires more serious attention and carefulness in their design and scoring.

A third approach to assessing critical thinking skills is students' self-assessment of their own thinking. PAUL [32], writing on self-assessment, argues that CT is closely related to self-assessment and in assessing their own CT students gain more 'intellectual independence'. Self-evaluation not only helps

students reflect on and monitor their critical thinking abilities but also helps teachers continuously gauge whether their students are developing necessary skills, and reflect on their own instruction [60]. While this approach is considered as a highly important and appropriate way to give deeper insights into students' critical thinking skills, it requires both teachers and students to be willing and highly committed.

In summary, a number of published standardized critical thinking skills tests exist. Although these tests have some limitations but their extensive use in different studies, their efficiency in grading and their ensured reliability and validity allow for their use. Yet in order to overcome these limitations and ensure a more reliable assessment of CT, using multiple measures or different kinds of instruments and not just the standardized tests is strongly supported. This research uses three assessment instruments, a standardized CT test (henceforth ICTET), a Students' Questionnaire as a tool of self-evaluation, and a Document-Based Task (henceforth DBT) adopted for the purpose of this research.

1.8.   Previous Research on Critical Thinking and History Education:

Several scholars advocate the need for integrating critical thinking skills within curricula subject-matter areas. Although many separate CT programs exist, these scholars accentuate the benefits of infusing CT into content instruction. The present research focuses on critical thinking skills instruction in the context of history classes. Empirical studies on how history can most effectively be taught to develop both students' thinking as well as understanding of history are missing from history education research [61]. Indeed, only a few studies related to developing students' critical thinking skills in the context of history teaching and learning could be localized in the literature (REED [7]; SAVICH [62]; PELLEGRINO [63]; VANSLEDRIGHT [64]) in comparison to the great number of invaluable work carried out in the fields of science, mathematics, biology and nursing education, etc. Therefore, this research aims to contribute in a meaningful way and expand the body of research on how to improve students' critical thinking abilities to interpret, analyze and evaluate historical documents in history classes.

REED [7] argues that history instructors need to "promote active students participation in the learning process, including teaching for critical thinking". Interest in CT emerges from recent research in history instruction and learning which have found that analytical or critical reflection and evaluation are missing in many history classes where didactic lecturing is the prevalent method of instruction [62]. Relying solely on lecturing encourages a mindless (and usually short-lived) memorization of historical facts for scoring better grades, i.e., learning for the test, and a false conception about what truly constitutes the teaching and learning of history. WINEBURG [65] expresses the crucial need for teaching students to think like true historians. This is because students should, just like historians, investigate the past searching for evidence about what an event means and what caused it.

This need for teaching students to think historically and critically in history classes has been the interest of many researchers in recent years. However, only a few empirical studies that examine how instruction can effectively improve students' critical thinking skills could be localized in the literature. A study conducted by VANSLEDRIGHT [64] on a number of twenty-three (23) firth-grade schoolchildren in an American elementary school learning American history, revealed that a direct instruction in historical interpretation and analysis of historical sources improved learners' critical thinking skills. This instruction is aimed at taking learners beyond simple reading comprehension to train them to analyze, evaluate, corroborate different sources and present their evidence-based interpretations of different historical documents.

Moreover, REED [7] conducted an experimental study which investigates the effects integrating Richard Paul's CT model into a U.S. history course has on fifty-two (52) college students' critical thinking abilities to analyze and interpret primary sources and on their knowledge of history content. Students in the EXP group (N=29) outperformed students in the CTR group (N=23) on the two post-tests (a Document Based Question, the Ennis-Weir Critical Thinking Essay Test) which measure the effectiveness of the instructional method. This study indicates that students' abilities to think critically improved when provided with explicit and intensive training. It also shows that students' end of term knowledge of history

content need not suffer when explicit training in critical thinking abilities has been integrated into course material.

Similarly, SAVICH [62] conducted an action research to investigate approaches and techniques that would improve students' critical thinking skills in history classes at the secondary level where students show apathy and emphasis is on memorisation. SAVICH compares the effects of two instructional methods, i.e., the inquiry or the interactive method and the lecture method, on two groups (one taught using the inquiry method and the other using the lecture method). A comparison of student performances on tests, essays, quizzes, and assignments was used for assessment and comparison. The research results demonstrated that by implementing the inquiry method, students' critical thinking skills improved. In addition, this research yielded that this method increases students' motivation, engagement and interest in the subject taught. The lecture method, on the other hand, is found to be suitable only in presenting background information as well as fundamental concepts and terms [62]. Yet it can be enriched by adding the inquiry teaching method to it.

The aforementioned studies agree on the need for developing students' critical thinking skills. Moreover, these studies show that honing these abilities is not a matter of chance but rather requires an explicit instruction in CT that goes well beyond traditional methods of teaching history. However, no consensus emerges from this research about one effective critical thinking instruction. The present research builds on previous research and seeks to advance an understanding of the impacts infusing an explicit instruction in CTE and CRS into a regular US history course has on freshman students' critical thinking abilities to read critically historical documents.

1.8.1. Integrating Historical Documents:

Historical documents contain important information about people, places or events in the past. They can be primary sources, i.e. the raw materials or firsthand accounts of historical events, or original documents and objects which were created under the time of study and are different from secondary sources, i.e.

accounts or interpretations of events created by someone without firsthand experience [66].

As outlined in the previous section, the development of critical thinking skills in history classes has been cherished widely (e.g. SWARTZ [44], PELLEGRINO [63]; WINEBURG [67]; ROBYNS [13]; REEDS [7]). As a useful way to facilitate the cultivation of critical thinking skills, researchers (CARVER [68], EDMONDS et al. [69], WILSON and HERMAN [70], MCCOLLISTER and SAYLER [41]) call attention to the need for incorporating historical documents in the history classroom. These documents are heralded as effective materials because the benefits from employing them are numerous.

Historical documents enrich the teaching content and help students grasp the significance of the lessons. This is by providing them with new opportunities to "think outside the box" of traditional teaching and lecturing, using LAWSON'S [71] own words. Secondly, using historical documents properly involves students into higher level thinking and reflection and often prompts them to "engage into debates and into exciting endless learning opportunities that require critical thinking and analysis skills" [72]. Moreover, historical documents also engage students into a process of investigation and inquiry. Curiosity, observation, suggestion as well as habits of exploring and testing increase within students. Much like detectives, the task before students while analyzing historical documents is to approach the evidence with a skeptical eye and a careful attention devoted to motivation, bias, and intent in terms of what the witness or the creator of the document really intended to say [73].

The advantages of incorporating historical documents as reading materials in history classes are many. Yet, to increase their benefits, it is necessary that teachers devise reading activities that "do not simply require them to find particular pieces of information, or come up with a single right answer" [74]. In this research, historical documents are used as reading materials for students to apply and practice their critical thinking abilities and critical reading strategies. In the following section elements of critical thinking proposed by Wisconsin Historical

Society will be presented, followed by a discussion of critical reading and critical reading strategies.

1.8.2. <u>Wisconsin Critical Thinking and History Model:</u>

This section presents basic elements of CT developed by Wisconsin Historical Society (2005). The CT and history model presented by the Society includes ten (10) elements of CT as they pertain to the understanding of this concept and applicable to analyzing historical documents [69]. The elements are made for classroom use and can be provided to students as handouts. In each handout, one element is defined and described and instructions are given about how to use the element in analyzing historical documents.

The first element, the Five W's, includes five questions (who, what, where, when, and why) to be considered by students before they start reading the document closely. These questions are especially meant to help students understand what each document says and begin to reach conclusions about its accuracy, completeness, biases, and point of view. The second element is designed to help students understand the purpose or the issue of document and the main points or propositions of the author. Identifying underlying assumptions is the third element and it helps students understand what the author assumes to be true and is not directly stated in the document, such as his values and beliefs. This element also helps the students spot the author's omissions and silences. The fourth and fifth elements help students identify and evaluate the point of view as well as the reasoning of the author. Elements six and seven help students evaluate the author's inferences or conclusions as well as the evidence he/she gives to support his/her reasoning. Element eight helps students assess whether the document is complete or whether it presents only one point of view. Elements nine helps students understand what implications can be drawn from the author's conclusions. Finally, element ten helps students present their own arguments and conclusions about the document clearly and accurately.

These CTE are particularly suitable for use and were chosen as part of the experimental treatment to be taught explicitly to the EXP group (Appendix C page

121 contains a copy of the CTE handout given to the students). This is because they are well-appropriate for historical document analysis and evaluation, and because they are compatible with the critical thinking skills and the CRS used in this research. Chapter two will further explain how the elements are instructed.

1.9.   Critical Thinking and Critical Reading:

Critical reading is not reading for information or for understanding all the words and paraphrasing the content of the text. It is rather, as WALLACE [75] indicates an "interpretive and an analytical process". In addition, it is closely linked to CT, for it can be simply defined as thinking critically while reading. According to WALL and WALL [76] to read critically is to read analytically, which means to question and to think critically about the written material. Moreover, reading critically is different from skimming or scanning the text looking for information, which, for COTTRELL [18] only result in a more superficial reading of the material. Instead, it requires abilities in interpreting, questioning, analysis, evaluation and making critical fair judgments, which are also associated with CT.

Many researchers (CARVER [68]; WALLACE [75]; BRISKIN [77]; MUHAMAD [78]) underscore the vital role critical thinking skills play in reading critically. In order to help students internalize these skills and read critically, DAIEK and ANTER [78] focus on teaching CRS. These strategies are substantial for developing students' skills and if mastered properly they would become "lifelong tools that can be used in many venues beyond college" [79]. On the basis of this claim, this research assumes that CRS are beneficial and would, if taught explicitly, polish freshman students' critical thinking skills for reading critically historical documents. In addition to the CRS, the CTE explained previously are also the focus of this research and will be instructed explicitly to students in the EXP group. CRS and their nature, importance and how they can be most effectively instructed will be handled in what follows.

1.10. <u>Critical Reading Strategies:</u>

1.10.1. <u>Teaching Strategies and Developing Skills:</u>

Skills and strategies appear frequently in the professional jargon of English educators and are often used 'imprecisely' and 'inconsistently' [80]. Both terms are used throughout this research. Therefore, to reduce any confusion, it is pivotal to advance an understanding of these two concepts as well as the differences and the relations between them.

The word skill is "associated with the proficiency of a complex act and strategy is associated with a conscious and systematic plan" [80]. Accordingly, a skillful action is characterized with automaticity, adeptness and is faster than a strategic action which is instead characterized with a 'deliberate control' over and awareness of the use of strategies. These latter are "effortful processes, conscious actions and empowering tools" [80]. To clarify more differences between skills and strategies, the aright example to be cited is the one of the driving process.

Undoubtedly, the skillful driver and the less skillful one are noticeably different. The former drives with dexterity and is more experienced and advanced. He thinks quickly, and controls the car more smoothly and efficiently, unlike the latter who is consciously and intentionally riveted on the activity of driving. However, with practice, the beginner driver develops quick and efficient skillful driving habits. He becomes automatically less focused on the steps to take when driving, and hence manages the car more expertly and flexibly.

Much like skillful and beginner drivers differ, in the reading comprehension process skillful readers and strategic readers approach texts differently. Strategic readers, as they read, consciously and deliberately select and re-select the strategies that help increase their understanding of the text and improve their reading (such as previewing the text, asking questions, drawing inferences, rereading the text or predicting the meaning of words… etc). However, skillful readers speedily and efficiently read, relying less on making deliberate and strategic choices and without cognizance of the components or control required in strategic reading.

The two examples stated previously, i.e., that of the driving as well as the reading process, not only clarify differences between skills and strategies but also show that the two terms complement each other. Acquiring strategies is crucial as an initial stage before achieving a fluent and effortless application of skills. In other words, strategies are needed first to help building or increasing effective skills. Yet, for developing these skills it is necessary to "design a strategy instruction that makes clear the steps of strategies while providing practice so that strategies may transform themselves into skills" [80]. Teaching students strategies to develop their skills is thus more effective, for with repeated practice, these strategies will be applied out of habit and mechanically. As students internalize these strategies, they become part of their cognitive repertoire, thus they become skills.

As pointed out formerly, for building up students' skills it is crucial that teachers provide a strategy instruction and create opportunities for students to practice strategies. Strategy training is the focus of this research, which is aimed at investigating the effects of instructing first-year LMD students of English at University Saad Dahlab of Blida in CRS and CTE. It is hypothesized that in order for students to become skillful critical thinkers and readers, they need to acquire a repertoire of CRS and knowledge of elements associated with CT. In what comes, two classifications of CRS will be presented, followed by a detailed discussion of strategy-based instruction.

1.10.2.   Classifications of Critical Reading Strategies:

- Salisbury University's Inventory of Critical Reading Strategies:

Salisbury University (in Maryland, U.S.A) proposes a set of CRS that help university students improve their critical thinking skills, and better prepare them for various CR assignments. These strategies are stated below and explained in details in Appendix D (see page 139).

- Previewing
- Contextualizing
- Questioning
- Reflecting
- Outlining
- Summarizing

- Evaluating arguments
- Comparing and contrasting related readings

- **Wineburg's Strategies for Reading Critically Like Historians:**

Salisbury University's inventory of CRS is intended to help students read critically in any subject matter. However, for reading historical documents and to help students possess a "historical approach" to reading, WINEBURG [65] offers the following list of strategies. These strategies are elaborated further in Appendix D (see page 139).

- Sourcing
- Contextualizing
- Close reading
- Using Background Knowledge
- Reading the silences
- Corroborating

For the experimental treatment this research intends to conduct, both Salisbury University's classification of strategies and Wineburg's strategies inventory are synthesized and taught to student participants in the EXP group. This intervention will be further elaborated in Chapter two.

1.10.3. Metacognition and Role of Strategies:

Teaching students strategies is an efficient way to help them become metacognitive learners, aware of and able to take control over their own thinking or cognition. Metacognitive students have knowledge about and often plan, monitor, and evaluate their use of strategies. They are self-aware, self-regulated and strategic in their thinking. They know what, how and when to use strategies and they can track, revise and assess their use of these strategies. Metacognition is defined as:

> "knowledge of one's knowledge, processes, and cognitive and affective states; and the ability to consciously and deliberately monitor and regulate one's knowledge, processes, and cognitive and affective states" [81]

This definition captures and distinguishes between two essential components of metacognition: Metacognitive knowledge and metacognitive regulation [82].

The first component of metacognition, i.e., metacognitive knowledge refers to knowledge about or awareness of one's cognitive processes including what one's know, how to do things and when and how to apply strategies. It also includes knowledge of one's 'affective states', characteristics and motives [83]. The second component of metacognition is metacognitive regulation and it refers to the regulation or direction of cognition. Self-regulation of cognition includes 'executive processes' that permit students and readers more specifically to set goals for their reading, to plan vigorously and select the appropriate strategy (s) to accomplish the task at hand, to monitor and revise their use of strategies and ultimately evaluate their performance [81]. Monitoring and evaluating performance enable students to check whether their strategies are working well for them, and adjust any deficiencies in their performance until they achieve their goals.

In brief, metacognition can be simply delineated as knowledge and control of one's cognition. Without knowledge about one's cognitive processes and 'affective states', it is likely impossible for students to become self-regulated and self-directive learners. Teaching students strategies is a significant way to empower them with a sense of self-regulation and efficacy to take control over their cognitive prowess. The most efficient way to teach students strategies, COHEN [84] argues, is to provide strategy training or a strategy-based instruction.

1.10.4.   Strategy Instruction:

Strategy instruction or strategy-based instruction (SBI) is, as noted by LUKE [85], appropriate for students and has significant impacts on their performance. This instruction he convincingly argues, has "the power to transform passive students into active learners equipped with the tools to promote strategic planning and independent reflection". Moreover, it does not only show students what to believe or do, but rather equips them with empowering metacognitive tools that help them become aware of and self-regulate their own thinking.

According to AFFLERBACH et al. [80] a strategy-based instruction should be explicit and should follow a regular cycle of explaining, modeling, and guided practice that leads to fluency in using skills. Moreover, it should gradually remove guidance in practice to allow students to take control and apply the strategies independently. However, if students fail to use the strategies alone, then scaffolding instruction and providing students with more support is warranted. Teachers need to coach students by explicitly teaching the strategies again or by giving specific 'clues' as how to use the strategies. As students start applying the strategies more independently, teachers need to lessen their explicit support and guidance. However, it is crucial for teachers, from time to time, to prompt students and remind them of previously taught strategies [60]. When students become strategic, BECKMAN [86] believes that the following outcomes occur:

- Students know there's more than one right way to do things.
- They acknowledge their mistakes and try to rectify them.
- They evaluate their products and behavior.
- Self-esteem increases.
- Students feel a sense of power because they are equipped with tools.
- Students become more responsible
- They know how to try.

Strategies are empowering tools and it is of import to heighten students' awareness of these strategies by explicitly instructing them why, how and when to use them. Providing ample opportunities for students to practice these strategies independently and scaffolding instruction and guidance are crucial steps to ensure an efficient strategy-based instruction. Several strategies instructional frameworks exist and these will be handled in what follows.

1.10.5. Frameworks for Strategy Instruction:

Researchers have probed and tested various models and instructional frameworks of strategy instruction because "no empirical evidence has been yet provided to determine a single best method for conducting strategy training"[84].The three models presented in this section have been designed to make students aware of the rationale behind strategy use and to give them

opportunities to practice the strategies they are being taught and then use them in new contexts.

- Pearson and Dole's Instructional Model:

In an overview of strategy training studies, COHEN [84] discusses the instructional framework developed by PEARSON and DOLE in 1987. This framework targets isolated or individual strategies and includes the following steps:

- Initial modeling of the strategy by the teacher, with direct explanation of the strategy's use and importance.
- Guided practice with the strategy.
- Consolidation, where teachers help students identify the strategy and decide when it might be used.
- Independent practice with the strategy
- Application of the strategy to new tasks

PEARSON and DOLE's model does not encourage the coordination of strategies and is rather narrowed down to instructing one single strategy. It is thus difficult to use it in a classroom that calls for developing students' critical thinking skills.

- Cohen's Instructional Model:

COHEN'S Strategies-Based Instruction (henceforth SBI) model(1998) is a learner-centred approach to teaching which includes both explicit and implicit integration of strategies in the classroom while the teacher is presenting the course content. In a SBI model, the teacher can do the following:

- Describe, model, and give example of potentially useful strategies
- Elicit additional examples from students, based on students' own learning experiences
- Lead small-group and whole-class discussions about strategies
- Encourage students to experiment with a broad range of strategies
- Integrate strategies into everyday class materials, explicitly and implicitly embedding them into the language tasks to provide for contextualized strategy practice

COHEN'S model describes what teachers can do to train students in using strategies. It provides flexibility to teachers who may teach the strategies both explicitly or by inserting them spontaneously into the lessons whenever necessary. Yet, the model, like PEARSON and DOLE's model, clearly lacks the evaluation of whether students fully grasp the instructed strategies.

- <u>O'Malley and Chamot's Instructional Model:</u>

O'MALLEY and CHAMOT's instructional model was developed in 1986 to teach learning strategies in English as a second language (henceforth ESL) instruction, and is based on the researchers' own research with second language learning strategies [87]. The framework, known as the Cognitive Academic Language Learning Approach (henceforth CALLA) integrates subject matter content learning and strategies into language learning curriculum. It seeks to assist students in becoming more successful academically, learning both content and language and becoming independent self-regulated learners able to evaluate and direct their own learning including their use of strategies.

The CALLA model focuses on explicit instruction in strategies. Its instructional framework has five phases in which teachers incorporate content, language and strategies. These five phases are often recursive in that the teacher may go back to earlier phases in order to clarify or provide additional instruction. Moreover, the teacher can introduce one or several strategies to students. This "provides more flexibility in lesson planning and implementation" [60]. The five phases of CALLA are:

- <u>Preparation</u>: Teachers plan and prepare for the implementation of the strategies instruction by making the instruction a natural part of regular classroom. Teachers accentuate the importance of strategies, set classroom responsibilities or expectations and objectives. They focus on finding out what prior knowledge students have about the content to be taught, their level of language proficiency, strategies they already use, what they already know about the concepts in the subject to be taught, and set to develop new vocabulary.

- <u>Presentation</u>: Teachers use a variety of techniques to present strategies such as demonstrations, modeling and visual support. They explicitly model through a think-aloud the new strategy (s), name and explain its value (s), explain when to use it and how and give examples of activities the strategy will help to accomplish.

- <u>Practice:</u> Students practice strategies with regular class activities. Teachers give guidance for applying strategies and coach students in their use of strategies, by giving them reminders or clues about strategies and giving them feedback. Teachers should know when to scaffold instruction and when to reduce this scaffold so that students practice the strategies independently without interference from the teacher. In this phase, students should be encouraged to work collaboratively. Group activity and collaborative learning helps ensure that all students practice the strategies.

- <u>Evaluation</u>: Students self-evaluate their use of strategies and assess how well they are working for them. This helps develop their metacognitive ability to reflect on and take control of their own use of strategies. This phase also helps teachers assess how effectively students are applying the strategies taught. Questionnaires, checklists and journals or diaries are effective to help students evaluate themselves.

- <u>Expansion</u>: Students extend the usefulness of the strategies taught by applying them to new activities. Students' ability to apply the strategies independently in new activities without their teachers' help is crucial for assessing the effectiveness of the instruction. Teachers can also provide suggestions for applying strategies to different content subjects or learning outside of classroom. Expansion completes the cycle of strategies instruction.

O'MALLEY and CHAMOT's framework CALLA involves making students aware of when, why and how to use the strategies, teacher modeling the strategies to students, students extensive practice with the strategies and their self-evaluation of the strategies used and practice in transferring strategies to new contexts. CALLA is an effective model as it combines both language and content

and adds strategies instruction. By integrating these three, the model facilitates the teaching of strategies in a meaningful context and not as a separate intervention. Teachers can teach the strategies, teach students language and focus on the content of the lessons simultaneously. The CALLA model is also beneficial as it is organized into five phases helpful for implementing an explicit strategies instruction. The five phases, discussed previously, facilitate the integration of the instruction into a regular classroom and help the teacher instruct one or many strategies at one time. For these reasons, the CALLA instructional framework is adopted in this research for explicitly instructing CRS and CTE to a group of first-year LMD students of English at USDB.

1.11. Conclusion:

The present chapter provides a theoretical background for this research. It underscores the vital need for developing students' critical thinking skills. Several definitions of CT exist, revealing no uniformity among educators as whether CT is synonymous with high-order thinking skills or only part of higher-level thinking. Efforts towards consensus have been made, and the comprehensive definition of CT, the critical thinking skills as well as dispositions proposed by the Delphi panel are widely recognized and thus adopted in this research.

A wide variety of suggestions for cultivating students' critical thinking skills are proposed by scholars. However, there is enough unanimity that an explicit infused CT instruction, sufficient time as well as a good classroom environment are the key to the development of an effective critical CT instruction. Researchers proposed several instruments for assessing critical thinking skills, yet due to their limitations and inability to account for all the aspects of CT, using multiple instruments is deemed as favourable and more effective.

Only a few studies related to CT instruction in the context of history teaching and learning could be localized in the literature. Despite that, the need for developing students' critical thinking skills to read critically historical documents is widely accentuated. Using these documents is beneficial for transforming history instruction from a didactic delivery of bodies of historical information to an active

course energized by students' application of critical thinking skills. A critical interpretation, analysis and evaluation of these documents require a set of CRS. These strategies when internalized by students are assumed to develop into automatic skills. For students to master these strategies it is crucial for teachers to explicitly model and explain when, how and why to use them. Several instructional frameworks are proposed for implementing a strategy-based instruction. The CALLA instructional model which consists of five recursive phases (preparation, presentation, practice, evaluation and expansion) appears to be the best choice for infusing an explicit instruction of CRS into a regular classroom.

Based on a review of the available research in critical thinking and history, Wisconsin critical thinking and history model, which consists of ten elements of CT applicable to historical documents analysis, is used in the present research. Through infusing an explicit instruction in these elements and CRS into a regular first-year LMD civilisation classroom following the CALLA framework, it is hypothesized that freshman LMD students would develop the critical thinking skills that enable them read critically historical documents. The following chapter is devoted for the research methods and design of this research. The research instruments used to carry out this research will be presented as well as the procedures followed to conduct the experimental treatment of this research and analyze the data obtained from the research tools.

CHAPTER 2
RESEARCH METHODS AND PROCEDURES

2.1. Introduction:

The aim of the present research is to investigate the impacts of infusing an explicit instruction in critical thinking elements (henceforth CTE) and critical reading strategies (henceforth CRS) on first-year LMD students of English enrolled at the University Saad Dahlab of Blida (henceforth USDB). The focus of this chapter is on the methods and the procedures followed in this research and it is presented in five parts. Part one explains the participants in this research and the procedures followed for selecting the subject sample. The second part examines the data collection instruments employed in this research as well as the procedures followed to administer these tools. The third part presents a summary of the instruments employed in this research. Part four, is entitled the experiment implementation. It is devoted to the presentation of the design of the experiment, its objectives and procedures, as well as the instructional method and materials used for carrying out the experiment and teaching of both the experimental and control groups. The last part, part five, is devoted to the presentation of the procedures and methods followed in analyzing this data.

The present research seeks to investigate whether infusing an explicit instruction in critical thinking elements and critical reading strategies would lead to an improvement in the participants' critical thinking skills. For this reason, several instruments were employed before and after the instruction in order to compare their results and derive conclusions which confirm or disconfirm the research stated hypotheses. These tools include: A Students' Questionnaire, the International Critical Thinking Essay Test (henceforth ICTET) and the Document-Based Task (henceforth DBT).

<u>2.2. Research Participants:</u>

This experimental research was conducted in the Department of English at the University Saad Dahlab of Blida (henceforth USDB) during the academic year of 2010-2011. The total population of this study consists of around 600 students enrolled as first year LMD students of English. The population refers to the sum of individuals to whom the results of the experiment are aimed to be generalized. The size of the sample used in this experimental research was selected from the target population and is a total of 100 students. The experiment cannot be conducted on the whole population due to some factors such as time, energy, resources, etc. Yet the sample of the participating students was randomly chosen so that the results gained with this sample can be generalized to the whole population. Random selection of the sample is crucial because a key to the success of an experiment is the random assignment. Moreover, random selection ensures that the sample is a nonbiased sample and when creating two groups, it ensures that both groups are 'probabilistically equivalent'.

Members of the sample (100 students) are divided into two groups (one group is randomly selected as the experimental group (henceforth EXP) and the other as the control group (henceforth CTR) of first-year LMD students of English with a total number (N) of fifty (N=50) students in each group. However this sample was reduced due to some reasons. First, some students enrolled but later either changed groups or dropped out. Moreover, other students were excluded from the research due to their absences either on the days of the instruction or on the days the pre and post-assessment tools were administered, thus reducing the class sizes to sixty-four (N=64) in the pre-assessment and only thirty-four (N=34) in the post-assessment. Participation in this experimental research was required because results obtained from the students' questionnaire, the ICTET and the DBT before the implementation of the CTE and CRS instruction are compared with results obtained from the same tools at the end of the instruction. Students' absences were a concern, therefore, a decision was made to eliminate any student with excessive absences from the data analysis. Therefore, thirty-four (N=34) first-year LMD students of English is the number of the students who participated in this research.

First-year LMD students are enrolled in specific groups formed randomly by the administration and thus, there was no need to re-assign the participating students (N=34) to either the EXP or the CTR group. However, these two groups (EXP and CTR) were randomly chosen, one group received the treatment, i.e., the CTE and the CRS instruction (hence a treatment group) and the other group (the control or comparison group) was taught following the method adopted by most teachers of civilisation in the Department of English where this research is carried out. The result was two groups; the EXP group (N=17) which was instructed once a week by the researcher and the CTR group (N=17) which was instructed (again once a week) by another teacher who consented to participate in this research.

The researcher resolved not to teach both groups because it was unlikely for the same teacher to follow two different methods of teaching without transferring the method and the strategies followed to teach the students in the EXP group to the students in the CTR group. However, the researcher and the other teacher had approximately the same qualifications and the same teaching experience (both are first-year LMD teachers of civilisation, magister students and have a two-year teaching experience). Students in the CTR group were kept uninformed about the objectives of the research, or that they were assigned to serve as the control condition. This was intended to avoid any influence on the students and ensure the reliability of the experiment's results obtained from the three research tools.

First-year LMD students were sampled to participate in this research for a number of reasons. First, these students will undertake a critical reading course in their second year of study. Thus, it is more favourable to prepare them for this course as early as possible and raise their awareness of the benefits of critical thinking and of the need to acquire critical thinking skills. In addition, the instruction is beneficial at an earlier stage because it increases their understanding of critical thinking elements and equips them with different critical reading metacognitive and self-regulating strategies they can draw upon as they progress through their years of university study.

2.3. Research Instruments:

Seeking a more objective and valid analysis and interpretation of the results, three instruments were employed to assess the participating students' level of critical thinking skills prior and following the explicit instruction in CTE and CRS. The results from the tools before this instruction were compared with results obtained from the same tools administered following the implementation of the experiment. These instruments are: A Students' Questionnaire, The Document-Based Task (henceforth DBT) and the International Critical Thinking Essay Test (henceforth ICTET) given both as a pretest and a post-test. The results of the test can be, then, triangulated and cross checked with results from the two complementary instruments; that is the questionnaire and the DBT. Using these research tools as three varying sources of data helps make this research more comprehensive, valid and objective since the focus is not merely on a single viewpoint.

2.3.1. The Students' Questionnaire:

2.3.1.1. Description of the Questionnaire:

The students' questionnaire is designed to assess the participating students' critical thinking skills and critical reading strategies both before the instruction i.e. at the beginning of the second semester, and again after the instruction, at the end of the semester. It can help answer the main research question set for this research:

- Does infusing an explicit instruction in critical thinking elements and critical reading strategies improve the critical thinking skills of first-year LMD students of English at the University Saad Dahlab of Blida?

And more specifically it can also help answer the first sub-question:

- Will student participants in the experimental group undergoing the explicit instruction in critical thinking elements and critical reading strategies use critical reading strategies more effectively than participants in the control group?

Using the questionnaire as a self-evaluation tool is beneficial to explore and identify students' cognitive processes and strategies before the conduction of the instruction and again at the end of the instruction in order to compare and ascertain differences in results obtained from the two groups (EXP and CTR). The questionnaire is used to evaluate students' abilities to:

- Judge the credibility of the source.
- Identify the author's positions, arguments, assumptions and conclusions.
- Identifying reasoning and evaluating evidence.
- Evaluate conclusions.
- Presenting their point of view in structured, clear well-reasoned way that convinces the reader.

In addition to these skills, the students while reading and analyzing historical documents were also expected to use several critical reading strategies. These are: Previewing, sourcing, contextualizing, using background knowledge, close reading, questioning, outlining, summarizing, annotating, reflecting, reading the silences, corroborating and taking a stand. Both these skills and strategies were tested against the questionnaire items.

The Students' Questionnaire is a self-report tool containing twenty-five (25) items rated on a three point scale, i.e., the responses are categorized into three categories: Yes, No, and Undecided. Moreover, the questionnaire is made up of three sections: Before I Started Reading, When I was Reading and After I Finished Reading, from each section useful quantitative data is gathered. A copy from the questionnaire can be found in Appendix E (see page 141).

- <u>Section One of the Questionnaire: Before I started Reading (Items 1- 7)</u>

This section includes seven items and is intended to gather information about the students' use of pre-critical reading strategies, or strategies students followed before they started reading and analyzing the historical document attached to the questionnaire. The items in the first section of the questionnaire involve three effective strategies. The first item is concerned with "setting a purpose for reading" which is a strategy that helps students to read with a clear purpose in mind.

Moreover, items 02, 03 and 04 are concerned with the strategy previewing and items 05, 06 and 07 are concerned with the strategy sourcing.

- Section Two of the Questionnaire: When I was Reading (Items 8-18)

This section includes eleven items and is designed in order to see what CRS students followed while reading and analyzing the text. It assesses students' use of while-critical reading strategies like: Contextualizing (item 08), using background knowledge (items 09 and 10), reflecting and reading the silences (item 11), questioning (item 12), close reading (items 13, 14, 16 and 17), annotating and outlining (item 15), summarizing (item 18).

- Section Three of the Questionnaire: When I Finished Reading (Items 19-25)

The last section in the questionnaire includes seven items and depicts what CRS students used when they finished reading the historical document attached to the questionnaire. It assesses students' use of post-critical reading strategies like: Evaluating arguments and Evidence (items 19, 20, 21 and 22), corroborating (items 23 and 24) and taking a stand (item 25).

2.3.1.2. The Reading Material:

The questionnaire was delivered both as a pre- and post-assessment instrument accompanied with a reading text. Instructions were given to students to read the attached document and analyse it carefully before filling out the questionnaire. As a pre-assessment tool, the questionnaire was accompanied with a short excerpt entitled "The Primitive Man" that was taken from Adam's Ancestors: The Evolution of Man and His Culture, by L.S.B. LEAKEY [88]. This assigned reading is not a primary source document, yet it was chosen on the basis that it exhibits many elements of CT and reasoning (assumptions, arguments, positions, inferences, implications…etc), thus it was assumed that it would not be difficult for the students to spot these elements in the text. As a post-assessment tool, the questionnaire was attached to a primary source document in America history, entitled "Boston Non-Importation Agreement" (1768) and is taken from Milestone Documents in American History, by FINKELMAN and LESH [89]. This

book is a series of authentic compilation of several full-text primary source documents. The texts chosen for this research are documents in US history. The reason behind choosing these particular historical documents is that the context where the experiment was conducted is during the second semester of the academic year 2010-2011. The LMD civilisation syllabus of the second semester is particularly devoted to American civilisation. Therefore the chosen historical documents are documents in US history, related to the courses 1st year LMD students undergo.

<u>2.3.1.3. Pilot Administration:</u>

To check whether all the items and the instructions of the questionnaire were clear, the questionnaire was handed to a more experienced teacher and researcher for correction and feedback. The researcher, after examining the questionnaire, reported several remarks and suggestions, which were taken into consideration before the administration of the questionnaire. These comments were centred on the ambiguity of the instruction given to the students, the position of the direction which was written only on the questionnaire sheet and not on the text itself, and the difficulty of some words which are unfamiliar to the majority of freshman students. Students' unfamiliarity with some vocabulary necessitates both replacing some words with easier synonyms and explaining these words to the questionnaire takers on the day it was administered. But in doing so, reference was carefully made only to the words that necessitate more clarification and explanations were given only when appropriate.

The questionnaire was also piloted to a number of first-year LMD students of English before the conduction of the experiment in the first semester. Yet, before the administration of the questionnaire, the remarks suggested by the teacher were applied. Students were observed filling out the questionnaire. Several observations were recorded including the time students needed to read and analyse the text and complete the questionnaire. Sixty (60) minutes were needed to fill it out.

2.3.1.4. Questionnaire Administration:

The questionnaire was administered to the students in the two groups (before and after the critical thinking instruction) as a retrospective self-report tool while reading an assigned text. Prior to the distribution of the questionnaire, the participants in the EXP group were informed about the nature and objectives of the research and were given orally the necessary instructions on how to complete the questionnaire. Informing students about the objectives and the nature of the experiment helped in raising their motivation and involvement in the research. Moreover, the difficult words were explained to them and even translated into Arabic. Furthermore, to motivate the students to give frank answers, they were informed that there were no right or wrong answers, and that the questionnaire is aimed at uncovering their use of critical reading strategies.

The questionnaire was also administered to students in the CTR group by the other teacher who participated in the research. However, these students were not informed about the objectives of the research. They were only given orally the necessary instructions to carry out the task and fill out the questionnaire. The difficult words were also explained and translated to them like the students in the EXP group. The questionnaire was distributed to these students on the same day students in the EXP group took it. Sixty (60) minutes were allowed for students in both groups to complete the questionnaire. The students in the two groups (i.e. the EXP and CTR groups) were both asked not to write their real names on the questionnaire sheet but to put only pseudonyms they chose themselves. This was intended to maintain confidentiality during all the steps of the research, when taking the questionnaire, the test and the task and even during the data analysis process. It was also aimed at augmenting the objectivity of the test and task grading.

2.3.2. The International Critical Thinking Essay Test:
3.2.2.1.   Rationale for Using the ICTET:

The International Critical Thinking Essay Test (henceforth ICTET), developed by Richard PAUL and Linda ELDER in 2007, was employed in this research to

pretest and post-test first year LMD students in the EXP and the CTR group. The goal of this test, as PAUL and ELDER [33] writes, is to "enable educators to gather evidence relevant to determining the extent to which instruction is effective in fostering student critical thinking (in the process of learning content)". In addition to assessing instruction, the test can be used to provide a reasonable way to pre- and post-test students to determine the extent to which they have learned to think critically [32] and have developed critical thinking skills. As a pretest, the ICTET was a used to tap into and diagnose the participating students' level of critical thinking abilities prior to the explicit instruction in CTE and CRS. As a post-test, the ICTET was administered at the end of the instruction to compare its results with the results obtained from the pretest and see whether any improvement occurred in the students' critical thinking skills.

This instrument is deemed the most useful critical thinking test for this research, first, because it is more recent, and second because the other standardized commercially available tests, as explained in Chapter One (see page 35), "do not cover all the dimensions of a good conceptual design of critical thinking"[20]. Moreover, these tests are general and not subject bound, and for this reason, "they might not be able to provide evidence of how students think about critical thinking in meaningful contexts" [57], such as in analyzing and evaluating historical documents. However, the ICTET provides an assessment of the fundamentals of critical thinking that can be used with content from any subject (literature, sociology, history, mathematics, science). The test also emphasizes both the analysis and the assessment of any written text (historical document, a literary text, a sociological writing… etc). In addition, the ICTET has been favoured because it is an open-ended essay test and, unlike other multiple choice standardized tests, it is comprehensive. This means it covers several significant aspects of critical thinking and allows the test taker to develop their own arguments and positions and present them in a way that either defend or refute the arguments of the author of any written piece.

The ICTET is divided into two sections; the analysis section and the evaluation section. This makes it appropriate because of the easiness with which each section can be graded. In the Analysis segment of the test, students must

accurately identify eight (8) elements (see Test Description page 64 of reasoning within a written piece (each element is worth 10 points). In the Assessment segment of the test, students must construct a critical analysis and evaluation of the reasoning (assessment is worth 20 points). Students should present their analysis and assessment in the form of a persuasive explanation of their thinking about the written piece [32]. Many directions were given by the producers of the test as to how to score it (see Appendix K page 151 for a grid of criteria for grading the test). The grader in evaluating the test should take into consideration the following questions [32]:

- Did the student clearly understand the key components in the thinking of author of the written piece?
- Was the student able to effectively evaluate the reasoning of the author?
- Did the student present a reasonable case for his/her interpretation of the writing sample?

Moreover, the developers of the test believe that the grader has to:

- First, carefully read and analyse the piece of writing, making sure that its structure is clear.
- Do a critical evaluation of the strengths and weaknesses (or limitations) of the original writing prompt.
- Read a few of the essays to be scored.
- Follow the grading procedure detailed in the test (part one= 80 points, part two=20 points).
- Practice grading with two other graders until the scoring of the three of you fall consistently within this range.

In addition to the previous reasons, other concerns with using the ICTET as a test to assess the participating students' level of critical thinking skills include issues of both reliability and validity. This test is designed, as its authors write [32], "to have high consequential validity". That is, the consequence of using the test is significant, unlike the traditional tests which tend to have low consequential validity, i.e., the nature of the test items are not relevant to the content. In addition, the test has high "face validity," for it directly tests the students' ability:

1- To accurately identify the most fundamental intellectual structures in thinking, i.e., the purpose of a piece of writing, the questions it raises, the information it embodies, the inferences and conclusions arrived at, the key concepts, the underlying assumptions, the implications of the reasoning, and the point of view.

2- To do so in a piece of writing from any discipline. The critical thinking abilities the ICTET directly tests are also significant and this further adds to its validity and reliability.

Despite the established validity and reliability of the ICTET, empirical studies that have tested the application and effectiveness of this test are hard to be located in the literature. The absence of these studies is not strange given that the test is recent (2007). Nevertheless, it is an issue of concern when considering the application of a test of critical thinking as an assessment instrument in this research. For this reason, the DBT is added as a third assessment instrument in order to obtain more reliable results for this research.

2.3.2.2. Test Description:

The ICTET is an open-ended critical thinking test and not a multiple choice test. It is divided into two parts and it takes ninety (90) minutes for reading the text and completing each part. Timing in this research is important to ensure the experiment's success and avoid the biasing of the results. The time students needed to do the test is 90 minutes and this latter is divided between reading the document that accompany the test, and then carefully analyzing and evaluating it. Each activity takes the time it needs to maximize its success.

Part one of the test is intended to get students interpret and analyse the written piece by identifying key important components in the thinking of the author. Part two of the test is devoted to the assessment of the strengths and weaknesses of these components. More importantly, this part aims at getting students present their assessment in a form of a persuasive explanation of their thinking about the written piece, referring to the eight components extracted from the first part of the test.

Eight (08) elements must be recognized by the test taker, these are:

- The main purpose of the written piece
- The key question (s) the written piece arises
- The most important information in the piece
- The main conclusion (s)
- The main idea (s) that must be understood to understand this piece, and a short explanation of what the author means by this/these concepts
- The main assumption (s) underlying the author's thinking
- The main implication (s) of the author's line of reasoning
- The main point (s) of view presented in the written piece, i.e., what the author focused on and from which angle

In assessing these elements, the students must look thoroughly at the purpose, the question (s), the information, the author's ideas or concepts, the assumptions, the conclusions, the point (s) of view and the implication of the written piece and judge them as appropriate in terms of their clarity, accuracy, precision, relevance, depth, breadth, logicalness, significance, and fairness—or lack thereof of these standards [32]. The students are required to write their analysis and assessment of the reading text in the form of a persuasive essay.

<u>2.3.2.3. The Reading Material:</u>

As mentioned previously, the ICTET emphasizes both the analysis and the assessment of a written piece from any subject. This test has been employed to assess students' critical thinking skills in analyzing and assessing a historical document. The ICTET was given first as a pretest and then as post-test following the explicit instruction in CTE and CRS. As a pretest, the ICTET was administered at the beginning of the second semester. Given that this semester is devoted to the teaching of American Civilisation, the historical documents chosen as the reading texts are primary and secondary source texts in American History. The document used in the pretest is Chief Powhatan's speech "Address to Captain John Smith" (1609), taken from the American Rhetoric Online Speech Bank, an online database of American speeches (see: http://www.americanrhetoric.com/speeches/nativeamericans/chiefpowhatan.htm). The other text used in the post-test is entitled "Declaration of Rights of the Stamp Act Congress" and is taken from Milestone Documents in American History:

Exploring the Primary Sources that Shaped America Vol. I edited by FINKELMAN and LESH [89]. A copy of the ICTET can be found in Appendix F (see page 142).

2.3.2.4. Administration of the Test:

The ICTET was administered twice to the students in both groups (EXP and CTR groups), once at the beginning of the second semester and again at the end of the same semester. The two groups took the test during a course of civilisation in conditions similar to any regular civilisation examination. Students in the EXP and the CTR groups were reassured that the ICTET was just a test and not an examination that will interfere with their pass marks. However, in order to increase their motivation and cooperation they were informed that the completion of the test and the two other tools grants them additional points. These points were added when counting their continued assessment marks.

Before the administration of the test, the students in both groups were given several directions orally. They were asked to work independently as they usually would do in any examination. In addition, the students were briefly informed about how to answer the test. Before students started the test, they were given ten minutes to go through the test sheet and ask any questions pertaining to the test. This was done to ensure that all the students understood clearly what they were expected to do. Moreover, they were all asked (in the EXP and CTR groups) to write on the test sheet the same pseudonyms they used when taking the questionnaire. This procedure is adopted to keep the anonymity of all the research participants. On a separate sheet of paper students in the two groups were asked to write the same pseudonyms they selected while taking both the questionnaire and the test. The list of pseudonyms was kept and shown to the students who failed to remember their pseudonyms while taking the DBT and during post-assessment.

2.3.2.5. Evaluation Procedure:

Upon the completion of the pretest and post-test, the papers were scored by the researcher twice using the scale proposed by the test developers. The test sheets (collected from the pretest and post-test) were scored by the researcher and were coded using numbers. This was done to assure validity and reliability of

evaluation. In addition, the sheets were piled randomly so that papers could not be recognized as either belonging to the EXP or the CTR group. The rater followed the evaluation grid created by the developers of the test (this can be found in Appendix K page 133) and recorded the scores on another sheet of paper. The same sheets were scored again. The scores of the pretest and post-test obtained from the two corrections were cross-checked and compared. When differences in scores exceeded two points, the test sheet was reread and rescored. The numbers and the scores were later matched with the students' pseudonyms and each pseudonym with its appropriate group.

<u>2.3.3. The Document-Based Task:</u>
<u>2.3.3.1. Description of the Task:</u>

The Document-Based Task (henceforth DBT) was used as a further tool to test students' critical thinking abilities to analyse and assess historical documents. Choosing this instrument is motivated by the desire to include a third instrument whose results can be triangulated with results obtained from the two other assessment instruments, that is; the questionnaire and the test. It is also used to guarantee the research validity. The DBT is adopted from the Document Analysis Worksheet initially developed and designed by the Wisconsin Historical Society [69]. It contains 12 questions and requires students to answer them after analyzing and interpreting a historical document. These questions are:

- What is the type of the document?
- What is the date of the document?
- Who is the author (creator) of the document?
- What do you know about the background of the author?
- Who do you think this document was written for?
- What is the topic or issue of the document?
- What are the things the author said that you think are important?
- Why do you think this document was written?
- What evidence in the document helps you know why it was written? Give an example from the document to support your opinion.
- What are the things the document tells you about the place where the document was written?
- Does the document conflict or agree with other things you have read about the topic?

- What question (s) do you want to address to the author that is left unanswered by the document?

2.3.3.2. The Administration of the Task:

The Document Analysis Worksheet (henceforth DAW) was assigned as a task before and after the explicit instruction in critical thinking elements (henceforth CTE) and critical reading strategies (henceforth CRS). The students in the EXP and CTR groups were asked to study an assigned reading closely and then answer the twelve (12) questions in an essay form. They were allowed ninety (90) minutes to complete the questions.

Prior to the instruction, students were assigned a primary source document to be read and analysed in class. This document is an extract taken from "Christopher Columbus Journal" written in 1492. The document was accompanied with the DAW. After the instruction, at the end of the second semester, the students in the two groups were assigned the same DBT but a different historical document entitled "Quartering Act" (1774) taken from *Milestones Documents in American History* by FINKELMAN and LESH [88].A copy of the DBT can be found in Appendix G (see page 143).

As pointed out previously, the task includes 12 questions intended to assess the participating students' level of critical thinking skills before and after implementing the explicit instruction in CTE and CRS. Each of the first four questions in the task (questions 1-4) was assigned one (1) point and each of the other eight (8) questions (questions 5-12) was assigned two (2) points. The whole score is twenty (20) points.

2.4. Summary of Instruments:

Three instruments were employed to assess the participating students' level of critical thinking skills before the explicit instruction in CTE and CRS and again at the end of instruction. These instruments are: The Students' questionnaire, the International Critical Thing Essay Test (henceforth ICTET) and the Document-Based Task (henceforth DBT). All these assessment tools were used to determine the consistency of the CTE and CRS instruction which is the independent variable

(henceforth I V) of this research. The selection of the assessment instruments was determined by the nature of this experimental research as well as the data needed to answer the following main research question and three other sub-questions:

- Does infusing an explicit instruction in critical thinking elements and critical reading strategies into a first-year LMD civilisation course improve the critical thinking skills of first-year LMD students of English at the University Saad Dahlab of Blida?

  • Will student participants in the experimental group undergoing the explicit instruction in critical thinking elements and critical reading strategies use these strategies more effectively than participants in the control group?

  • Will there be any significant difference between the pretest and post-test means of the experimental group and between the pretest and post-test means of the control group, as measured by the International Critical Thinking Essay Test?

  • Will there be any significant difference between the pre-task and post-task means of the experimental group and the pre-task and post-task means of the control group, as measured by the Document-Based Task?

2.5. Experimental Implementation:

2.5.1. Design of the Experiment:

The design for this research is a pretest-post-test experimental completely randomized group design. A total number of thirty-four (N=34) first-year LMD students were randomly assigned to either an EXP (intervention) or a CTR group (non-intervention). The independent variable for this research is the explicit instruction in CTE and CRS. The dependent variables are the students' scores on three assessment instruments. The ICTET, the Students' Questionnaire and the DBT were used as assessment instruments to gather data at two points in time (i.e. before and after the instruction). Results obtained from the instruments before

the instruction are compared with results obtained from the same instruments after the instruction to see whether there is a relationship between the independent variable and the dependent variables (discussion of results appears in the third chapter of this research).

2.5.2. Objective and Procedures of the Experiment:

The purpose of this experimental research is to evaluate the impacts of an explicit critical thinking intervention that continued over a period of one semester (≈ 12 weeks). More specifically, the research is intended to determine whether infusing an explicit instruction in critical thinking elements (henceforth CTE) and in critical Reading Strategies (henceforth CRS) into a first-year LMD civilisation course, would improve freshman students' critical thinking skills. A sample of thirty-four (34) first-year LMD students was randomly assigned to an EXP group (N=17) or a CTR group (N=17). Students in the EXP group were explicitly instructed in the CTE and CRS, whereas the students in the CTR group did not receive such instruction but rather received lectures in a more traditional way. Therefore, students in the EXP group were expected to achieve higher levels of critical thinking skills and higher scores on the three assessment instruments than those in the CTR group.

At the beginning of the first week of the second semester (end of February 2011) and prior to the conduction of the CTE and CRS instruction, two from the three assessment instruments (i.e. the Students' Questionnaire and the ICTET) were administered to the students in the EXP and the CTR groups on the same day. The questionnaire was not administered during the civilisation course but was rather distributed in a course of Phonetics with the help of the teacher of Phonetics. This was done to save and allow time for the students before taking the ICTET as a pretest. This test was administered two days after the distribution of the questionnaire during a regular civilisation course. The CTR group and the EXP group took the test on the same day. One in the morning and the other group in the afternoon respectively. Both the researcher as well the other teacher of civilisation who participated in this research collaborated to administer the test (see test administration page 65).

In the second week of the semester (March 2011) the students in the two groups (EXP and CTR) were assigned the DBT. Ninety (90) minutes were allotted for the completion of the task during which the students were assigned a reading text to interpret and analyse and the document analysis worksheet to fill out. The students in both groups are used to read historical documents and thus the reading task was not new for them. However, the analysis task was new and it was the first time they were provided with an analysis worksheet. During the semester preceding the experimental research, first-year LMD students studied British Civilisation as a module. Several historical documents were read by the students pertaining to different historical eras, however, these students were deliberately not instructed to use any technique or strategy to critically read and analyse them. Their acquaintance with these documents helped reduce any problems or negative reactions towards the assessment instruments.

Students' motivation could influence the accuracy of data obtained from the assessment instruments. To raise students' motivation and involvement to do their best on the three assessments used in this research, three points were added to students' scores when calculating their continued assessment grades. These grades coupled with their scores on the second semester examination of civilisation constitute their second semester grades. The students were informed about this procedure.

Both the EXP and CTR groups received ninety (90) minutes of classroom instruction per week during all the second semester (approximately 12 weeks). All students in the CTR group met every Sunday from 9:30 A.M. to 11 A.M. and were taught civilisation by the teacher of civilisation who consented to participate in this research. They were given lectures in American Civilisation as it is the subject devoted to the second semester in the English LMD curriculum. The participating students in the EXP group met every Tuesday from 12.30 P.M. to 14 P.M. and were explicitly instructed, during a regular American civilization course, in CTE and in CRS. No more than twenty (20) minutes class period was devoted for lecturing students in the EXP condition; the remaining time was spent in giving instruction in CTE and CRS, in students' activities and discussions related to assigned readings.

To ensure treatment fidelity, the researcher was not the instructor for both the EXP and CTR groups. Another teacher of American civilisation, who had the same qualifications (a magister student), the same work experience (two years of teaching experience) and who taught the same grade level like the researcher, agreed to participate in the research and teach the CTR group. This was done to ensure that the CTR is not exposed to any unconscious influences from the part of the researcher, which could confound the results of the research. Before the conduction of the experiment, the researcher met with the teacher to discuss all issues related to the experiment and explain its procedures cautiously. Additionally, the administration of all the instruments (pre and post-assessment) was discussed clearly. Both the researcher and the teacher agreed to assign the same reading materials, teach the same courses and provide students in the EXP and CTR groups with the same historical documents. This collaboration greatly helped in the conduction of this experimental research and provided identical conditions for the two groups. Providing similar conditions for the two groups help ensure that if any improvement occurred in the critical thinking abilities of students in the EXP group, it would be the result of instruction alone and not due to other influences, like the use of historical documents. Along the second semester, the researcher and the other teacher of American civilisation met several times to discuss matters related to the experiment and check whether the EXP and CTR groups were provided with similar learning conditions.

2.5.3. Instructional Method and Materials:

This section, in more details, describes the experimental treatment used with the EXP group and the instructional procedures followed in teaching the CTR group.

2.5.3.1. Experimental Group:

The sample of students (N=34) who participated in this research was randomly assigned to an EXP condition (N=17) and a CTR condition (N=17). The former received the treatment (i.e. the explicit instruction in critical thinking elements and critical reading strategies), whereas the latter was taught in a more traditional way where lecturing was the dominant instructional method. The Wisconsin model for Critical Thinking and History (see figure 1 page 72 for a

summary of the model) which includes 10 CTE and the CRS (see figure 2 Page 73) were explicitly infused into a regular American civilisation course and used as the basis for implementing the experimental treatment. This was done by:

- Preparing students by introducing a wide of vocabulary of critical thinking and by discussing the importance of critical thinking including the skills and dispositions that associate with it.
- Providing students with handouts on critical thinking skills, CTE and CRS, a glossary of critical thinking terms and a graphic summary of selected critical thinking definitions.
- Modeling the CTE and CRS explicitly using a think-aloud technique.
- Training students to use the strategies by explaining each strategy and modeling it and by explaining the use and usefulness of each critical thinking element.
- Giving assignments and activities that require students to practice and use the different elements and the strategies while interpreting and analyzing historical documents.
- Conducting whole-class discussions to evaluate students' use of the CTE as well as the CRS.

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(Wisconsin's Critical Thinking and History Modeladopted from Edmonds et al. *Critical Thinking and History Handbook*, Wisconsin Historical Society: 2005)

Figure 1. Critical Thinking Elements

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│                         │     Corroborating    │                       │
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Critical Reading Strategies adapted from Wineburg, Samuel S., "Thinking Like a Historian". *TPS Quarterly,* Winter 2010: 2-4 and Salisbury University's Inventory of 7 Critical Reading Strategies:
<http://www.salisbury.edu/counseling/new/7_critical_reading_strategies.html>

Figure 2. Critical Reading Strategies List

As noted previously, in the first week of the semester (end of February 2011) before the conduction of the instruction, pre-assessment began. Both the questionnaire and the pretest were administered to the students in the EXP and CTR conditions. Then, on the second week of the semester (1st' March 2011), the Document-based Task was implemented.

In the third week of the second semester (8th March 2011), students in the EXP group were informed about the objectives of the research and were

presented various definitions of critical thinking. CRS and CTE were also defined and their importance was explained to students. A list of critical thinking skills (see Appendix H page 144) that the students are expected to develop and acquire at the end of the instruction was presented to them using a PowerPoint presentation. The benefits of acquiring such skills and of thinking critically were highlighted. In addition, historical inquiry and research as well as the importance of thinking were emphasized and discussed thoroughly. Finally, the dispositions and attitudes of good critical thinkers the Delphi panel proposed (see Chapter One page 29) were discussed using several examples.

Before the spring vacation (March 15th 2011), in the fourth week of the semester, the students in the EXP group were provided with a guided explicit instruction in CTE and CRS following the Cognitive Academic Language Learning Approach (henceforth CALLA model) developed by O'Malley and Chamot in 1986 [60]. This instructional framework, as outlined in Chapter One, consists of five consecutive phases (that is: Preparation, Presentation, Practice, Evaluation and Expansion) that helped the researcher organize the instruction and ensured that the students grasped all the different CTE and CRS.

Following the spring vacation, (5th April 2011) and for the rest of the semester, the researcher resumed the explicit instruction in CTE and CRS (once a week) using the CALLA framework. During each session of instruction (for 12 weeks) the students learned the elements along with the strategies (two or three at a time depending on their complexity) and practiced them through different activities and homework assignments. The students were given many opportunities to apply the learned elements and strategies and practice their skills. An example of a CTE and CRS course outline presented using the CALLA instructional framework appears in Appendix I (see page 145).

Handouts on each lesson, designed for students in the EXP group, were compiled into a package. This package was provided as a summary and a written reminder of all what students were trained in. It comprises: A list of critical thinking skills (see Appendix H page 144), some selected definitions of critical thinking (see Appendix L page 153), critical thinking elements (see Appendix C page 138), a

critical reading strategies list (see Appendix D page 139) and a glossary of critical thinking terms (see Appendix J page 150). The packet was distributed to the students in the fourth week of the semester, when the researcher started instructing the CTE and CRS. The researcher presented the materials included in the packet using PowerPoint presentations, while the students followed in their own copies.

Students in the EXP and CTR groups used three books: Exploring the New World, by Conklin (2004), An Outline of American History, by Cincotta (1994) and Colonial American: Primary Sources, by Peggy Saari (2000). The first book used by students is a brief illustrated booklet that spins the story of European exploration and discovery of the New World, while the Outline of American History is a standardized history textbook. The third book is a primary source book that presents 24 excerpted documents written by people who lived during America's colonial period. Milestones Documents in American History (Vol. 1), by Finkelman and Lesh (2008) was also used in this research. This book, which is a collection of many authentic primary source documents that shaped America, was not read by the students entirely. Several documents were selected from the book and distributed to them as primary source readings. These assigned readings were used in the EXP condition as materials for students to practice the instructed CTE and CRS and used in the CTR condition as materials for gaining additional historical information not wholly covered in lectures.

As pointed out previously, the CTE and the CRS were introduced explicitly to students in the EXP group throughout all the semester. During every session of intervention (for 12 weeks), the instructor defined, explained and modeled the element (s) of critical thinking and the strategy (s) directly, using several examples. Students were, then, put in small groups of four and were assigned a reading text to analyse and apply the instructed strategies and elements. These activities helped students practice more what they learned and allowed the instructor to further provide clarification and guidance. Whole-class discussions followed and each group shared with the entire class their analysis and the way they used the elements and strategies. In order to expand the use of the instructed strategies and elements, students were assigned an extra document to be interpreted and

analysed at home. This assignment required students to apply the learned CTE and CRS. Discussions of the assigned readings were held on a different day of instruction.

At the end of the instruction (in late May 2011), students in the EXP groups were post-assessed using the three assessment instruments that were used for pre-assessment at the beginning of the semester. These instruments include: the Students' Questionnaire, the ICTET and the DBT and were used to evaluate the impacts of the explicit instruction in CTE and CRS and see whether students' critical thinking skills improved following this instruction. The activities and assignments given to students in the EXP group together with their completion of the three assessment instruments granted them three (03) points that were added to their scores when calculating their continued assessment grades.

 2.5.3.2. Control Group:

Seventeen (N=17) first-year LMD student participants in this research were assigned to a CTR condition. These students did not receive the treatment, i.e., they were not instructed in CTE and CRS. Moreover, they were not taught by the same teacher who instructed the EXP group. As explained previously, a teacher of American Civilisation, who has the same experience and qualities like the researcher, agreed to participate in this research and teach the CTR group. The teacher provided the students in the CTR group with identical conditions to those in the treatment group. Before the conduction of the experiment, both the teacher and the researcher met several times and decided to teach the same lessons and assign the same reading documents. Table 2 provides a summary of the instructional method and materials used in both the EXP and CTR groups.

Method and Materials	Experimental Group	Control Group
Course Duration (90 min.)	20 min. Lecture/ 70 min. CTE and CRS instruction	60 min. Lecture/ 30 min. reading activities
Historical Documents	The same documents	The same documents
Content of the Lessons	The same, but emphasis on critical thinking	The same, but no emphasis on critical thinking
Homework assignments	Yes	No Homework assignments
Activities	Emphasis on applying the CTE and CRS while reading historical documents	Reading historical documents and merely extracting information
Critical Thinking Handouts	Yes	No Handouts
Explicit instruction in CTE and CRS	Yes-70 minutes of weekly instruction	None
Questionnaire (pre- /post)	The same	The same
Document-Based Task	The same	The same
ICTET (Pretest/post-test)	The same	The same

Table 2.Summaryof Instructional Method and Materials for EXP and CTR Groups

Assigned historical documents for students in the CTR group were the same as those for the EXP group. The students used the same books outlined before: Exploring the New World, by Conklin (2004), An Outline of American History, by Cincotta (1994) and Colonial American: Primary Sources, by Peggy Saari (2000). In addition, they read selected documents from Milestones Documents in American History (Vol. 1), by Finkelman (2008). However, the two groups were assigned different activities and used different approaches for reading and interpreting these documents. Instead of training students in the CTR group to use the CTE and CRS, the teacher assigned them to read and approach these historical documents as great resources of information and answer questions about their readings. Yet, to be efficient in answering all of these questions, students needed to use many of the elements of critical thinking laid down in Wisconsin's model and to draw on the different CRS to critically analyse, interpret and evaluate the sources.

On the first week of the second semester, the questionnaire and the pretest were administered to students in the CTR group. These students were given directions on how to complete the questionnaire and answer the elements in the test. Like the EXP group they were allowed 90 minutes to complete the test and 60 minutes to fill out the questionnaire. In addition, they were not told that they are participating in a case study conducted in and commissioned by the Department of English at USDB, and were kept uninformed about its purpose and objectives. Then, on the second week of the semester the students were assigned the DBT. Ninety (90) minutes were allotted for the completion of the document analysis worksheet; the remaining time was spent in lecturing.

Following the pre-assessment, and for the rest of the second semester, more detailed and longer lectures, as it is usually done, were given in the CTR group instead of the explicit instruction in the CTE and CRS given in the EXP group. Moreover, lectures and class discussions focused more on factual information and were taught more formally. Like students in the EXP group, in the CTR group three points were added to students' continued assessment grades, upon the completion of the pre- and post-assessment instruments. They were informed about this procedure.

Post-assessment for the CTR group was the same for the EXP group. At the end of the semester (Late May 2011) before the beginning of the second semester regular examinations, the Students' Questionnaire, the ICTET and the DBT were administered to students in the CTR condition. The grading procedures as well as the evaluation criteria were the same for the two groups (EXP and CTR). In the ICTET making is out of 100 and in the DBT it is out of 20 for the two groups.

2.6. Data Analysis:

The aim of this experimental research is to check whether explicit instruction in CTE and CRS would yield any improvement in students' performance in the final questionnaire, post-test and post-task compared to their performance in the initial questionnaire, pretest and pre-task. As a review, the main research question and main hypothesis this research addresses are as follows:

- Does infusing an explicit instruction in critical thinking elements and critical reading strategies improve the critical thinking skills of first-year LMD students of English at the University Saad Dahlab of Blida?

  • Infusing an explicit instruction in critical thinking elements and critical reading strategies would likely improve the critical thinking skills of first-year LMD students of English at university Saad Dahlab of Blida and enable them read critically historical documents.

Throughout this research an attempt to confirm the truth of this prediction is sought. To confirm its truth, this research also addresses three sub-questions and two sub-hypotheses:

- Will student participants in the experimental group undergoing the explicit instruction in critical thinking elements and critical reading strategies use these strategies more effectively than participants in the control group?

  • Student participants in the experimental group will demonstrate an effective use of critical reading strategies better than the control group following the instruction.

- Will there be any significant difference between the pretest and post-test means of the experimental group and between the pretest and post-test means of the control group, as measured by the International Critical Thinking Essay Test?

  • There be will be no difference between the pretest and post-test means of the control group but there will be a difference between the pretest and post-test means of the experimental group.

- Will there be any significant difference between the pre-task and post-task means of the experimental group and the pre-task and post-task means of the control group, as measured by the Document-Based Task?

- There be will be no difference between the pre-task and post-task means of the control group but there will be a difference between the pre-task and post-task means of the experimental group.

To address the previously mentioned questions, the hypotheses set forth in this research should be confirmed or disconfirmed. To achieve this aim, the data collected from the three assessment instruments (the Students' Questionnaire, the ICTET and the DBT) employed in this research will be first presented then interpreted and analysed. An experiment's collected data should be first described and organized in a comprehensive way. This description and organization help in giving sense to the data and aid in the process of interpretation and analysis. Therefore, the aim of this section is to provide an overview of the data analysis methods and procedures used in this research. Moreover, it gives an account of how the data obtained from the three research instruments is treated and organized. Detailed analyses as well as the results obtained from the three data collection procedures (questionnaire, test and task) will be later reported and then discussed thoroughly in chapter three of this research.

The data analysis process involves three major steps [90]:
- Cleaning and organizing the data for analysis, i.e. data preparation.
- Describing the data, i.e. descriptive statistics.
- Testing hypothesis (es) and models, i.e. inferential statistics.

These three steps are followed in this research. The first step is dealt with in the present chapter, but the two other steps will be covered in the coming chapter together with the results obtained from the research tools. In step one, the large amount of data collected from the three research instruments (test, questionnaire and task) before and after the instruction were first checked for accuracy, coded and organized, tabulated and finally entered into the computer. The test and task-sheets were corrected and the marks of the pretest and post-test as well as the pre-task and post-task were arranged in tables to facilitate their analysis. This analysis of the test and the task included both descriptive statistics and inferential statistics. Scores of the pretest and pre-task as well as the post-test and post-task will be correlated with each other. In addition, the data obtained from the initial and

final questionnaires were quantified by classifying and tallying the students' responses in three categories: yes, no and undecided. When the responses were transformed into numbers, they were also tabulated and stored into the computer for analysis. The data were converted into Excel spreadsheet format and analysed. The analysis of the questionnaires included descriptive statistics, namely percentages and frequencies.

The other two steps followed in this research during the data analysis process are descriptive statistics and the inferential statistics respectively. "Descriptive statistics were used to describe the basic features of the data in a study" [90]. In other words, with descriptive statistics a simple description and a summary of what is or what the data shows will be presented with simple graphic analysis in a manageable and a simplified form. These types of statistics form the basis of every quantitative analysis of data. They include percentages, means, standard deviation, etc. In the present research, descriptive statistics will be used to describe and summarize achievement scores at the beginning (pretest, pre-task and initial questionnaire) and end (post-test, post-task and final questionnaire) of the CTE and CRS instruction. They were inspected to determine if the student participants showed any significant differences in post-assessment performance as a result of instruction. Patterns of interaction between dependent variables (pre and post-scores as well as the responses of the final questionnaire) and the independent variable (the explicit instruction in CTE and CRS) will be examined in order to describe the pattern of relationships between instruction and gains in critical thinking skills.

Inferential statistics, on the other hand, are distinguished from descriptive statistics because "with this type of statistical analysis, conclusions or inferences that extend beyond the immediate data alone are sought "[88]. Inferential statistics are useful in experimental research designs like the present research. They were used to determine if significant differences exist between the EXP and CTR groups and whether group means differed from each other. One of the inferential tests that can be used to compare the average performance of two groups on a single or different measurements to see if a significant difference exists between

the means of two samples which can be matched is the paired-sample t test (also known as the dependent t test). The paired-sample t test can also be used when the participants are the same individuals tested twice, before and after the treatment. In this case the test can be used to compare the before-and-after observations and assess whether or not a significant difference exists between these paired observations.

This test is deemed appropriate for use in this experimental research. Therefore, it can be used to analyse data obtained from the ICTET and the DBT. More specifically, it is used to compare the pretest and post-test means as well as the pre-task and post-task means of the EXP group and that of the CTR group. The two groups means are tested to see if any significant difference exists between the students' pre-assessment performance (i.e. pretest and pre-task) and their post-assessment performance (post-test and post-task) as a result of method of instruction. Results of the paired-sample t test can be examined to see whether the explicit instruction in CTE and CRS this research implemented can lead to an improvement in students' critical thinking skills.

2.7. Conclusion:

This chapter described the methods and procedures followed to obtain the research sample and the instruments employed to collect data for this research. Two first-year LMD groups, with a total number of 34 students, participated in this research. These groups were randomly assigned either to an EXP condition (N=17) or to a CTR condition (N=17). The critical thinking elements (henceforth CTE) outlined in Wisconsin's Model for Critical Thinking and History and the critical reading strategies (henceforth CRS) were used as a treatment intervention for one semester (12 weeks). These elements and strategies were instructed by the researcher explicitly and used by students in the EXP group. The CTE and CRS instruction is the independent variable (henceforth I V) in this research. The other students in the CTR group did not receive such instruction and were not taught by the researcher but by another teacher of American Civilisation who voluntarily participated in this research and who has similar qualification and teaching experience like the researcher.

Three instruments (the Students' Questionnaire, the ICTET and the DBT) were used before and again after the instruction to pre- and post-assess students in the two groups and to report any improvement in the students' critical thinking skills after the instruction. These instruments were employed to assess the consistency and usefulness of the explicit CTE and CRS instruction. In other words, this research aims at investigating whether the dependent variables (henceforth D V), (i.e., students' scores in the post-test and post-task and their responses in the finial questionnaire) are affected by the I V in this research (i.e., the CTE and CRS instruction). Descriptive and inferential statistics need to be done to decide whether any statistical significant difference exists between the two groups' pre-assessment and post-assessment performance. If a significant difference exists, then, conducting statistical inferential tests like the paired-sample t test will help in checking whether it is due to the I V alone and not because of other factors. This will be the focus of the coming chapter.

CHAPTER 3
RESULTS AND DISCUSSIONS

3.1. Introduction:

The purpose of the present research is to investigate empirically the effects of infusing an explicit instruction in CTE and CRS into a first-year LMD American civilisation course on first-year LMD English students' critical thinking abilities to read critically historical documents. The independent variable in this research is the CTE and CRS explicit instruction. The dependent variables are the scores obtained from the ICTET and the DBT after the instruction as well as students' responses on the final students' questionnaire. This chapter reports results of the research and discusses findings as they relate to the three research sub questions. These findings will help answer the main research question. An analysis of the results from each of the three research instruments will be first presented followed by a discussion of these results. The results obtained from two of the instruments (test and task) will be triangulated with each other and the hypotheses will be tested. This chapter ends with a conclusion and a summary of the results.

3.2. Reporting Results and Discussing Findings:

In this section, a close examination of the results and findings obtained from the initial and final student's questionnaire administered to students in the EXP and CTR groups is presented with the aim of uncovering the critical reading strategies used by the participants. In addition, the data obtained from the pretest and post-test as well as the pre-task and post-task carried out in both groups is examined and results and findings are reported and triangulated. The results of the questionnaire were calculated and converted into percentages and graphs using Microsoft Excel and OriginLab version 8.07, and results of the test and task were analysed with assistance of the Statistical Package for the Social Sciences (henceforth SPSS) version 17.0, to find out whether instructing students explicitly in CTE and CRS would improve their critical thinking skills to read critically historical documents. In what comes, sections contain statistical tables, graphs

and commentary about descriptive and inferential results from each instrument. The three research sub questions are addressed in connection to each instrument rather than in a separate section and this is to answer the following main research question:

- Does infusing an explicit instruction in critical thinking elements and critical reading strategies into a first-year LMD civilisation course improve the critical thinking skills of first-year LMD students of English at University Saad Dahlab of Blida?

3.2.1. Results of the Students' Questionnaire:

The aim of this section is to report the results obtained by comparing the performance of two groups of first-year LMD English learners on the initial and final students' questionnaire. The data generated by the questionnaire were quantified by classifying and tallying the students' responses in the three sections into three categories: yes, no and undecided. When the responses were quantified, they were entered into Excel calculation spreadsheet and converted into numerical data.

3.2.1.1. Research Question:

The following first research sub question is addressed in this section:

- Will student participants in the experimental group undergoing the explicit instruction in critical thinking elements and critical reading strategies use these strategies more effectively than participants in the control group?

There will be an attempt to test the following first sub-hypothesis:

- Student participants in the experimental group will demonstrate an effective use of critical reading strategies better than the control group following the instruction.

3.2.1.2. Analysis of the Results of the Students' Questionnaire:

- Section one of the Questionnaire: Before I started Reading

Section one of the questionnaire includes seven (07) items which are presented in table 3.

Section One: Before I started Reading…	Yes	No	Undecided
1) I decided in advance the purpose of my reading and read with this goal in mind			
2) I looked at the title and tried to guess what the text might be about			
3) I quickly skimmed through the text			
4) I made a quick first reading to get an overall picture of the text.			
5) I read the name of the author and tried to guess what these can tell me about the text			
6) I read the source of the book and tried to guess what these can tell me about the text			
7) I paid attention to the date when the text was written and published			

Table 3.Summary of Section One of Students' Questionnaire

Before students started reading the historical document attached to the questionnaire, they were supposed to use a set of pre-critical reading strategies such as setting a purpose for reading (item 1), previewing (items 2, 3 and 4) and sourcing (items 5, 6 and 7). The students were supposed to tick "yes", "no" or "undecided". Each item in section one of the questionnaire is related to a critical reading strategy. The following tables 4 and 5 present EXP and CTR groups' performance in section one of the questionnaire. The percentages (%) of each item are presented below for the total number (N) of students (N=34) belonging either to the experimental (EXP) or control group (CTR) and who completed both the initial and final questionnaires.

| | Initial Questionnaire | | | | | | Final Questionnaire | | | | | | |
| | Yes | | No | | Undecided | | Yes | | No | | Undecided | | |
Items	N	%	N	%	N	%	N	%	N	%	N	%	Total
1	11	64.71	3	17.65	3	17.65	17	100.00	0	0.00	0	0.00	17
2	14	82.35	0	0.00	3	17.65	17	100.00	0	0.00	0	0.00	17
3	12	70.59	5	29.41	0	0.00	14	82.35	3	17.65	0	0.00	17
4	5	29.41	10	58.82	2	11.76	12	70.59	4	23.53	1	5.88	17
5	6	35.29	8	47.06	3	17.65	7	41.18	7	41.18	3	17.65	17
6	8	47.06	5	29.41	4	23.53	15	88.24	1	5.88	1	5.88	17
7	10	58.82	7	41.18	0	0.00	14	82.35	2	11.76	1	5.88	17
Total %	**45**	**45**	**59**	**59**	**47**	**56**	**60**	**60**	**30**	**30**	**33**	**26**	

Table 4. The EXP Group's Performance in Section One of Students' Questionnaire

Items	Initial Questionnaire						Final Questionnaire						Total
	Yes		No		Undecided		Yes		No		Undecided		
	N	%	N	%	N	%	N	%	N	%	N	%	
1	12	70.59	1	5.88	4	23.53	12	70.59	1	5.88	4	23.53	17
2	17	100.00	0	0.00	0	0.00	15	88.24	2	11.76	0	0.00	17
3	13	76.47	4	23.53	1	0.00	7	41.18	9	52.94	0	5.88	17
4	11	64.71	5	29.41	1	5.88	6	35.29	10	58.82	1	5.88	17
5	10	58.82	5	29.41	4	11.76	7	41.18	6	35.29	2	23.53	17
6	11	64.71	5	29.41	2	5.88	11	64.71	4	23.53	1	11.76	17
7	7	41.18	6	35.29	5	23.53	5	29.41	7	41.18	4	29.41	17
Total %	55	55	41	41	53	44	40	40	70	70	77	74	

Table 5.The CTR Group's Performance in Section One of Students' Questionnaire

-Setting a Purpose for Reading (Item One):

The percentages for item one show that before the conduction of the experimental treatment the EXP group and CTR groups performed similarly. Eleven (64.71%) students in the EXP group and twelve (70.59%) in the CTR group set a purpose for their reading. However, the case was reversed after implementing the treatment. All the respondents in the EXP group (17=>100%) said that they set a purpose for their reading, while twelve students (70.59%) in the CTR group read with a purpose against 5.88% who said no and 23.53% who did not give an answer. The increase in the EXP group's "yes" percentages from the initial to the final questionnaire (64.71 %=> 100%) and decrease in the "no" (17.65 %=> 0%) and "undecided" (17.65 %=> 0%) percentages is quite significant because it reflects students' growing awareness of the importance of this strategy.

-Previewing (Items Two, Three and Four):

Previewing enables students to get a sense of what the text is about and how it is organized before engaging in reading it closely. It includes seeing what can be learned from the title of the text (item 2), skimming and making a quick first reading to get an overview of the content and organization of the text (items 3 and 4). An examination of items 2,3 and 4 "yes" percentages indicates that the number of the students in the EXP group who used this strategy on the initial questionnaire (i.e. before the instruction) increased significantly on the final questionnaire (i.e. following the instruction). Whereas, the number of the students in the CTR group who did not use this strategy increased from the initial to the final questionnaire. The increase in the "yes" percentages for the EXP group following the instruction is an indication of students' awareness of the necessity of using previewing before engaging in reading a historical document.

-Sourcing (Items Five, Six and Seven):

Sourcing is another strategy used by "reading the name of the author" (item 5) "reading the source of the text or the book from which the text is extracted", (item 6) and by "paying attention to the date when the text was written and published" (item 7). As can be read from the "yes" percentages of items 5,6 and 7 in tables 4 and 5 stated previously, the number of the students in the EXP group who used this strategy increased from the initial questionnaire to the final questionnaire while the number of the students who did not use the strategy and those who did not give an answer decreased. However, the number of the students in the CTR group who used the strategy decreased and those who did not use the strategy increased from the initial to the final questionnaire.

- Section Two of the Questionnaire: While I was Reading

The second section of students' questionnaire is intended to assess students' use of while-critical reading strategies. It contains eleven (11) items organized from item 8 to item 18. Students participants in the EXP and the CTR group were supposed to tick "yes", "no" or "undecided". The following table gives the details.

Section Two: While I was Reading……	Yes	No	Undecided
8) I related what the text is saying with what happened in the time when it was created			
9) I compared what I read with what I already know about the topic of the text			
10) I related what the text is saying with what I studied in the course to understand it			
11) I checked my initial response and saw whether I already know something about the content of the textthat has been left out or is missing			
12) I wrote down questions about the document on a sheet of paper and answered them while reading			
13) I scanned the text looking for the main ideas			
14) I looked for the text's central message			
15) I underlined or wrote down the main ideas and the supporting ideas on a separate sheet of paper			
16) I looked for the author's position or point of view, asking "what is he trying to tell me?"			
17) I held the overall argument (or arguments) in my head looking for the author's given reasons and justifications			
18) I summarized as I went along reading			

Table 6. Summary of Section Two of Students' Questionnaire

While reading the historical document attached to the questionnaire students were supposed to use a set of while-critical reading strategies such as

contextualizing (item 8), using background knowledge (items 09,10), reflecting and reading the silences (item 11), questioning (item 12) close reading (items 13, 14, 16, 17), outlining and annotating (item 15), summarizing (item 18). Tables 7 and 8 that follow summarize the results of section two (in percentages %) for both the EXP group and the CTR group on the initial and final questionnaires.

| | Initial Questionnaire | | | | | | Final Questionnaire | | | | | | |
| | Yes | | No | | Undecided | | Yes | | No | | Undecided | | |
Items	N	%	N	%	N	%	N	%	N	%	N	%	Total
8	3	17.65	13	76.47	1	5.88	10	58.82	07	41.18	0	0.00	17
9	12	70.59	5	29.41	0	0.00	16	94.12	1	5.88	0	0.00	17
10	6	35.29	8	47.06	3	17.65	9	52.94	7	41.18	1	5.88	17
11	13	76.47	2	11.76	2	11.76	17	100.00	0	0.00	0	0.00	17
12	4	23.53	10	58.82	3	17.65	10	58.82	5	29.41	2	11.76	17
13	9	52.94	8	47.06	0	0.00	16	94.12	0	0.00	1	5.88	17
14	3	17.65	12	70.59	2	11.76	4	23.53	10	58.82	3	17.65	17
15	11	64.71	5	29.41	1	5.88	12	70.59	4	23.53	1	5.88	17
16	6	35.29	10	58.82	1	5.88	10	58.82	6	35.29	1	5.88	17
17	8	47.06	5	29.41	4	23.53	9	52.94	6	35.29	2	11.76	17
18	3	17.65	10	58.82	4	23.53	10	58.82	6	35.29	1	5.88	17
Total %	50	50	54	54	40	40	61	61	43	43	24	24	

Table 7. The EXP Group's Performance in Section Two of Students' Questionnaire

| | Initial Questionnaire | | | | | | Final Questionnaire | | | | | | |
| | Yes | | No | | Undecided | | Yes | | No | | Undecided | | |
Items	N	%	N	%	N	%	N	%	N	%	N	%	Total
8	08	47.06	07	41.18	02	11.76	05	29.41	09	52.94	03	17.65	17
9	12	70.59	03	17.65	02	11.76	15	88.24	0	0.00	2	11.76	17
10	04	23.53	13	76.47	00	0.00	02	11.76	08	47.06	7	41.18	17
11	06	35.29	04	23.53	07	41.18	9	52.94	1	5.88	7	41.18	17
12	05	29.41	08	47.06	04	23.53	6	35.29	8	47.06	3	17.65	17
13	08	47.06	05	29.41	04	23.53	13	76.47	4	23.53	0	0.00	17
14	03	17.65	11	64.71	03	17.65	2	11.76	12	70.59	3	17.65	17
15	10	58.82	05	29.41	02	11.76	11	64.71	4	23.53	2	11.76	17
16	09	52.94	08	47.06	00	0.00	7	41.18	6	35.29	4	23.53	17
17	09	52.94	04	23.53	04	23.53	3	17.65	11	64.71	3	17.65	17
18	05	29.41	08	47.06	04	23.53	05	29.41	07	35.29	05	29.41	17
Total %	50	50	46	46	60	60	39	39	57	57	76	76	

Table 8. The CTR Group's Performance in Section Two of Students' Questionnaire

-Contextualizing (Item 08):

Contextualizing is an effective strategy that helps students understand the text's historical context and the major events, themes or people that distinguish the era when it was written. As item 08 percentages demonstrate, the number of the students in the CTR group (47.06%) who used this strategy before the instruction, as the initial questionnaire reveals, is greater than those in the EXP group

(17.65%). However, as the set of percentages of the final questionnaire show, following the instruction the EXP group outperformed the CTR group. The number of the students who used the strategy increased significantly (17.65%=>58.82%) for the EXP group and decreased (47.06%=>29.41%) for the CTR group, while on the contrary, the number of the students who did not use the strategy and those who did not give an answer decreased for the EXP group and increased for the CTR group.

-Using Background Knowledge (Items 09 and 10):

Activating background knowledge is another important strategy because it enables students to use the prior historical knowledge they have or what they have studied to read and understand texts. As can be read from tables 3.3 and 3.4 stated previously, students in the two groups (EXP and CTR) on the initial questionnaire (i.e., before the instruction) performed similarly. The initial questionnaire percentages of items 09 and 10 differ slightly for the two groups. However, these percentages vary greatly on the final questionnaire (i.e., after the instruction). The EXP group performed significantly higher than the CTR group. The number of the students in the EXP group who reported their use of the strategy increased from the initial to the final questionnaire while those who did not use the strategy or did not give an answer decreased. The case is reverted for the CTR group whose performance reveals a decrease in students' use of the strategy from the initial to the final questionnaire.

-Reflecting and Reading the Silences (Item 11):

Reflecting and reading the silences are two crucial strategies that help students check their personal responses towards the text including what challenges their believes or attitudes and examine other perspectives or opinions missing in the document. As the tables 3.3 and 3.4 suggest, 76.47% of the respondents in the EXP group state that they used these strategies before the instruction, while they increased to 100% after the instruction (as the final questionnaire shows). On the other hand,

35.29% of the respondents in the CTR used these strategies before the instruction while they increased to only 52.94% following the instruction against 41.18% who did not give an answer.

-Questioning (Item 12):

This strategy enables students to ask questions about the text and answer them while reading. Questions students ask can be about facts in the text, the author's opinions, his perspectives, purposes, assumptions, conclusions…etc. As shown in tables 3.3 and 3.4, the students in the EXP group who received the experimental treatment outperformed students in the CTR group, who did not receive such treatment. A close examination of the EXP group percentages reveals that only four (23.53%) of the students in this group said that they used this strategy on the initial questionnaire, while their number increased to ten (58.82%) on the final questionnaire. Contrarily, only six students (35.29%) from the CTR group said they used this strategy on the final questionnaire against eight (47.06%) who did not use it.

-Close Reading (Items 13, 14, 16 and 17):

This strategy helps students delve deeper in the text and carefully consider its main ideas (item 13), its subject matter or central message (item 14), the point of view and position of the author (item 16), the different arguments and the reasons and justification presented to support them (item 17). A close reading of tables 7 and 8 stated previously reveals that 52.94% of the respondents from the EXP group on the initial questionnaire said they carefully scanned the text looking for the main ideas (item 13), whereas on the final questionnaire their number increased to 94.12%. On the other hand, 76.47% of the respondents from the CTR group after the instruction extracted the main ideas of the text against 47.06% before the instruction. In addition, according to the analysis of the percentages of item 14, it can be seen that on the initial questionnaire 17.65% of the respondents from the EXP group reported that they looked for the central message of the text, while on the final questionnaire, their number increased to 23.53%. For the CTR group, 17.65% said they looked for the central message of the text on the initial questionnaire but their number decreased to 11.76% on the final questionnaire.

Items 16 and 17 also show an increase in the EXP group's performance from the initial to the final questionnaire and a decrease in the CTR group's performance. From the obtained results in tables 7 and 8, it can be read that before the instruction 35.29% of the respondents in the EXP group looked for the

author's position and opinions and 47.06% looked at his arguments and justifications, while this number increased following the instruction to 58.82% and 52.94% respectively. Contrarily, the respondents belonging to the CTR group who reported on the initial questionnaire that they looked for the author's position (52.94%) and arguments and their justifications (52.94%) decreased on the final questionnaire to 41.18% and 17.65% respectively.

-Annotating and Outlining (Item 15):

These two strategies are necessary for an effective critical reading as they help students highlight how the text is structured and organized, identify important main or supporting ideas in the text, underline key words, bracket important sections and examples, write personal comments on the text or on a separate sheet of paper…etc. It is clear from tables 7 and 8 that the EXP group and the CTR group performed similarly. Eleven respondents (64.71%) from the EXP group and ten (58.82%) from the CTR group, before the instruction (as the initial questionnaire shows) stated that they used these strategies. Following the instruction, on the final questionnaire, twelve students (70.59%) from the EXP group and eleven (64.71%) from the CTR group said they used these two strategies thus revealing a slight increase (5.88%) in both groups' performance. On the hand, the tables reveal a small decrease (5.88%) from the initial to the final questionnaire in the number of the EXP or CTR respondents who did not use these strategies. Results show that students in both groups are aware about the importance of these two strategies.

-Summarizing (Item 18):

Summarizing enables students to analyse the text and put all its components (including: main ideas, arguments, viewpoints, reasons, evidence, assumptions and conclusions) in a condensed form. An examination of tables 7 and 8 reveals that from the initial to the final questionnaire the rate of the respondents in the EXP group who used this strategy increased from 17.65% to 58.82%, while the rate of those who did not use it decreased from 58.82% to 35.29% and those who did not give an answer from 23.53% to 5.88%. On the contrary, no significant increase can be seen in the number of the respondents from CTR group who said they used this strategy from the initial (29.41%) to the final questionnaire (29.41%).

- <u>Section Three of the Questionnaire: After I finished Reading</u>

The third section of students' questionnaire contains seven (07) items organized from item 19 to item 25. The following table gives the details.

Section Three: After I finished Reading………	Yes	No	Undecided
19) I checked whether the author's reasons and justifications are accurate			
20) I checked the author's arguments for flaws			
21) If I was persuaded by the author's arguments, I considered whether the evidence looks convincing enough			
22) If I was not persuaded, I asked "why not?"			
23) I compared the text with another text (s) I read			
24) I checked whether the text contradicts what I know			
25) I created my own position about the text and checked if my own point of view is clear, convincing and well-supported			

Table 9. Summary of Section Three of Students' Questionnaire

When students finished reading the historical document attached to the questionnaire, they are supposed to use a set of post-critical reading strategies such as evaluating arguments and evidence (items 19, 20, 21 and 22), corroborating (items 23 and 24) and taking a stand (item 25). The tables that follow give more details about the use of these three strategies by students in the EXP and CTR groups.

	Initial Questionnaire						Final Questionnaire						
	Yes		No		Undecided		Yes		No		Undecided		
Items	N	%	N	%	N	%	N	%	N	%	N	%	Total
19	7	41.18	7	41.18	3	17.65	10	58.82	4	23.53	3	17.65	17
20	8	47.06	5	29.41	4	23.53	12	70.59	4	23.53	1	5.88	17
21	8	47.06	7	41.18	2	11.76	12	70.59	4	23.53	1	5.88	17
22	7	41.18	10	58.82	0	0.00	9	52.94	8	47.06	0	0.00	17
23	15	88.24	2	11.76	0	0.00	13	76.47	2	11.76	2	11.76	17
24	10	58.82	3	17.65	4	23.53	11	64.71	4	23.53	2	11.76	17
25	4	23.53	9	52.94	4	23.53	14	82.35	3	17.65	0	0.00	17
Total %	**54**	**54**	**45**	**45**	**50**	**50**	**60**	**60**	**40**	**40**	**29**	**29**	

Table 10. The EXP Group's Performance in Section Three of the Students' Questionnaire

	Initial Questionnaire						Final Questionnaire						
	Yes		No		Undecided		Yes		No		Undecided		
Items	N	%	N	%	N	%	N	%	N	%	N	%	Total
19	6	35.29	9	52.94	2	11.76	08	47.06	05	29.41	4	23.53	17
20	6	35.29	7	41.18	4	23.53	09	52.94	05	29.41	3	17.65	17
21	5	29.41	7	41.18	5	29.41	7	41.18	6	35.29	4	23.53	17
22	8	47.06	9	52.94	0	0.00	6	35.29	8	47.06	3	17.65	17
23	9	52.94	8	47.06	0	0.00	11	64.71	5	29.41	1	5.88	17
24	9	52.94	5	29.41	3	17.65	8	47.06	5	29.41	4	23.53	17
25	7	41.18	7	41.18	3	17.65	5	29.41	9	52.94	3	17.65	17
Total%	**46**	**46**	**55**	**55**	**50**	**50**	**40**	**40**	**60**	**60**	**71**	**71**	

Table 11. The CTR Group's Performance in Section Three of the Students' Questionnaire

-Evaluating Arguments and Evidence (Items 19, 20, 21 and 22):

According to the results obtained in tables 10 and 11, the higher "yes" percentages (see items 19, 20, 21 and 22) of the EXP group obtained from the final questionnaire, in comparison to those obtained from the initial questionnaire show that the EXP group performed highly following the instruction, and exceeded the CTR group. Moreover, by comparing the "no" and the undecided" percentages of both groups on the final questionnaire, it can be noticed that the number of the students who did not use the strategy and those who did not give an answer is higher for the CTR group and lower for the EXP group. This shows that it is the students from the EXP group who became aware of the importance of and use 'evaluating arguments and evidence' strategy more effectively after the instruction.

-Corroborating (Item 23 and 24):

This strategy enables students to contrast and compare between sources and helps them consider what might support or contradict the documents they read. As tables 3.8 and 3.9 indicate, a large number of students from the EXP group seemed to be more aware of the importance of this strategy. This is reflected in the "yes" percentages for items 23 and 24 which is significantly higher for the EXP group and which means that the group performed better following the instruction. In spite of the moderate similarity in the two groups' percentages obtained from the initial questionnaire, the final questionnaire shows that only a small proportion of respondents from CTR group said they used the strategy in comparison with the great number of the respondents from the EXP group.

 -Taking a Stand (Item 25):

This strategy is the conclusion of the analysis and evaluation of historical documents. With this strategy students can express their ideas, point of views and arguments towards the document in a clear, well-supported and accurate way. From tables 3.8 and 3.9, it can be read that no big difference exists between the two group's performance on item 25 on the initial questionnaire. However, it is noticeably clear from the final questionnaire "yes" percentages that the EXP group outperformed the CTR group. The highest "yes" percentage is obtained by the respondents (82.35%) from the EXP group who said they make use of this

strategy against only 29.41% from the CTR group. Moreover, the number of the students who did not use this strategy is higher for the CTR group (52.94%) and lower for the EXP group (17.65%). More importantly, only students from the CTR group did not give an answer (17.65%) to item 25 against 0.00% from the EXP group.

3.2.1.3. Discussion of the Results of the Students' Questionnaire:

The students' questionnaire was administered to the two groups at two points in time, i.e. before and after the instruction, to assess any differences in the students' use of CRS which can be attributed to the instruction. This section presents a discussion of the findings obtained from the results of the questionnaire. Discussion will be held in terms of all the three sections of the questionnaire and is aimed at answering the first research sub question stated at the beginning of the "Analysis of the Results of the Students' Questionnaire" section (see page 85).

Each section from the three sections of the questionnaire presents a range of CRS that students are supposed to use to read critically historical documents. Section one assesses students' use of pre-critical reading strategies, section two assesses their use of while-critical reading strategies, while section three evaluates their use of post-critical reading strategies. The analysis of the results of three sections of the questionnaire presented previously showed that there are more observed significant differences than similarities between the EXP and CTR groups concerning the use of CRS. Before the instruction, as the initial questionnaire percentages indicate, students in both groups performed similarly to a greater extent, showing little use of CRS. This implies that the two groups came from the same population. Conversely, following the instruction, as the final questionnaire percentages reveal, the EXP students outperformed the CTR students who were not taught how to use the CRS. In fact, the percentages denote an increase in EXP students' performance but a decrease in CTR students' performance. This indicates that the instruction succeeded in making EXP students use CRS more effectively than CTR students, and in raising their awareness about the importance of these strategies. Internalizing the importance

of these strategies is a crucial as an initial stage before achieving a fluent and effortless application of critical thinking skills.

On the other hand, the results of the questionnaire indicated that the number of the CTR students who did not use the CRS and, more importantly, students' indecision as whether they used or did not use these strategies increased from the initial to the final questionnaire. These two instances are an issue of concern that necessitated further inquiry. Two reasons were thought of as the results for the decrease in students' performance and increase in their indecision. The questionnaire includes items of a closed-ended type and this facilitates the job for students to guess their answers. Moreover, the questionnaire was administered at the end of the second semester in the week prior to students' second regular examinations. These latter are supposed to cause more pressure on students and therefore were conceived as the reason behind their demotivation. To check whether CTR students were simply not motivated when they completed the questionnaire because of their exams, the researcher administered again the questionnaire to these students when the second examinations ended (mid-June 2011). To provide adequate motivation and reduce their apathy, students were given some refreshments and reassured that the questionnaire will not interfere with their pass marks. Additionally, they were reminded that in completing the questionnaire correctly (in addition to the test and the task), three points will be added to their continued assessment scores.

Once data generated by the questionnaire administered again to the CTR group was analysed, it became clear that students' demotivation was not the reason behind the deterioration in their performance. In fact similar results were obtained revealing that CTR students' lower performance is due to a lack of instruction in CTE and CRS.

In summary, the majority of the experimental students seemed to have a deeper awareness of the importance of the CRS after receiving the experimental treatment conducted over a semester period. This was reflected in the positive changes in their performance from the initial to the final questionnaire. The conclusion that can be drawn from this is that, unlike the CTR students, most EXP

students became strategic critical readers after receiving the explicit CTE and CRS instruction in the sense that their choices on the questionnaire are on the whole oriented towards effective CRS use. In the light of the foregoing discussions, it is safe to say that the results of the questionnaire are significant and are well in the direction of the first research sub-hypothesis which claims that student participants in the EXP group will demonstrate an effective use of CRS better than the CTR group following the instruction.

3.2.2. Results of the International Critical Thinking Essay Test (ICTET):

In this section, a close examination and discussion of the results obtained in the pretest and post-test by all the participants in the EXP and CTR groups are presented. The pretest and post-test results were calculated with assistance of SPSS version 17.0 to find out whether instructing experimental students in CTE and CRS improved their critical thinking skills to read critically historical documents. The pretest and post-test scores were analysed using both a descriptive and an inferential statistical procedure. Descriptive statistics includes means and standard deviation. Inferential statistics, on the other hand, were run using the paired-sample t test statistical formula. The paired t-test was used to find out whether or not a significant difference exists between the pretest and post-test means for both the EXP and CTR groups.

3.2.2.1. Research Question:

The following second research sub-question and sub-hypothesis are addressed in this section:

- Will there be any significant difference between the pretest and post-test means of the experimental group and between the pretest and post-test means of the control group, as measured by the International Critical Thinking Essay Test?

  - There be will be no difference between the pretest and post-test means of the control group but there will be a difference between the pretest and post-test means of the experimental group.

 3.2.2.2. Analysis of the Results of the ICTET:

1-   Descriptive Statistics: Calculating the Mean and the Standard Deviation

In this research the number of participants is the same for the EXP and CTR groups which is 17 students in each group. Calculating the mean (M) and the standard deviation (SD) helps in stating the difference between the scores obtained by the students of the EXP and CTR groups in the pretest and post-test. The mean is calculated by dividing the total number of every score ($\sum$) on the number of the scores (N). The SD of both pretest (X) and post-test (Y) scores is calculated using the following statistical formulas:

$$SDx = \sqrt{\frac{\sum x^2}{N}}$$: Standard deviation of X scores

$$SDy = \sqrt{\frac{\sum y^2}{N}}$$: Standard deviation of Y scores

$\sum$= The sum
M=Mean
x^2= $(X-MX)^2$
y^2= $(Y-MY)^2$
N= The number of scores

- Experimental Group Performance:

The EXP group's scores in the pretest and post-test which aim to test students' critical thinking skills are best presented through the following table and histogram:

Students	Pseudonym	Pretest/100	Post-test/100
S1	1+1=1	20	30
S2	Sousou 1992	08	14
S3	Majdouline	06	20
S4	Flicka	10	44
S5	Ily Soufi	08	50
S6	Rohm	18	44
S7	AkemiAnzu	09	24
S8	Miss Wissou	10	26
S9	Salima G1	30	68
S10	Anochca	20	36
S11	Radhia G6	10	34
S12	Zak Goodman	10	46
S13	ButterflyMimia	15	40
S14	Aimez-vous la vie est belle!!!	12	50
S15	Lucky Number	10	40
S16	Honey K	16	46
S17	Billie Joe Armstrong	24	55

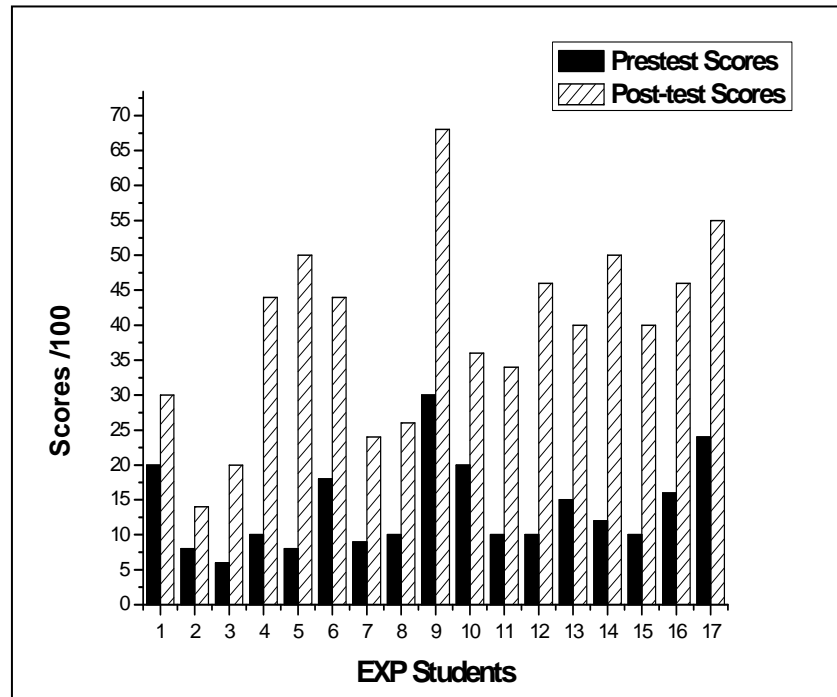Table 12. The EXP Group's Pretest and Post-test Scores on the ICTET

Figure 3. The EXP Group's Pretest and Post-test Scores on the ICTET

Table 12 and figure 3 represent EXP students' scores on the ICTET. The scores are arranged into two sets, one for the pretest scores and the other set for the post-test scores. These two sets of scores show a noticeable increase in EXP students' scores from the pretest to the post-test. The SD and means of the EXP group's pretest and post-test scores are presented in table 13.

EXP Group Scores on the ICTET (First-year LMD 2010/2011)	
Pretest Scores (X)	**Post-test Scores (Y)**
- Min/Max score (6/30) over 100 $Mean = \dfrac{Sum\,of\,scores}{Number\,of\,scores}$ = (236/17)= 13.88 Students' correct answers represent about **14 %** of the test and they missed 86 %	- Min/Max score (14/68) over 100 $Mean = \dfrac{Sum\,of\,scores}{Number\,of\,scores}$ = (667/17) = 39.23 Students' correct answers represent about **39 %** of the test and they missed 60 % : **An increase of 25 % in students' performance.**
$SDx = \sqrt{\dfrac{\sum x^2}{N}} = \sqrt{\dfrac{693.76}{17}}$ **= 6.39**	$SDy = \sqrt{\dfrac{\sum y^2}{N}} = \sqrt{\dfrac{2983.06}{17}}$ **= 13.25**

Table 13. The EXP group's Pretest and Post-test Means and Standard Deviation

Table 13 indicates that the mean of the post-test, which is 39.23 with SD=13.25 is higher than the mean of the pretest, which is 14 with SD=6.39. This shows an increase (25%) in EXP students' performance from the pretest to the

post-test (14 < 39.23). However, relying only on the comparison of the two means is not enough to say that the experimental treatment the EXP group received is responsible for this increase. CTR students' scores in the pretest and post-test as well as their means and SD need to be presented first and then compared with those of the EXP group.

- <u>Control Group Performance:</u>

The CTR group's scores in the pretest and post-test are presented through the following table and histogram:

Students	Pseudonym	Pretest/100	Post-test/100
S1	Lilou	10	14
S2	RedFlower	06	05
S3	Suenos	08	10
S4	Jojo	06	05
S5	Ai7	10	12
S6	Yacine	08	09
S7	William	10	10
S8	Fifi	12	09
S9	Tasya-loca	20	19
S10	3aychouch	10	08
S11	Wiis-Engèl	07	07
S12	NANA	15	14
S13	Sousou	09	10
S14	KAT VON D	08	08
S15	SOSO	05	07
S16	Kalvin Clain	18	15
S17	Nedjma	10	09

Table 14. The CTR Group's Pretest and Post-test Scores on the ICTET
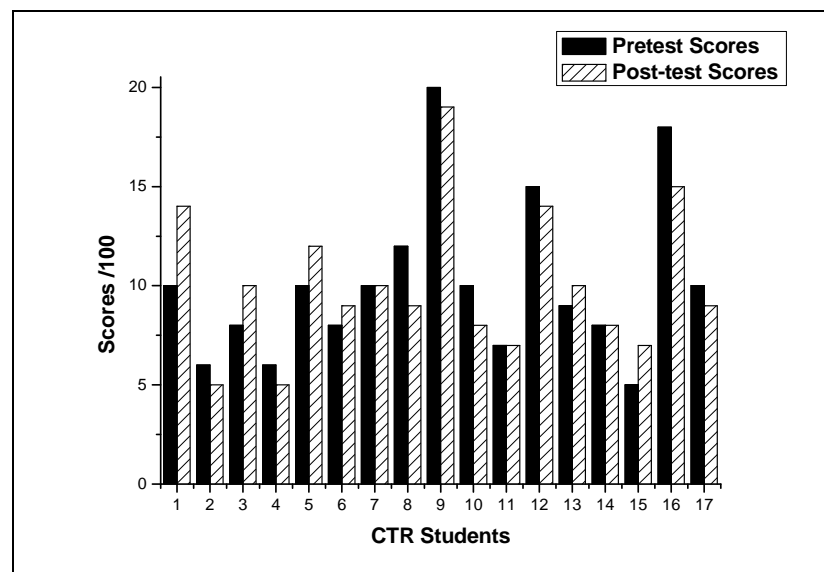

Figure 4. The CTR Group's Pretest and Post-test Scores on the ICTET

Table 14 and figure 4 report CTR students' pretest and post-test scores in the ICTET. The two sets of scores obtained by the CTR group show no big difference in students' scores from the pretest to the post-test. The CTR group's pretest and post-test means and SD are presented in table 15 below.

CTR Group Scores on the ICTET (First-year LMD 2010/2011)	
Pretest Scores (X)	**Post-test Scores (Y)**
• Min/Max score (5/20) over 100 • $Mean = \dfrac{Sum\ of\ scores}{Number\ of\ scores} = (172/17) \cong 10.12$ Students' correct answers represent about **10 %** of the test and they missed 90 %.	• Min/Max score (05/19) over 100 • $Mean = \dfrac{Sum\ of\ scores}{Number\ of\ scores} = (171/17) = 10.06$ Students' correct answers represent about **10 %** of the test and they missed 90 %: **0% increase in students' performance.**
$SDx = \sqrt{\dfrac{\sum x^2}{N}} = \sqrt{\dfrac{271.76}{17}}$ **=3.99**	$SDy = \sqrt{\dfrac{\sum y^2}{N}} = \sqrt{\dfrac{221.00}{17}}$ **= 3.61**

Table 15. The CTR group's Pretest and Post-test Means and Standard Deviation

Table 15 shows that the mean of the pretest (10.12) is quite similar to the mean of the post-test (10.06). This reveals that the CTR students' performance did not increase from the pretest to the post-test. Moreover, by comparing tables 15 and 13, it can be noticed that there was a relatively small difference between the pretest means of the EXP and CTR groups. This implies that the initial critical thinking abilities of students in both groups were similar. However, a comparison of the two groups' post-test means shows that the EXP mean is better or greater than that of the CTR group (10.06 <39.23) implying a superior performance of the EXP group over the CTR. But because it is not reliable to draw conclusions by simply comparing the EXP and CTR pretest and post-test means, more statistical inferences are needed to decide whether or not the results obtained from the descriptive statistics analysis are significant and reliable. The EXP and CTR groups' pretest and post-test scores will be analysed using the paired-sample t test in the following section.

2-   <u>Inferential Statistics: Paired t-test Computation</u>

The comparison of the EXP and CTR groups' post-test means, as seen in the previous section, which revealed a higher performance of EXP students over CTR students, is not sufficient to draw accurate conclusions and decide that the

instruction was effective. Using statistical inferences helps in deciding whether the difference between the EXP and CTR groups' pretest and post-test means is statistically reliable and whether the research's independent variable or simply a chance factor is behind the superior performance of the EXP group. The paired-sample t test used in this experimental research suits the type of the data collected. This test is used with assistance of SPSS version 17.0 to test the second research sub-hypothesis which claims that there will be no difference between the pretest and post-test means of the CTR group but there will be a difference between the pretest and post-test means of the EXP group because of the research's independent variable.

2.1. Paired-sample t test Definition and Assumptions:

The paired-sample t test or the dependent t test for paired sample is a powerful test used to compare the means of two variables (like pretest and post-test scores) of the same subjects to see if the mean difference is significantly different and is due to a treatment and not to other factors like chance. In other words, this test is used in this research to compare in pairs the EXP group's pretest and post-test means as well as the CTR pretest and post-test means to see if the means are significantly different from each other. The test can be performed either with assistance of SPSS version 17.0 or using the following mathematical formula for computing the value of the t (n-1):

$$t(n-1) = \frac{\sum d}{\sqrt{\dfrac{n(\sum d^2) - (\sum d)^2}{n-1}}}$$

with:

t (n-1)= the observed or the calculated t
d= the difference between pretest and post-test scores
$\sum$d= the sum of the differences
$\sum$d^2= the sum of the squared differences
$(\sum$d$)^2$= the sum of the differences squared
n= the number of scores

The paired-sample t test has three assumptions that need to be fulfilled. These are: normality of distribution of the samples (pretest and post-test), dependency of the samples and ability to identify specific pairs, and equality of the samples size. The first assumption can be tested using the Kolmogorov-Smirnov

(K-S test) non-parametric test with assistance of SPSS version 17.0. Both pretest and post-test scores of the EXP and CTR groups were analysed using the K-S test to see whether the samples are normally distributed. The null hypothesis (H_0) assumes that the samples of the EXP and CTR groups are normally distributed, whereas the alternative hypothesis (H_1) assumes that they are not normally distributed. If the probability of the asymmetry significance (Asymp.Sig.) is smaller than 0.05, then the H_0 is rejected. However, if the probability of the asymmetry significance is larger than 0.05, then the H_0 is retained. The results of normality distribution test in CTR and EXP groups are presented below.

One-Sample Kolmogorov-Smirnov Test

		Pretest EXP Group	Post-test EXP Group	Pretest CTR Group	Post-test CTR Group
N		17	17	17	17
Normal Parameters[a,b]	Mean	13.8824	39.2353	10.1176	10.06
	Std. Deviation	6.58485	13.65435	4.12132	3.716
Most Extreme Differences	Absolute	.252	.111	.276	.212
	Positive	.252	.098	.276	.212
	Negative	-.127	-.111	-.107	-.091
Kolmogorov-Smirnov Z		1.038	.456	1.138	.875
Asymp. Sig. (2-tailed)		.232	.985	.150	.428

a. Test distribution is Normal
b. Calculated from data

Table 16. Normality Distribution Test in EXP and CTR Groups

Based on table 16, the probabilities values of EXP and CTR groups are all larger than 0.05 (i.e. they exceed the Alpha level). Therefore the H_0 is retained. The results of the K-S test indicate that the samples of the two groups are normally distributed. The first assumption in the paired-sample t test is fulfilled. The second and third assumptions were also fulfilled. The EXP group pretest and post-test samples, like the CTR group samples, are of equal size and are dependent or matched. The subjects who took the pretest (n=17) from either group are the same subjects who took the post-test (n=17) (see tables 12 and 14). Moreover, because of the dependency and equality of the samples size it is easy to identify the pairs. To this end, all the test's assumptions are met; hence the test can be successfully used in this research.

In addition to these assumptions, the paired-sample t test depends on three factors, namely:

- The number of the degrees of freedom (df) which is in a paired t test calculated using the formula: df= n-1.
- The type of the hypothesis which can be one-tailed or two-tailed hypothesis
- The level of significance.

In this research the number of the degree of the freedom is df=(17-1)= 16, the hypothesis selected is a two-tailed hypothesis (i.e., the null hypothesis H_0 and the alternative hypothesis H_1). The null hypothesis (H_0) claims that there is no significant difference between the two means (M_1-M_2=0), whereas the alternative hypothesis (H_1) claims that a significant difference exists between the means (M_1-$M_2 \neq 0$ or $M_1 <> M_2$). The third factor is the level of significance which is usually set at 0.05 (i.e. alpha level=0.05). This significance level is required in order 1) to decide whether to reject or fail to reject the H_0. The H_0 is rejected when the calculated p-value is less than 0.05. But it cannot be rejected when the p-value is greater than 0.05. In the case when the H_0 is rejected the H_1 is retained. 2) To see if a result is statistically significant and not likely to have occurred by chance or error. A result is improbably to have occurred due to chance or error (i.e. is statistically significant) when the p-value is small than 0.05. In this research, the SPSS version 17.0 is used to perform the paired-sample t test and see whether or not there is a significant difference between the pretest and post-test means for both the EXP and CTR groups. The results obtained from the test are reported and discussed in the sections that follow.

2.2. Paired sample t test Computation of Pretest and Post-test Mean Scores of EXP Group and CTR Group:

This section examines the results obtained from the paired-sample t test, which was used to analyse whether or not a difference exists between the pretest and post-test mean scores of the EXP group and between the pretest and post-test mean scores of the CTR group. It is crucial to state the following hypotheses before calculating the t (n-1) value. One of these hypotheses will be retained.

-H_0: there is no difference between the pretest and post-test mean scores of the EXP group.
-H_1: there is a difference between the pretest and post-test mean scores of the EXP group.

In analyzing the pretest and post-test mean scores of the CTR group similar hypotheses should be stated:

-H_0: there is no difference between the pretest and post-test mean scores of the CTR group.
-H_1: there is a difference between the pretest and post-test mean scores of the CTR group.

The alpha level 0.05 is the level of significance decided on in this test. If the p-value is smaller than 0.05, then H_1 is rejected and H_1 is retained. On the other side, if the significance value is larger than 0.05 the H_0 is not rejected. The analysis of the results of the paired sample t test of both EXP and CTR pretest and post-test means are reported in tables 17 and 18 that follow.

Paired Samples Test

		Paired Differences							
					95% Confidence Interval of the Difference				
		Mean	Std. Deviation	Std. Error Mean	Lower	Upper	t	Df	Sig. (2-tailed)
Pair 1	Pretest – Post-test EXP Group	-25.35294	10.85093	2.63174	-30.93197	-19.77391	-9.634	16	.000

Table 17. Paired-Sample t test of Pretest and Post-test Means in EXP Group

According to the results in table 17, the p-value (sig. 2-tailed) is 0.000, which is less or smaller than the significance level $\alpha=0.05$. Therefore the H_0 which claims that there is no difference between the EXP group's pretest and post-test means is rejected in favour of the H_1. This implies that there is a statistical significant difference between the pretest and post-test means of EXP students. This difference helps in concluding that the results obtained from the descriptive statistics are significant. Therefore, confirming that there is an increase in the EXP group performance from the pretest to the post-test. This increase implies that the EXP group students achieved a significant improvement in their critical thinking abilities.

The paired t test was also carried out to determine whether or not a significant difference exists between the CTR group's pretest and post-test means. Table 18 that follows indicates that the p-value is 0.89 which is higher than the alpha level (α=0.05). Consequently, the H_0 cannot be rejected and the H_1 is retained. This implies that there is no significant difference between the pretest and post-test means of the CTR group.

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	Pretest – Post-test CTR Group	.05882	1.88648	.45754	-.91112	1.02876	.129	16	.899

Table 18. Paired-Sample t test of Pretest and Post-test Means in CTR Group

The result obtained from table 3.16 helps in confirming the supposition made in the second sub-hypothesis, namely that there will be no difference between the pretest and post-test means of the CTR group but there will be a difference between the pretest and post-test means of the EXP group. Moreover, the result obtained from computing the paired t test on the CTR group pretest and post-test scores confirms that there is no increase in the CTR group performance. Therefore, there is no significant improvement in CTR students' critical thinking skills.

3.2.2.3. Discussion of the Results of the ICTET:

The present research investigates whether infusing an explicit instruction in CTE and CRS into a regular civilisation class would improve in the critical thinking skills of first-year LMD students of English at USDB. Like the questionnaire, the ICTET was administered to the EXP group and CTR group at two points in time, that is, before and after the experimental treatment, to assess any differences in EXP (in comparison to CTR students) students' critical thinking skills that can be attributed to the treatment. In this section, the results of the ICTET are discussed in order to answer the following second research sub-question:

- Will there be any significant difference between the pretest and post-test means of the experimental group and between the pretest and post-test means of the control group, as measured by the International Critical Thinking Essay Test?

In order to answer this question, both descriptive and inferential statistics were used to analyse the data generated by the ICTET. Descriptive analyses revealed an increase of 25% in EXP students' scores from the pretest to the post-test but showed no increase in CTR students' scores from the pretest to the post-test. These descriptive analyses of the mean scores exhibit a superior performance of the EXP students over the CTR students. However, a mere comparison of pretest and post-test scores is not reliable to draw conclusions and say that the EXP group superior performance is attributed to the superiority of the EXP subjects who received the experimental treatment unless a powerful statistical t-test is used. In this research, a paired-sample t test was performed to determine whether the pretest and post-test means of both the EXP and CTR groups are significantly different from each other. A statistically significant difference implies that there is an increase in the group performance and thus an improvement in students' critical thinking skills. Moreover, a statistical significant result implies that it is improbably for chance to be responsible for this result.

The results of the test showed a statistical significant difference in the pretest and post-test means of EXP group. Conversely, no significant difference exists between the pretest and post-test means of the CTR group. These results are quite significant and they confirm the second sub-hypothesis which claims that there will be no difference between the pretest and post-test means of the CTR group but there will be a difference between the pretest and post-test means of the EXP group. In addition, the results revealed that the EXP students' performance on the post-test significantly increased in comparison to their pretest performance implying an improvement in their critical thinking abilities. On the other side, the non-difference between CTR group's pretest and post-test means implies that there was no significant improvement in CTR students' critical thinking abilities. However, to provide a conclusive strong evidence that the explicit instruction in CTE and CRS (the independent variable) and not chance which is responsible for

the improvement in EXP students' critical thinking skills and the absence of such instruction is the reason why CTR students' skills did not improve, the results of the ICTET need to be triangulated with the results obtained from the DBT. This will be handled in the coming section.

3.2.3. Results of the Document-Based Task (DBT):

The DBT was administered, like the test and the questionnaire, to both the EXP and CTR groups prior to the instruction as a pre-task and again at the end of the instruction as a post-task to assess any amelioration in participants' critical thinking skills that can be attributed to the instruction. The task-sheet (like the questionnaire and the test-sheet) was attached to a reading material that the students had to analyse while completing the task (see chapter two page 67). The aim behind using the task as a third research instrument is to ensure research validity and in order to triangulate its results with results obtained from the test. The pre-task and post-task results were calculated using SPSS version 17.0, hoping to find fruitful findings that will back up the conclusions drawn from the results obtained from the ICTET. This will help in establishing a strong cause-effect relationship between the research's independent variable and dependent variable. This section presents a close examination and discussion of the results obtained from the DBT in the same way that was followed in the previous section.

3.2.3.1. Research Question:

The following third research sub-question and third sub-hypothesis are addressed in this section:

- Will there be a significant difference between the pre-task and post-task means of the experimental group and the pre-task and post-task means of the control group, as measured by the Document-Based Task?

-

- There be will be no difference between the pre-task and post-task means of the control group but there will be a difference between the pre-task and post-task means of the experimental group.

3.2.3.2. Analysis of the Results of the DBT:

1-   Descriptive Statistics: Calculating the Mean and the Standard Deviation

The scores students in both the EXP and CTR groups obtained are given in the tables below. They are presented into two sets. One set gives the pre-task scores and the other set gives the post-task scores. Moreover, these scores are presented in a more comprehensible way through table 19 and figure 4.

- Experimental Group Performance:

Students	Pseudonym	Pre-Task /20	Post-Task /20
S1	1+1=1	06	10
S2	Sousou 1992	07	12
S3	Majdouline	07	10
S4	Flicka	04.5	07
S5	IlySofi	07	10
S6	Rohm	07.5	11
S7	AkemiAnzu	08	12
S8	Miss Wissou	10	14
S9	Salima G1	12	18
S10	Anochca	09	11
S11	Radhia G6	07	13
S12	Zak Goodman	06	13.5
S13	ButterflyMimia	06	09
S14	Aimez-vous la vie est belle!!!	05	10
S15	Lucky Number	07	08
S16	Honey K	07	13
S17	Billie Joe Armstrong	04	10

Table 19. The EXP Group's Pre-task and Post-task Scores on the DBT
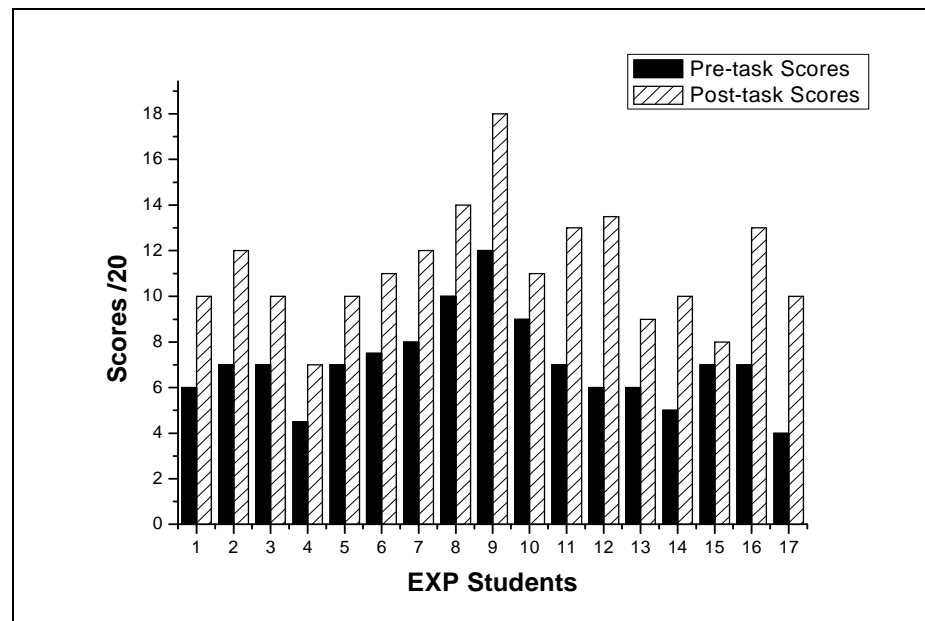

Figure 5 The EXP Group's Pre-task and Post-task Scores on the DBT

From table 19 and figure 5, it can be noticed that the scores obtained by the EXP students are different from each other and that they seem to increase from the pre-task to the post-task. The lowest score in the pre-task is 04 and the highest is 12, while the lowest score in the post-task is 07 and the highest is 18. This difference in scores will be more clear when the means of the two sets of the scores will be compared with each other. The following table 20 compares the two means.

EXP Group Scores on the DBT (First-year LMD 2010/2011)	
Pre-task Scores (X)	**Post-task Scores (Y)**
• **Min/Max score** (**4/12**) **over 20** • $Mean = \dfrac{Sum\,of\,scores}{Number\,of\,scores}$ **= (120/17)= 7.05** **Students' correct answers represent about 35 % of the task and they missed 65 %.**	• **Min/Max score (7/18) over 100** • $Mean = \dfrac{Sum\,of\,scores}{Number\,of\,scores}$ **= (191,5/17) = 11.26** **Students' correct answers represent about 60 % of the test and they missed 35 % ➔ An increase of 25 % in student's performance.**
$SDx = \sqrt{\dfrac{\sum x^2}{N}} = \sqrt{\dfrac{61.44}{17}}$ **= 1.90**	$SDy = \sqrt{\dfrac{\sum y^2}{N}} = \sqrt{\dfrac{107.6}{17}}$ **= 2.51**

Table 20. The EXP group's Pre-task and Post-task Means and Standard Deviation

This table shows that the mean of the post-task (M=11.26) is higher than the mean of the pre-task (M=7.05). This shows an increase of 5% in EXP students' performance from the pre to the post-task.

- Control Group Performance:

The following table 21 and figure 6 represent CTR group students' scores on the DBT.

Students	Pseudonym	Pre-Task /20	Post-Task /20
S1	Lilou	09	10
S2	RedFlower	04	05
S3	Suenos	04	04
S4	JOJO	08.5	09
S5	Al7	08	08
S6	Yacine	08.5	08
S7	William	07	08
S8	FIFI	02	05
S9	Tasya-loca	05	04
S10	3aychouch	07	06
S11	Wiis-Engèl	04.5	03
S12	NANA	08	09
S13	Sousou	07	08
S14	KAT VON D	09	09.5
S15	SOSO	03	03
S16	Kalvin Clain	08	07.5
S17	Nedjma	07	08

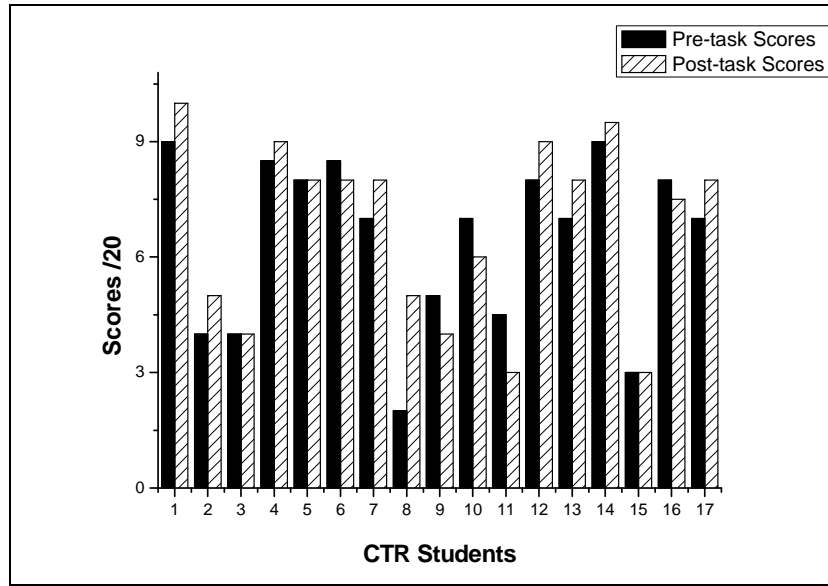Table 21. The CTR Group's Pre-task and Post-task Scores on the DBT

Figure 6. The CTR Group's Pre-task and Post-task Scores on the DBT

As can be read from table 21 and figure 6, the highest score in the pre-task is 09 and the lowest one is 02, whereas in the post-task the highest score is 10 and the lowest is 04. A close examination of both EXP and CTR students' scores reveals that the EXP group performed better than the CTR. The following table summarizes the CTR group's pre-task and post-task means and SD.

CTR Group Scores on the DBT (First-year LMD 2010/2011)	
Pre-task Scores (X)	**Post-task Scores (Y)**
• Min/Max score (2/9) over 20 • $Mean = \dfrac{Sum\,of\,scores}{Number\,of\,scores} = (109.5/17)= 6.44$ Students' correct answers represent about **32 %** of the task and they missed 68 %	• Min/Max score (2/10) over 20 • $Mean = \dfrac{Sum\,of\,scores}{Number\,of\,scores} = (115/17)= 6.76$ Students' correct answers represent about **34%** and they missed 66% : **2 % increase in students' performance**
$SDx = \sqrt{\dfrac{\sum x^2}{N}} = \sqrt{\dfrac{79.44}{17}}$ **= 2.16**	$SDy = \sqrt{\dfrac{\sum y^2}{N}} = \sqrt{\dfrac{86.56}{17}}$ **= 2.26**

Table 22. The CTR Group's Pre-task and Post-task Means and Standard Deviation

As table 22 reveals the pre-task mean is 6.44 while the post-task mean is 6.76. This reveals that, unlike the EXP group performance which increased with 25% from the pre-task to the post-task, the CTR group performance increased slightly with 2%. A comparison of tables 22 and 20 shows that the two groups' pre-

task means are relatively quite similar, while on the contrary, the EXP group's post-task mean is greater than that of the CTR group. Comparing the two groups' means is not sufficient to say that superiority in EXP group performance in the post-task is due to the experimental treatment given to its members. Put it differently, drawing reliable conclusions and confirming that the experimental treatment (instruction in CTE and CRS) is responsible for the increase in EXP group's scores from the pre-task and post-task requires performing a powerful statistical test like the paired-sample t test.

1-   Inferential Statistics: Paired t test Computation

EXP and CTR groups' pre-task and post-task scores were analysed using the paired-sample t test. This was performed making use of SPSS version 17.0. However before calculating the p value, the test's three assumptions were checked. As the following table 23 shows, the Kolmogorov-Smirnov Test of normal distribution was used revealing that both the EXP and CTR group's pre-task and post-task samples are normally distributed. In addition to the normality assumption, the two other assumptions, namely the dependency of the samples and equality of the samples size, were fulfilled.

One-Sample Kolmogorov-Smirnov Test

		Pre-task EXP Group	Post-task EXP Group	Pre-task CTR Group	Post-task CTR Group
N		17	17	17	17
Normal Parameters[a,,b]	Mean	7.0588	11.2647	6.4412	6.5882
	Std. Deviation	1.95961	2.58673	2.22824	2.28607
Most Extreme Differences	Absolute	.218	.158	.246	.104
	Positive	.218	.158	.125	.072
	Negative	-.135	-.136	-.246	-.104
Kolmogorov-Smirnov Z		.898	.652	1.015	.430
Asymp. Sig. (2-tailed)		.395	.789	.255	.993

a. Test distribution is Normal.

b. Calculated from data.

Table 23. Normality Distribution Test in EXP and CTR Groups

The results obtained after computing the paired-sample t test on the data generated by the DBT are reported and discussed in what follows. This test was conducted to see whether or not a significant difference exists between the pre-task and post-task means of the EXP group and between the pre-task and post-

task means of the CTR group. Therefore it is crucial to state the following hypotheses:

-H_0: there is no difference between the pre-task and post-task means of the EXP group.
-H_1: there is a difference between the pre-task and post-task means of the EXP group.

Moreover, the following hypotheses should be stated before analyzing the pre-task and post-task means of the CTR group:

-H_0: there is no difference between the pre-task and post-task means of the CTR group.
-H_1: there is a difference between the pre-task and post-task means of the CTR group.

The alpha level ($\alpha=0.05$) is also the level of significance decided on in this test for n-1 degrees of freedom. If the p-value is less than 0.05, then H_1 is rejected and H_1 is retained. On the other side, if the significance value is bigger than 0.05 the H_0 is not rejected. The results obtained after computing the paired sample t test of are reported in tables 24 and 25 that follow.

Paired Samples Test

		Paired Differences					t	Df	Sig. (2-tailed)
					95% Confidence Interval of the Difference				
		Mean	Std. Deviation	Std. Error Mean	Lower	Upper			
EXP Group	Pre-task-Post-task	-4.20588	1.73258	.42021	-5.09669	-3.31507	-10.009	16	.000

Table 24. Paired-Sample t test of Pre-task and Post-task Means in EXP Group

As can be read from table 24, the p-value is 0.000 and is less than the alpha level 0.05. Therefore, the H_0 which claims that there is no difference between the EXP group's pre-task and post-task means is rejected and the H_1 is retained. This means that there is a statistical significant difference between the two means of EXP group. This result supports the results of the descriptive statistics which showed that the EXP group post-task mean is higher than its pre-task mean. This denotes an increase in EXP students' performance.

Table 25 below indicates that the p-value is 0.232 which is higher than 0.05 (i.e. 0.23>0.05). Accordingly, the H_0 cannot be rejected and the H_1 is retained. This implies that there is no statistical significant difference between the pre-task and post-task means of the CTR group. The non-difference between the CTR group's means denotes that, unlike the EXP students, the CTR students performance did not increase.

Paired Samples Test

		Paired Differences							
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference		t	df	Sig. (2-tailed)
					Lower	Upper			
CTR Group	Pre-task – Post-task	-.32353	1.07444	.26059	-.87595	.22889	-1.242	16	.232

Table 25. Paired-Sample t test of Pre-task and Post-task Means in CTR Group

The analysis of the results of the paired t test showed that the EXP students outperformed the CTR students on the DBT in the sense that their critical thinking skills increased significantly as their performance in the post-task shows. These results support the results obtained from the ICTET and are likely to help in drawing the conclusion that it is not chance but the independent variable (instruction in CTE and CRS) which is responsible for the superior performance of the EXP group over the CTR group. It is therefore safe to conclude that the explicit instruction in CTE and CRS, which the EXP students received, led to an improvement in their critical thinking skills and the absence of this instruction is the reason why the critical thinking abilities of CTR students did not ameliorate.

3.3. Discussion and Triangulation:

The results obtained from the ICTET were unlikely alone to produce decisive evidence that the explicit instruction in CTE and CRS is behind the higher performance of the EXP group over the CTR group and is responsible for the significant improvement in EXP students' critical thinking abilities. Therefore, the result obtained from DBT were triangulated with the results of the ICTET to provide a more strong evidence supporting the effectiveness of the instruction in enhancing students' critical thinking skills. In considering the findings of the

descriptive statistics, it is noticeable that the two groups' pre-task means were similar thus denoting that the critical thinking abilities of students were equal before conducting the experimental treatment. In contrast, a comparison of the two groups' post-task means showed that the EXP group mean is higher than that of the CTR group. These results indicated that much like they did on the test, the EXP students performed better than the CTR students on the DBT. This denotes that their critical thinking skills strengthened, unlike the CTR students whose abilities did not show any increase.

Inferential statistics were also run to prove whether the improvement in EXP students' critical thinking skills is due to the explicit instruction in CTE and CRS these students received over a one- semester period. Results of the paired-sample t test conducted on the pre-task and post-task scores of the two groups came to confirm the third sub-hypothesis showing that there is no significant difference between the pre-task and post-task means of the CTR group but a significant difference between the means of the EXP group. These results support the results of the descriptive statistics, thus proving that the superiority in the EXP students' performance over the CTR group and the increase in their skills are attributed not simply to chance but to the instruction. This instruction equipped EXP students with CRS and increased their understanding of the different elements that CT involved. Thanks to the instruction, the EXP students performed better than the CTR students on the three research instruments (questionnaire, task and test). They internalized the importance of the CRS and were more prepared to use them effectively, to recognize and extract from the historical document the author's purpose, point of view, assumptions, arguments and evidence, conclusions and implications and ultimately evaluate it. In other words, they became more able critical readers who succeeded, due to the treatment given to them, to develop the necessary skills that enable them analyse and evaluate historical documents.

Through this it is safe to say that the instruction which is the independent variable in this research positively affected the dependent variable, that is, the post-test and the post-task scores as well as students' responses on the final questionnaire. This conclusion helps in giving the following answer to the

main research question: infusing an explicit instruction in CTE and CRS strategies into a first-year LMD civilisation course is effective and is strongly recommended for it benefitted students and significantly improved their critical thinking abilities to read critically historical documents.

3.4. Conclusion:

This chapter presented statistical analyses and discussions of the results obtained from three research instruments, namely, the students' questionnaire, the ICTET and the DBT. The analysis and discussion of these results were aimed at answering the main research question of whether infusing an explicit instruction in CTE and CRS into a first-year LMD civilisation course would improve the critical thinking skills of first-year LMD students of English at USDB. The triangulation of the results of the three assessment instruments did not only yield accurate data but also helped compensate for the limitations and the problems inherent in each tool.

Data generated by the questionnaire were transformed into percentages to facilitate their analysis. This was conducted to answer the first research sub question and determine whether the EXP students who received the treatment (i.e. explicit instruction in CTE and CRS) would use the CRS more effectively than the CTR members who did not receive such treatment. The results of the questionnaire analysis showed that students in both groups used little strategies before the instruction. In contrast, after the instruction, the results revealed that the EXP students used the CRS more effectively than CTR students. This indicates that the instruction succeeded in raising EXP students' awareness about the importance of using CRS. The use of these strategies with frequent practice is a crucial step before any fluent and effortless application of critical thinking skills.

Data generated by the test and the task were analysed using both descriptive statistics and inferential statistics with assistance of the Statistical Package for the Social Sciences (SPSS version 17.0) to examine the effectiveness of the instruction in enhancing students' critical thinking skills to read critically historical documents. The computation of the pretest and post-test means as well as the pre-task and post-task means of the two groups showed that the EXP group and

CTR group had similar pretest and pre-task mean scores, whereas their post-test and post-task means were different. An examination of students scores in the post-test and post-task revealed that the EXP group performed significantly better than the CTR group in the sense that the EXP group's scores increased following the instruction while the CTR group's scores did not show any amelioration.

To check whether the superior performance of the EXP group over the CTR group is a result of the instruction and not due to any chance factor, the paired-sample t test was conducted on the results of the test and task. The results of the paired-sample t test revealed that the increase in EXP students' performance is statistically significant. This finding indicates that the EXP students' higher performance on the post-test and post-task when compared to their lower performance on the pretest and pre-task is not due to chance but rather an outcome of their enhanced critical thinking skills due to the instruction they engaged in for several weeks. On the other hand, the results of the paired t test indicated no significant increase in CTR group students' performance due to the absence of the instruction. This shows that CTR group students evidently fail to develop the critical thinking skills because they did not receive the explicit instruction in CTE and CRS.

The findings of this research obtained from the questionnaire, the test and the task strongly helped establish a significant positive relationship between the research's independent variable and the dependent variable. This relationship shows that the explicit instruction in CTE and CRS positively affected the EXP students' post-assessment performance (on the post-test, the post-task and on the final questionnaire), and resulted in an improvement in their critical thinking skills. These findings are highly significant as they validate the research's main research hypothesis which claims that infusing an explicit instruction in CTE and CRS into a first-year LMD civilisation course improve the critical thinking skills of first-year LMD students of English at USDB.

In brief, through this experimental research, infusing an explicit instruction in CTE and CRS into a first-year LMD civilisation course was found to be effective and of a practical importance for developing freshman students' critical thinking

abilities that would enable them read critically historical documents. Practical explicit training and frequent practice in CTE and CRS, therefore, can successfully aid students to become more proficient and able critical thinkers. With these insightful and encouraging findings in mind, the following chapter will propose some pedagogical implications and practical suggestions which may be of a great help to teachers of civilisation.

CHAPTER 4
PEDAGOGICAL IMPLICATIONS

4.1. Introduction:

The present research work was undertaken to ascertain whether infusing an explicit instruction in CTE and CRS into a one-semester American Civilisation course improves the critical thinking skills of first-year LMD students enrolled in the Department of English at USDB. The analysis of the results in chapter three yielded several findings that proved that infusing an explicit instruction in CTE and CRS into a first-year LMD civilisation course is significantly effective in improving these students' critical thinking skills. This chapter summarizes what was undertaken and what emerged by way of principal findings of this research. Moreover, it proposes some pedagogical implications and practical recommendations which are the results of the conclusions drawn from this research work. These implications are to help teachers successfully integrate instruction in CTE and CRS into their civilisation classes which will contribute to increase students' critical thinking skills. This chapter, then, presents the limitations of this research and finally offers some suggestions for further research.

4.2. Summary of the Research Findings:

The current experimental research demonstrated several findings worth noting that can contribute to make the teaching and learning of American civilisation more effective in the Department of English at USDB. These findings can be summarized in the following points:

- An examination of the literature on critical thinking reveals unanimous and enthusiastic support for developing students' critical thinking skills for a better interaction with and reading of historical documents.

- The critical thinking skills of first-year LMD students of English can improve when explicit instruction in critical thinking elements (henceforth CTE) and

critical reading strategies (henceforth CRS) was infused or integrated into a regular civilisation course. This instruction was implemented over a period of one semester and succeeded in altering traditional patters of learning based solely on lecturing.

- Instruction in CTE and CRS was successfully and smoothly infused into the American civilisation course with the help of the CALLA instructional framework, with significant benefits to students' abilities to think critically.

- If students are to be proficient critical thinkers, they need a strong knowledge base in the elements and concepts that associate with critical thinking as well as a metacognitive awareness of the process of critical thinking. One way to help students in this regard is to explicitly instruct them in CTE and CRS.

- Extensive and frequent practice in the CTE and CRS using historical documents play a pivotal role in developing students' critical thinking skills. This means that students can improve their critical thinking skills more efficiently by engaging in lots of practice using the learned CTE and CRS.

- Historical documents are an effective vehicle for developing students' critical thinking skills when not seen only as a source of facts to be read with passive acceptance but as a source that necessitates deeper inquiry, questioning, interpretation as well as evaluation.

- Students' perceptions and attitudes towards the use of historical documents in the current research was found to be strongly positive. These documents used as practical teaching aids have a positive impact on students' motivation to learn as they can help teachers to actively engage students in the learning process.

- Students' engagement, active learning and enthusiasm can be strengthened by the CTE and CRS instruction. This enthusiasm and enjoyment contributed effectively to civilisation learning for they lead all students to participate extensively in the class, mentally and physically.

In the light of the significant findings obtained in this experimental research, several conclusive implications and recommendations can be offered. These implications and recommendations aim at providing teachers of civilisation with some insightful ideas and approaches to their classrooms, that hopefully would be applied.

4.3. Implications and Recommendations:
4.3.1. Critical Thinking into Civilisation Classes:

This experimental research was conducted in the Department of English at USDB with the aim of helping first-year LMD students of English develop critical thinking skills that enable them read critically historical documents. Developing students' critical thinking skills is an essential outcome of education and is indispensable to meet the requirements of university in the 21st century. In civilisation classes in particular, the need for fostering students' critical thinking skills is vital for improving the teaching and learning of this module.

Civilisation classes are a place where students inquire, comprehend, question and assess historical ideas. Frequently, instead, the classes consist of students who attend the lectures physically just to mark their presence or silent students eagerly and diligently taking notes and willing to memorize anything for the exam, yet missing the course's essence and failing to take a critical stance in relation with the ideas discussed. Such a state often causes frustration to teachers of civilisation who, in trying to get all the lessons delivered to their students, face learners who research only for examinations and their chief intent is to get good scores. Other students, unfortunately, have a jaded view about civilisation classes as a place where they hear only about what happened chronologically and frequently complain about the amount of information they should retain. These views that many students and teachers share about the civilisation course, have the potential to weaken both teachers' and students' curiosity and fail to create an atmosphere that enhances both students' understanding of content knowledge as well as their intellectual abilities.

'Chalk and talk' is, unfortunately, the prominent teaching method of civilisation in the Department of English at USDB. Teaching civilisation for most of the time is done by lecturing students. Taking a front position in the classroom, many teachers give formal lectures and supply students with a plethora of events and issues in U.S. or British history. Furthermore, they follow a prescribed syllabus and view instruction as a mere transmission of pre-determined lessons from teacher to students. In the classroom, they act as experts, well acquainted with what is to be taught and hence consider their major role as to pass knowledge onto their students. Students, on the other hand, receive this knowledge passively and are expected to reproduce accurately in their examinations what has been provided to them in handouts, through dictation or as notes they took themselves. However, this has unfortunate effects on students' learning.

It is important to highlight that a mere focus on "what" students learn in civilisation courses is a major obstruction that impedes students' active involvement in class and hinders the efforts of fostering their active habits of mind. Indeed, the misconception that teaching civilisation entails the delivery of historical knowledge from teacher to learners led many students in the English department to think that it is the teacher's job to speak and explain and their job to listen, take copious notes and memorize them in order to pass their examinations. However, this makes many students consider what they learn only as a ticket relevant only to the tests and once a test has been taken, the knowledge retained for it can be forgotten without any ruefulness. Misconceptions such as these, sadly, make harm to students as they make them least-effort students whose aim is getting high scores.

Some teachers, unfortunately, hold mistaken ideas about the process of civilisation teaching and learning and set "syllabus coverage" as a major priority in their teaching agendas. Neglecting the fact that the teaching and learning of civilisation is passive if overemphasis is upon gaining and storing historical information, in the form in which it is presented at the expanse of encouraging students' critical thinking and reasoning, has inauspicious effects as it reduces learning to rote memorization. Therefore, one important implication that can be drawn from this research points out to the need for teachers to cross the barriers

from a mere transmission of knowledge to specifically encouraging and teaching students to think critically. Rethinking traditional methods of teaching and learning civilisation that focus less on the students' cognitive development like the development of their critical thinking skills and more on what students learn, therefore, is needed for an effective teaching and learning of the module and thus had better be implemented in the Department of English at USDB.

4.3.2. Suggestions for the Teaching and Learning of Civilisation:

Instruction for critical thinking is needed as a successful step towards forming proficient and good students and for increasing the low level of civilisation teaching and learning in the Department of English at USDB. Yet, it is worth noting here that lecturing which is the context in which most Algerian students of English undertake the learning content is crucial but alone may be nearly insufficient for fostering students' cognitive development like developing their critical thinking skills. Without denying the role of lectures, more training is encouraged where students cease to be only spectators reliant solely on their courses, to actively engage in class and exercise fully the powers of their minds. Students in civilisation classes need to learn not to take everything for granted from their teachers. They need to think well and inquire themselves, to analyse, assess regularly and reconstruct their own thinking. Another possible implication, then, would be to reduce the time of lecturing in the civilisation course, and devote more efforts to increasing students' critical thinking skills.

An examination of the literature on critical thinking (as shown in chapter one) revealed that several educators and scholars highly extol the importance of fostering the critical thinking abilities of students. However, how to effectively develop these skills has been the subject of much controversy. There seem to be enough agreement that it takes more than simply providing students with lectures to enhance their critical thinking abilities. In fact, no magical wand is available to help students become more successful and skillful critical thinkers unless a critical thinking instruction is designed for that purpose. This instruction can be either infused within established courses or taught as a separate course itself. The present research work is meant as a contribution to the field of literature on critical

thinking and history education. It proposes a method of instruction that aims at developing critical thinking skills of freshman students which is based on infusing an explicit teaching of CTE and CRS into an American civilisation course in the Department of English at USDB.

As aforementioned, the principal finding in this research revealed that integrating instruction for critical thinking within civilisation classes, as the current research did by infusing an explicit instruction in CTE and CRS into a first-year LMD American civilisation course, is greatly beneficial and helps reverse all preconceived faulty ideas about the teaching and learning of the course. To begin with, when instruction in CTE and CRS is successfully integrated in the civilisation module, students' misconception that blindly memorized historical content is what matters is altered. Instead, students learn that learning civilisation is not simply a recounting of past events and dates, but is rather a process of inquiry and an interpretation of events recorded from someone's point of view that need to be evaluated. In recognizing this, they begin to think of civilisation as a more interesting and intriguing field of study and research that necessitate their active participation in class. Providing students with historical documents and getting them to practice the instructed critical CTE and CRS is crucially needed to develop their critical thinking abilities and actively engage students in the process of interpretation and assessment.

Additionally, explicit instruction in CTE and CRS, due to its capacity to engage students, also has implications specifically for encouraging students' cooperation and collaborative work in class. Infused within civilisation classes, and with effective incorporation of historical documents, the instruction allows for more interaction among students in authentic activities.

Another implication of this research is that teachers of civilisation need to understand the nature of critical thinking and realize the importance and need to integrate it in their teaching. They also need to understand that instruction for critical thinking when infused successfully within civilisation courses enhances students' cognitive performance by developing their abilities to think critically, as this research confirmed. However, it is worth mentioning that the effectiveness of

the instruction proposed in this research depends on a number of factors. These factors will be examined in the following section with several important implications for a more widespread application of this instruction in the Department of English at USDB.

4.3.3. Recommended Key Factors for a Successful Infusion of CTE and CRS instruction into the Civilisation Classes:

The present research revealed that when an explicit instruction in CTE and CRS is infused into civilisation classes, traditional patterns of learning and teaching of civilisation characterized by teacher-centredness can be successfully altered. Indeed, the findings of this research concerning the effectiveness of this instruction revealed that students' critical thinking skills can successfully improve, thus changing their role in the civilisation classroom from mere passive learners receiving all what the teachers lecture, to more active learners willing to inquire, question and assess historical information. The benefits from this instruction are great, but for maximizing these gains and to ensure the success of the instruction, it is crucially needed for both teachers and administrators to recognize the importance of the following key factors.

4.3.3.1. Teacher Training:

Understanding the nature of critical thinking and realizing the need for infusing an explicit instruction in CTE and CRS into civilisation courses for developing students' critical thinking skills are pivotal. Yet this suggests that adequate teacher training is strongly required to orchestrate an effective instruction. Providing teachers with special training and workshops in critical thinking can be done by: teaching critical thinking and all the basic concepts and principles associated with it, explaining the instruction and all its aspects including its purpose which is to develop students' critical thinking skills, explaining and highlighting the importance of the critical thinking skills and elements, explaining and modeling the CTE and CRS, and providing teachers with ideas and materials for integrating the instruction into their courses. Workshops designed for training teachers should also explain to teachers the benefits of the cognitive Academic

Language Learning Approach (henceforth CALLA model) instructional framework in facilitating the infusion of the explicit instruction. Each phase from the five phases of CALLA (i.e. preparation, presentation, practice, evaluation and expansion) has to be explained thoroughly so that teachers successfully infuse the instruction into their civilisation classes.

It is also recommended that training workshops encourage teachers of civilisation to work collaboratively in redesigning, rebuilding and planning their courses to infuse the explicit instruction in CTE and CRS. Teachers also need to reflect and work together, share ideas and suggestions to solve any problem that might hinder their efforts to develop more effective teaching practices.

4.3.3.2. Role of the Teacher:

Teachers of civilisation and administrators alike need to recognize the importance of alternative perspectives and new methods in improving the teaching of civilisation, starting from the need to change in the role the teacher plays in the classroom. The success of the infusion of the explicit instruction in CTE and CRS into civilisation course depends greatly on the role of the teacher in a classroom where the mere transmission of historical knowledge from teacher to students ceases to be the focal point. Teachers should be more involved in explicit training and modeling, and in devising reading tasks and activities for students to interact with their peers and to frequently practice the instructed CTE and CRS. She/he should also be a guide when students get involved in practice and provide frequent feedback.

4.3.3.3. Objectives:

Another important factor that contributes to the success of the instruction is the ability of teachers to set clear, well-defined course objectives to be achieved at the end of the course. It is important to note that the primary aim behind infusing an explicit instruction in CTE and CRS into the civilisation classes is to enhance students' critical thinking skills to critically analyse and assess historical documents effectively. This objective is oriented towards developing students'

cognitive performance. However, instructors should not overlook the need to define and consider other course objectives to ensure the success of and better achievement in the civilisation courses. These objectives include the need to foster students' basic skills, knowledge of the content of the lessons as well as knowledge of the linguistic content. This latter is important for increasing students' language proficiency in the subject matter taught as well as in critical thinking. The use of the CALLA model to infuse the instruction in the civilisation classes is very significant given that this framework facilitates the task for teachers to incorporate all these aforesaid objectives and frequently check them. The course outline of the critical thinking instruction this research proposed is designed through the CALLA model and can be found in Appendix I page 138.

4.3.3.4. Materials:

The success of the explicit instruction in CTE and CRS requires the use of authentic reading resources and materials. Much like the need to specify course objectives is pivotal, the type of the texts that should be focused on in instructing students and while practice should be also taken into account. Moreover, these reading materials constitute the basic source from which the courses can be developed. Therefore, they should be carefully selected to be relevant to the lessons and to fit the linguistic proficiency of students in order to maximize the opportunities for them to learn. The focus in this research is on a wide variety of authentic historical texts, either primary or secondary sources.

4.3.3.5. Practice:

Practice is another major factor that contributes to the success of the instruction. As this research confirmed, for developing students' critical thinking skills teachers should provide them with several opportunities to practice the CTE and CRS. Internalizing these elements and strategies at a deeper level and achieving proficiency in critical thinking skills require frequent practice. The more students practice, the better they become. In fact, explicit instruction in CTE and CRS combined with a few scattered activities designed for practice are not likely to be effective for increasing students' critical thinking skills. An important implication

for teachers then, would be to increase the time of practice in class and to devise several activities and task for this purpose. It is also significant to point to the need for teachers to scaffold instruction and provide students with guidance and frequent feedback while they practice.

4.3.3.6. Classroom Climate:

As examined in the review of the literature, classroom environment or climate is an important aspect of every successful critical thinking instruction. Teachers, then, should recognize the crucial need to establish and maintain a positive and stimulating classroom atmosphere. A good classroom climate is marked by high expectations, teacher warmth and encouragement. In addition to the positive classroom atmosphere, teachers' behaviour plays a significant role in nurturing an environment that contributes to the growth of students' critical thinking skills. Teachers should exhibit a pleasant behaviour in the classroom such as: showing respect for every student, including his/her opinions and view points, being flexible, accepting individual differences, acknowledging all responses and allowing students to participate actively in class.

4.3.3.7. Time:

In addition to classroom climate, time is another factor that significantly contributes to the success of the instruction. It is important to take into account the time devoted to explicitly teach students in CTE and CRS so that the instruction will have positive effects and succeed to foster their critical thinking skills. The instruction this research implemented was extended over a period of one semester ($\cong$ 12 weeks of explicit instruction). Although one semester of instruction is not a lengthy period but was found to be a sufficient time in this research. This is due to the use of CALLA. This instructional model, with its five phases (preparation, presentation, practice, evaluation and expansion), allows for explicitness in instruction and intense practice. Moreover, it helped the researcher organize and divide the time devoted for each session of instruction which is 90 minutes. Therefore, to ensure the success of the instruction and to develop students' critical thinking skills, teachers should not spend time only in lecturing but should wisely

and fairly divide it to cover all the aspects of the course. This research suggests that duration of 25 minutes per session to be devoted to lecturing, 20 minutes for presenting and modeling the CTE and the CRS, students should be allowed other 30 minutes to practice either in groups or individually, and the last 15 minutes of the course should be devoted to evaluation and feedback.

4.4. Limitations of the Study:

As with every endeavor into research, the current research contains a number of limitations which need much consideration when undertaking future studies. These include the length of the research, sample size, instrumentation, scoring of both the test and the task, and other possible limitations such as test-weariness and some psychological factors like stress and anxiety.

First and foremost, the length of this research may have been one limitation. One semester of instruction might be limited and not enough time to guarantee whether the effects of the treatment (explicit instruction in CTE and CRS) are significant enough to enhance students' critical thinking skills. However, lengthy treatments may also get students bored and succeed to shift their attention and decease their commitment. In this research, the short term of instruction was determined by the semester system (i.e. 12 weeks) and also limited because of the time devoted to the pre- and post-assessment. Nonetheless, it was found to be sufficient for developing students' critical thinking abilities, and that is because the CALLA model facilitates the organization of the time devoted for each session of instruction. Still, replications of this research with an extended length are clearly needed.

Another limitation of this research is the small sample size. The number of the students who participated and completed all the aspects of this research work, including the pre- and post-assessment, is relatively small (N=34). This is because the sample size was reduced from the number of the students (N=100) belonging to two first-year LMD groups, who were initially the participants in this research.

Event though, with a limited sample size, this research proved that infusing instruction in CTE and CRS into first-year civilisation classes is effective for fostering students' critical thinking skills, it remains problematic and difficult to generalize the results of this research to the whole population. This suggests that further research is required with a substantial increase in sample size to prove the generalisability of the findings of this research.

A further limitation relates to the ICTET; one of the assessment instruments of critical thinking skills used in this research. This test was carefully selected from other available standardized critical thinking tests because it was found to be the most appropriate tool for this research. In addition to that, the test is accompanied with an evaluation grid that facilitates the task of grading. Despite that, reliability of this instrument is an issue given that its use has not been previously reported in the literature. In order to compensate for this limitation, the DBT was employed as a further research tool and the results it generated were triangulated with those obtained from the ICTET.

Although the developers of the ICTET provided an evaluation grid that the researcher followed in assessing the test-takers' performance, still assessment of the test sheets is a limitation in this research. The researcher is not trained in scoring and it would be possible that another teacher would have scored the sheets differently. The test itself is not a multiple choice test but rather an open ended essay test, and therefore is not efficient and easy to score. But to ensure the reliability of evaluation and makes it efficient, the test sheets were coded, scored blind and also scored twice by the researcher. Nevertheless, it would have been better if another rater scored the papers to compensate for any possible bias in scoring.

CTR group students' motivation and commitment is an issue of further concern and another major limitation in the present research. These students showed less interest in completing the post-test, the post-task as well as the questionnaire. Test-weariness may have negatively affected students' motivation and is maybe the reason behind the CTR group lower performance in the post-

assessment. However, this should have also affected the EXP group, were in fact did not. Other psychological factors such as anxiety or stress might have also affected students' performance. Therefore, these factors were controlled for by reassuring students in both groups that the pre- and post-assessment would not interfere with their own examinations. Giving students some refreshments worked also well in reducing their stress and increasing their enthusiasm.

4.5. Suggestions for Further Research:

There are several areas regarding the strength and effectiveness of explicit instruction in CTE and CRS that have yet to be thoroughly explored and investigated. This research work investigated whether infusing this instruction into a first-year LMD civilisation course improves first-year LMD students' critical thinking skills that enable read critical historical documents. It was not concerned with other issues such as investigating the role played by gender, age and other variables like the effects of region in making the instruction more efficient. The effectiveness of the instruction can be tested against all these variables in future studies.

Further research can be conducted by extending the length of the instruction from one semester to a full academic year (i.e. two semesters). Though one semester was found to be efficient in developing students' critical thinking skills using CALLA, more longitudinal studies would be appropriate to provide students with ample opportunities to practice and internalize well the instructed CTE and CRS. Additionally, if studies are extended over longer periods, then time would be adequate to evaluate students throughout the research rather than merely through pre-testing and post-testing. Teachers can use a portfolio assessment to evaluate students' progress with regard to their critical thinking abilities.

Future research regarding the generalisability of the results of the research to all first-year LMD students would be appropriate as well. This can be done by taking larger samples. Experimental studies like the current research can be also carefully conducted taking into consideration the aforementioned limitations to either replicate or refute its findings. Studies can investigate as well changes in

students' critical thinking skills from different grade levels. They can also examine the impacts of infusing the instruction into a variety of other subject fields.

Additional important suggestions for future research would be to use the ICTET to test for the transfer of critical thinking skills to other courses using texts appropriate for the content of the course. Moreover, more research investigating the role of metacognition and CRS in developing students' self-regulation is warranted. The effectiveness of the instruction the current research proposes can be tested also using other assessment tools. Instead of using the ICTET and the DBT, other tests like the Ennis-Weir Critical Thinking Essay Test (1985), the Cornell Critical Thinking Test (1985) or the California Critical Thinking Skills Test (1990) can be employed. In addition, instead of using open-ended essay tests, multiple choice critical thinking measurements may be used.

Finally, doing a follow-up study on the students who participated in this research to see if those taught to analyse and assess historical documents using the CTE and CRS retain the critical thinking skills they gained and if they are more likely to transfer these abilities and apply them in different modules is a vital area of continued research.

4.6. Conclusion:

This chapter started with a summary of the findings of the research and then proceeded to suggest some research implications and recommendations for teachers of civilisation in the Department of English at USDB. These implications and recommendations are concerned with the crucial need for teachers to integrate into their civilisation courses an explicit instruction in CTE and CRS since it was found to be significantly effective in developing students' critical thinking skills. Key factors that are behind the success of this instruction were also examined thoroughly in this chapter. It is strongly recommended that teachers and administrators take into consideration these factors when implementing the instruction. The limitations of the research were then discussed followed by several areas for future research so that researchers investigating the importance and need for critical thinking instruction take them fully into consideration.

CONCLUSION

Developing students' skills to think critically, as the review of the literature on critical thinking and the results of this research revealed, is considered as one of the most crucial feats that educators and instructors need to promote and strive to support in universities. Although critical thinking skills are highly extolled, many students in the Department of English at the University of Saad Dahlab in Blida lack these critical abilities partly because largely ineffective traditional methods of teaching based solely on lecturing students are still the norm in university instruction. This research work was conducted in the Department of English at the University of Saad Dahlab in Blida aiming at investigating the effects of infusing an explicit instruction in CTE and CRS into a first-year LMD American civilisation course on the critical thinking skills of first-year LMD students.

To achieve the aforementioned purpose, it was necessary as an initial step to explore the concept of critical thinking. The review of the literature presented in chapter one of this thesis helped greatly to lay background information about critical thinking including its origin as well as the skills and the dispositions that associate with. It also examined significant aspects of critical thinking skills instruction and assessment. Critical reading strategies and critical thinking elements which are the focus of this research were also explained in details and proposed to be explicitly instructed with the help of the Cognitive Academic Language Learning Approach (henceforth CALLA), a strategies instructional model developed by O'MALLEY and CHAMOT in 1986.

With regard to the importance of and need for critical thinking skills instruction, as the review of the literature revealed, the current research conducted an experiment which consists of assigning randomly a number of 17 first-year LMD students of English from the University Saad Dahlab of Blida to an experimental group and another 17 students to a control group. The former received the experimental treatment which is the explicit instruction in critical thinking elements (henceforth CTE) and critical reading strategies (henceforth

CRS), whereas the latter was left uninstructed. Three data collection procedures were used in this research to assess the participating students' critical thinking abilities: a students' questionnaire, the international critical thinking essay test and the document-based task. Using three research instruments helped to triangulate results and also compensate for limitations underlying each tool. Detailed discussions of the experimental design, the research participants as well as the research instruments were given in chapter two of this thesis.

As seen in chapter three, the data collected from the three research instruments were analyzed using both descriptive and inferential statistics. The results obtained in this experimental research yielded strong conclusive evidence that experimental group students instructed explicitly in CTE and CRS significantly developed critical thinking skills, while control group students' skills showed no increase. These results have come to confirm that the explicit instruction proposed in this research is highly effective to foster students' critical thinking abilities when infused into civilisation courses and executed using the CALLA framework.

On the basis of the research results, several pedagogical implications and recommendation were proposed, as seen in chapter four. These recommendations and implications are meant to encourage instructors and administrators to integrate an instruction for critical thinking into the civilisation classes. Some suggested factors, like time requirements, classroom climate and teacher training, etc, that contribute to the success of a critical thinking instruction were also discussed so that teachers hopefully take them into consideration when implementing such instruction. Finally, the research limitations and some suggestions for future research were offered. It may be interesting to replicate this research with a larger sample and an extended length. Moreover, another path for future research is to see whether or not the participants in this research succeed to retain and transfer the critical thinking skills they developed.

In a nutshell, infusing an explicit instruction in CTE and CRS is necessary and should be the focus of teachers of civilisation and administrators alike. The latter should also realize that an effective teaching and learning of civilisation is far more than simply providing students with lectures in U.S. or British history but

rather requires setting new objectives and changing and diversifying course materials and methods so that students are challenged to think critically. The effects of these changes will be undoubtedly desirable and worthwhile for both teachers and students.

APPENDIX A
ENGLISH LMD CURRICULUM: SEMESTER FOUR

Unitésd'enseignements UE	COMPOSANTES	MATIERES
UE Fondamentale 13 16 h hebdo	**UE 13.1 Pratiques de la Langue Etrangère 1**	**Ecrit : Compréhension et Expression** - Les différentes étapes : du paragraphe à l'essai - Identifier les différents types d'expression écrite et les structures sous-jacentes au texte.
		Oral : Compréhension et Expression - Phonétique (apprentissage des sons/ Laboratoire). - Construction de phrases orales à partir d'un thème défini. - Contextesd'utilisation du langage. - Productions langagières en situation de discours.
	UE 13.2 Description et Fonctionnement de la Langue	**Morphosyntaxe de la Langue d'Etudes**
		Lexico-sémantique de la Langue d'Etudes
	UE 13.3 Théories et Méthodes Linguistiques	**Théories et MéthodesLinguistiques** – Ecoles Linguistiques et leurs Théories
	UE 13.4 Civilisation de la Langue	**Etudes des Institutions**
		Lectures Critiques

UE de découverte 14 3 h hebdo	**UE 14 Initiation aux Sciences**	-

UE de méthodologie 15 3 h hebdo	**UE 15.1 Méthodologie de la Recherche Universitaire**	-
	UE 15.2 Thème et Version	Thème et Version (Langues Etrangères, Arabe et Tamazight)

UE Transversale 16 3 h hebdo	**UE 16.1 Langue Etrangère 2** (**obligatoire** après choix entre l'allemand, l'espagnol, le russe, l'italien …)	Expression Ecrite et Orale
	UE 16.2 Sciences Humaines et Sociales (option)	**Choix d'1 option sur 2**
	UE 16.3 Education aux médias	

APPENDIX B
TEXTUAL ANALYSIS TASK TO 3RD YEAR LMD STUDENTS

Dear Student,

This task is part of a research being conducted at the level of the English Department at Blida University. It aims at collecting information on how you approach the historical text analysis task, now on the verge of your graduation. Please have the kindness to analyse the following passage by Margret Thatcher.

Your contribution is highly appreciated and will remain confidential!

Thank you very much

" In Britain, we have a tradition of facing the severest tests as a family, working together to meet and overcome adversity. As we enter the 1980s, let us all try to reawaken this tradition, to meet the challenges that lie ahead. Let us put away the failures of the past decade. But let us not forget their lesson, that illusions, however appealing, will not earn us our keep in the world. Hope must be tempered with realism—with an understanding of the problems that affect us all. This lesson is beginning to be taken to heart; you have seen the evidence of this in the last weeks of the old year. There are signs of a new spirit, of co-operation, of a more realistic approach to our problems. Let this spirit rise high, for it will signify, more certainly than anything else, that our country is on the way forward again to prosperity—to be shared fairly, as in a family. I wish you all a happy new year".

Margret Thatcher's New Year Message to the Conservative Party, December 31st 1979.

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APPENDIX C
CRITICAL THINKING ELEMENTS

CriticalThinkingElement	Description
The Five **W's**	Judging the credibility of source documents skillfully by considering five questions before reading them closely: 1-Who created the document and for whom? 2- What kind of document is it? 3- Where was it made? Published? 4- When was it made? 5- Why was it made (purpose, issue, question)
Identifying **central propositions** (main points)	Why the document was made? What are the main points or propositions of the author? What is/are the main thing(s) that author is trying to say? These are usually stated at the beginning, at the end of the document or at the middle (topic sentences or concluding sentences)
Identifying underlying **assumptions**	Values, beliefs, or things unsaid or unstated by the author which he believes to be true, the author's omissions and silences. 'What an author says is only half of the story, what goes unsaid completes the picture'
Identifying **point of view**	The author's beliefs, values, assumptions and desires reflect his point of view .

Identifying**reasoning**	This includes:
	a. Finding the argument
	b. Examining the argument's structure and logic (Deductive or inductive arguments, presence of fallacies)
	c. Examining the argument's clarity:
	  - Clear definitions of terms
	  - Precision
	  - Logical Consistency
	  - Relevance

Evaluating**Inferences** or conclusions	Distinguishing between strong inferences (based on good evidence such as research or statistical testing) and weak inferences (based on weak evidence and proof)
Evaluating **Evidence**	1. What types of evidence does the author give? 2. Is the evidence directly relevant to the central question or main point? 3. Is the evidence from knowledgeable and trustworthy sources? 4. How much does the evidence help persuade you that the author's main conclusions are correct?
Assessing the document **completeness**	Assessing: a. Omissions: What has been left out by the author? How important is this missing information? If it had been included, how would the argument be different? Would its premises or conclusion change? b. Depth: Does the author take into account all the complexities of the main issue, or simplify it? How important are the omissions to an understanding of the issue? Are there important related questions that the author doesn't talk about at all? c. Breadth: Does the author take into account other points of view? alternative ways to understand the problem, or to try to solve it? What point of view or conclusion would directly oppose the author's? Does he or she specifically talk about that viewpoint and explain why it has been rejected?
Imagining**Implications**	Imagining what would follow from the conclusion, in other words, where does the argument lead?
Taking a Stand (**producing arguments**)	Analyzing and understanding what other says is only half of critical thinking. The other half is presenting one's own thoughts and arguments in a way that is clear, accurate, thorough, and makes sense.

(Adopted from History and Critical Thinking: A Handbook for Using Historical Documents to Improve Students' Thinking Skills in the Secondary Grades, Edmonds et al, 2005, pp. 6-22)

APPENDIX D
CRITICAL READING STRATEGIES LIST

Strategy Name	Description	Why is this strategy useful?	When is this strategy useful? (Before, while or after reading)
Previewing	It means learning about the text before reading it. You can use it by reading the head notes or other introductory notes in the text, reading the title, skimming to get an overview of the content and organization of the text.	It helps you get a sense of what the text is about before reading it closely.	This strategy is useful before Reading.
Sourcing	It means identifying the documents and thinking about its author and creation. When using this strategy, before reading the document from beginning to end, you start questioning the source by posing the five questions: Who, what, where, when, why?	It helps you understand the document and its source better. Like the author, the type of the document, the place where it was made, the time when it was made and the reason behind its production.	This strategy is useful before Reading.
Contextualizing	It means situating the document and its events in time and place. You ask the question: To what extent does the document reflect its historical context?	It helps you understand the document's historical context, the major events, themes, and people that distinguish the era or period in which the document was created	This strategy is useful before reading.
Using background knowledge	It means using historical information and knowledge to read and understand the document. While reading pause and ask: What else do I know about this topic? What prior knowledge do I possess that might apply to the text.	It helps you activate you prior knowledge and relate what the document says with what you learned in the course, or what other knowledge you have.	This strategy is useful while reading.
Close reading	It means to carefully consider what the document says (subject matter, purpose, issue), the language used to say it (diction), the patterns of repetition the author uses, and extract facts, observations and experiences	It helps you consider contextual clues about time, place, people. It helps you also question the content to understand the document subject matter, the purpose for writing it, the author's opinions and viewpoints.	This strategy is useful while reading.
Questioning	It means questioning facts, opinions and perspectives (asking questions about the content). Questions you ask include: What is the document about? What does it assume? Why or for what purpose was this document written? What is the point of view (s) of the author of the source? What is the question or issue the document raises?	Students need to write down questions for each section or paragraph. It is better to write the questions while reading.	This strategy is useful while reading.
Annotating	It means underlining key words, phrases, or sentences; writing comments or questions in the margins; bracketing important sections of the text; constructing ideas with lines or arrows; numbering related points in sequence; and making notes of anything that strikes as interesting, important, or questionable.	It helps you highlight important ideas, key words and also helps you in your analysis.	This strategy is useful while reading.
Outlining	It means outlining the basic structure of the text (how the text is organized, how many paragraphs the text includes) and identifying in a clear outline the topic sentences in each §, the main ideas, the supporting ideas, examples, central propositions, premises…etc	It helps you get an overall idea about how the text is structured and get a better understanding of the text.	This strategy is useful while reading.

Summarizing	It means putting ideas together again in a condensed form. It begins with outlining the main ideas and goes further to analyze each section looking for arguments, author(s) point of view(s), evidence, thesis statement, assumption, conclusions.	It helps you analyse the text and extract all its components, including: main ideas, arguments, viewpoints, reasons, evidence, assumptions and conclusions. It also helps you carry on other steps in the critical reading process.	This strategy is useful after reading
Reading the silences	It means identifying what has been left out or is missing from the document. Think about what other voices you don't hear in the text, what other opinions, perspectives, etc. You ask: What are the document's silences? What is the document's author not mentioning? Whose voices are we not hearing in the document?	It helps you think about and know what other opinions and perspectives are missing in the document. It also makes you reserve you judgment about what the document says until you know more opinions.	This strategy is useful while and after reading.
Reflecting	It means examining your personal responses and implications by making brief notes on the margins about your thoughts and responses, to check them while evaluating the document.	It helps you consider your responses and what challenges your beliefs, attitudes, views, positions… etc.	This strategy is useful while and after reading.
Evaluating arguments and Evidence	It means testing the <u>credibility</u> and the <u>reliability</u> of the text. This strategy teaches you not to accept everything you read at face value, but to recognize that the writer's <u>arguments</u>, assumptions, <u>reasons</u>, <u>evidence</u>, <u>conclusions and implications</u> need to be evaluated.	It helps you evaluate the author's arguments and see whether they are convincing or unconvincing. It also helps you gauge the accuracy of the author's reasons, the relevancy and trustworthiness of the evidence and conclusions and whether to accept them or not.	This strategy is useful after reading.
Corroborating	It means comparing and contrasting between the document and other sources you read. This is by asking questions about important details across multiple sources to determine points of agreement and disagreement. • What questions arise after careful reading and interpretation of the document? • What else do I know that contradicts what the document is about? • What other primary sources might <u>corroborate</u> or <u>refute</u> this interpretation? • What other documents <u>support</u> or <u>augment</u> this one?	It helps you consider other sources to know what may contradict or support the document. It also helps you to not stop merely at one source. This strategy is an important aspect in critical reading. (Evaluating a document by comparing it to other sources)	This strategy is useful after reading.
Taking a Stand	It means expressing your point of view. After completing the above steps present your ideas and thoughts in a clear, well-supported and accurate way. After phrasing your claim, you need to support it with evidence and list your premises which are normally followed by a conclusion.	It helps you present your arguments and conclusions and support them with reasons and evidence. This will be the conclusion of your reading and analysis and evaluation of a historical document.	This strategy is use after reading.

Adapted from Wineburg, Samuel S., ""Thinking Like a Historian". TPS Quarterly, Winter 2010, pp. 2-4, and Salisbury University's Inventory of 7 Critical Reading Strategies:
<http://www.salisbury.edu/counseling/new/7_critical_reading_strategies.html>

APPENDIX E
QUESTIONNAIRE TO FIRST-YEAR LMD STUDENTS OF ENGLISH AT UNIVERSITY SAAD DAHLAB of BLIDA

Pseudonym: ………………………………
Date:………………………………………

Dear student,

After you finish analyzing the attached text, please provide us with answers to following items by ticking the appropriate boxes which correspond to your answer. Your responses are highly appreciated and will remain confidential!

NB: There are no right or wrong answers, we are merely interested in what you do.

	Yes	No	Undecided
Section One: Before I started Reading…			
26) I decided in advance the purpose of my reading and read with this goal in mind			
27) I looked at the title and tried to guess what the text might be about			
28) I quickly skimmed through the text			
29) I made a quick first reading to get an overall picture of the text.			
30) I read the name of the author and tried to guess what these can tell me about the text			
31) I read the source of the book and tried to guess what these can tell me about the text			
32) I paid attention to the date when the text was written and published			
Section Two: When I was Reading…			
33) I related what the text is saying with what happened in the time when it was created			
34) I compared what I read with what I already know about the topic of the text			
35) I related what the text is saying with what I studied in the course to understand it			
36) I checked my initial response and saw whether I already know something about the content of the textthat has been left out or is missing			
37) I wrote down questions about the document on a sheet of paper and answered them while reading			
38) I scanned the text looking for the main ideas			
39) I looked for the text's central message			
40) I underlined or wrote down the main ideas and the supporting ideas on a separate sheet of paper			
41) I looked for the author's position or point of view, asking "what is he trying to tell me?"			
42) I held the overall argument (or arguments) in my head looking for the author's given reasons and justifications			
43) I summarized as I went along reading			
Section Three: After I finished Reading…			
44) I checked whether the author's reasons and justifications are accurate			
45) I checked the author's arguments for flaws			
46) If I was persuaded by the author's arguments, I considered whether the evidence looks convincing enough			
47) If I was not persuaded, I asked "why not?"			
48) I compared the text with another text (s) I read			
49) I checked whether the text contradicts what I know			
50) I created my own position about the text and checked if my own point of view is clear, convincing and well-supported			

Thank you very much

APPENDIX F
THE INTERNATIONAL CRITICAL THINKING ESSAY TEST

Pseudonym: …………………………………………..
Date: …………………………………………………..

Direction 1:   After you have carefully read and analyzed the assigned reading, answer clearly the following questions in the form of an essay. Do not write on the test. Use a separate sheet of paper so that you have room for elaboration.

1- What is the author's purpose?
2- What is the most important question, problem or issue in the document?
3- What is the most significant information or data in the document?
4- What is (are) the most basic conclusion (s) in the document?
5- What are the most basic concepts, theories, or ideas in the document?
6- What are the most fundamental assumptions of the document?
7-What are the most significant implications of the document?
8- What is the point of view in the document?

Direction 2:   After you have finished your analysis, assess the strengths and the weaknesses of the assigned reading taking into consideration the following standards: clarity, logicalness, depth, breadth, consistency, accuracy, relevance, and precision. Present your assessment in the form of an essay.

APPENDIX G
DOCUMENT-BASED TASK

Pseudonym: ………………………………
Date:………......……………………………

Directions: **Read and Analyze the assigned reading, then, answer the following questions. Do not write on the worksheet. Use a separate sheet of paper so that you have room for elaboration.**

1- What is the type of the document?

2- What is the date of the document?

3- Who is the author (creator) of the document?

4- What do you know about the background of the author?

5- Who do you think this document was written for?

6- What is the topic or issue of the document?

7- What are the things the author said that you think are important?

8- Why do you think this document was written?

9- What evidence in the document helps you know why it was written? Give an example from the document to support your opinion.

10- What are the things the document tells you about the place where the document was written?

11- Does the document conflict or agree with other things you have read about the topic?

12- What question (s) do you want to address to the author that is left unanswered by the document?

APPENDIX H
CRITICAL THINKING SKILLS AND SUB-SKILLS LIST

1) Interpret

1.1. Formulate categories and distinctions for understanding information
1.2. Decode the significance of information, intentions, motives or views.
1.3. Clarify the intended meaning of words, ideas or concepts and remove confusion and ambiguity.

2) Analyze

2.1. Examine ideas by comparing or contrasting them.
2.2. Detect arguments and reasons in support of some claims or opinions.
2.3. Analyze arguments by identifying the structure of the arguments, the intended conclusion, the reasons and premises in support of the conclusion and any unstated assumptions.

3) Evaluate

3.1. Assess the credibility and acceptability of claims.
3.2. Assess arguments by judging the acceptability of premises, identifying fallacies and doubtful assumptions and judging implications.

4) Infer

4.1. Look for or recognizing evidence for supporting one's opinion or for accepting information.
4.2. Conjecture multiple alternatives for resolving a problem or questions.
4.3. Draw conclusions for determining what position, opinion or point of view one should take, and for determining which conclusion is most strongly warranted by the evidence at hand, or which should be rejected or regarded as less plausible.

5) Explain

5.1. State accurate results of one's reasoning and one's analysis and judgment regarding an issue.
5.2. Justify procedures used in forming one's interpretations, analyses, evaluation or inferences.
5.3. Present arguments and reasons for accepting some claim.

6) Self-regulate

6.1. Make metacognitive self-examination of one's opinions and reasons and assessing whether one's thinking (analysis, interpretation, evaluation, inference) is influenced by deficiencies in knowledge, by stereotypes, prejudices, emotions.
6.2. Self-correct errors or deficiencies revealed in one's thinking.

(Developed by the Delphi Panel of Experts in Critical Thinking, Facione 1990 p. 5)

APPENDIX I
CRITICAL THINKING ELEMENTS AND CRITICAL READING STRATEGIES
COURSE OUTLINE

University Saad Dahlab- Blida
Department of English
Year 2010/2011
First Year LMD
Second Semester: American Civilisation

This critical thinking elements (henceforth CTE) and critical reading strategies (henceforth CRS) integrated course is aimed at developing the critical thinking skills of the course participants (1st year LMD students) to read critically historical documents. It also helps participants understand what critical thinking is and how to apply the elements of critical thinking and the strategies inside the civilisation course and even outside the classroom. The course is infused into an American Civilisation course and is extended over a period of one semester (semester 2). Incorporated within the scope of this course, students will interpret, analyze and evaluate different historical documents (primary and secondary sources). By explicitly instructing students to use CTE and CRS, it is hypothesized that students will develop a set of critical thinking skills to closely read historical documents and evaluate the type and value of information presented. This will lead them ultimately to form their own reason-based opinions and conclusions about key events early in U.S. history. Following this course, students will be post-assessed to gauge whether they internalized the CTE and CRS and whether their critical thinking skills improved.

Instructor: Asma Melouah
Instructed Group: Experimental Group
Grade Level: 1St year LMD
Course Duration: 90 minutes

Course Objectives:

By the end of this semester course, students are expected to achieve the following outcomes:

I.   Linguistic content
Students will
  1) Learn content language that associates with the topic.
  2) Develop new vocabulary that associates with critical thinking and learn how to differentiate between the terms and concepts (argument, conclusion, premise, reasons, evidence, assumption, implication…etc)

II.   Content Knowledge:
Students will:

1) Gain a basic understanding of historical events beginning with the European Explorations, American colonial period, American Revolution and Independence up to the formation of the new American nation.
2) Gain understanding of 10 elements that associate with critical thinking

III.   Basic Skills:

Students will:
1) Recall and organize specific information (name, describe, define, identify)
2) Comprehend and digest information
3) Know basic terminology of the subject
4) Recognize aspects of American Civilisation and history
5) Apply the basic terminology as well as knowledge of the subject in their analyses of documents and in their examination.

IV.   Critical Thinking Skills and sub-skills:

Students will be able to:
7) Interpret
   1.4.   Formulate categories and distinctions for understanding information
   1.5.   Decode the significance of information, intentions, motives or views.
   1.6.   Clarify the intended meaning of words, ideas or concepts and remove confusion and ambiguity.

8) Analyze
   3.3.   Examine ideas by comparing or contrasting them.
   3.4.   Detect arguments and reasons in support of some claims or opinions.
   3.5.   Analyze arguments by identifying the structure of the arguments, the intended conclusion, the reasons and premises in support of the conclusion and any unstated assumptions.

9) Evaluate
   3.1.   Assess the credibility and acceptability of claims.
   3.2.   Assess arguments by judging the acceptability of premises, identifying fallacies and doubtful assumptions and judging implications.

10) Draw reasonable conclusions or inferences about data, statements, beliefs, opinions, evidence, etc.
   4.1. Look for or recognizing evidence for supporting one's opinion or for accepting information.
   4.2. Conjecture multiple alternatives for resolving a problem or questions.
   4.3. Draw conclusions for determining what position, opinion or point of view one should take, and for determining which conclusion is most strongly warranted by the evidence at hand, or which should be rejected or regarded as less plausible.

11) Explain and justify one's reasoning in the form of cogent arguments
   5.1. State accurate results of one's reasoning and one's analysis and judgment regarding an issue.
   5.2. Justify procedures used in forming one's interpretations, analyses, evaluation or inferences.
   5.3. Present arguments and reasons for accepting some claim.

12) Self-regulate and consciously monitor one's cognitive activities
6.1. Make metacognitive self-examination of one's opinions and reasons and assessing whether one's thinking (analysis, interpretation, evaluation, inference) is influenced by deficiencies in knowledge, by stereotypes, prejudices, emotions.
6.2. Self-correct errors or deficiencies revealed in one's thinking.

Communication tasks:
1) Students will participate in whole-class discussions about critical thinking elements and critical reading strategies.
2) Students will work collaboratively, in small groups, to read and analyze historical documents, then share information with the whole class.
3) Students will complete activities in groups, then present to the whole class their answers.

Critical reading strategies:
1) Teacher will present two strategies at a time.
2) Teacher will name, explain and model the strategies
3) Students will practice the instructed strategy (s) while analyzing the assigned reading (in groups)
4) Students will be assigned (homework assignment) a different reading document to practice further the instructed strategy (s).

Structure of the CTE and CRS Course:

I.   **Preparation**: (20 min.) The Teacher will
1) Prepare students by finding out what prior knowledge students have about the content to be taught.
2) Write on the board an outline of the lesson and discuss with students briefly its content.
3) Find out what strategies students already use when reading and analyzing (through class discussions).
4) Develop students' knowledge of concepts in the subject matter to be taught (content and Critical Thinking concepts).
5) Identify the meaning of the word strategy and teach new vocabulary that associates with critical thinking.

II.   **Presentation:** (20 min.)The Teacher will
1) Use a variety of techniques (demonstrations, modeling, visual support and provision of handouts and worksheets)to present new information (content, CTE and CRS)
2) Handout a package of photocopied sheet of papers that includes selected definitions of critical thinking, critical thinking skills list, a list of critical reading strategies, the 10 critical thinking elements, and a glossary of critical thinking terms.
3) Explain the element of critical thinking (one at a time)
4) Model the strategy (one at a time), name it, explain its value and when and how to use it. Students follow through their handouts.
5) Provide students with examples to understand more when and how to use the element/ strategy

6) Assign students a critical reading activity the instructed element/strategy help to accomplish.

III.   **Practice**: (35 min.) Students will
1) Divide themselves in groups of 4 or 5 and each group practice the newly learnt element/strategy in analyzing the assigned document.
2) Will be guided explicitly to practice the strategy/element, and will be given feedback and encouragement (Teacher scaffold instruction in this phase)
3) Students in the groups, then will be called out to re-tell the whole process of using the element/ strategy in doing the activity.

IV.   **Evaluation:** (15 min.)
1)   Teacher observes students while they apply the instructed element/strategy in doing the activity and record his/her observations, insights, concerns and decisions. This is to evaluate students use of the strategies and elements and also for evaluating the impact of her instruction, planning, use of materials and teaching techniques.
2)   Students explain what strategy and element helped them and what did not help them and why.
3)   Students self-evaluate their use of the critical reading strategies by filling out the questionnaire given to them both before and after the instruction, that is, checking the strategy they used while doing the activity and explaining what strategy helped them and what did not help them and why.

V.   **Expansion**: Teacher will
1) Explain why transfer of the element/ strategy is important to new tasks and situations and how it can be used.
2) Assign students to do a homework assignment as a way to expand the use of the element/ strategy to new reading tasks.

Required Materials:
    - Critical Thinking handouts
    - Assigned text readings

Pre- and post-assessment:

- The Document-based Task (DBT), the International Critical Thinking Essay Test (ICTET), and the Students' Questionnaire.

Course Requirements:

1) Regular class attendance.
2) Active participation and engagement in the classroom.
3) Active engagement with historical documents.
4) Full preparation to discuss required readings.
5) Participation in class discussions and in small group activities.
6) Completion of three assessment instruments (DBT, ICTET and the questionnaire)

7) Students should bring their own copies of the reading materials and the Critical Thinking handouts.
8) Completion of home assignments.

Course dos and don'ts (Teacher and students expectations)

1) Students respect themselves and others during class discussions and model the ideal critical thinking dispositions.
2) Disruptive behaviour of any kind will not be tolerate, e.g. cell phone use, chewing gum, passing notes, performing tasks unrelated to the lesson, noise.
3) Hard work and constructive dialogue are encouraged.
4) Speaking English only.
5) Teacher speaks slowly and loudly, respects each student, respect their opinions and re-explain when needed.

APPENDIX J
GLOSSARY OF CRITICAL THINKING TERMS

Argument: The term argument refers to a set of claims, some of which are presented as reasons for accepting some further claims—the conclusion. The reasons are presented with the aim of persuading the hearer or reader to accept the conclusion.
Assumption: A belief is an assumption when it is clearly accepted for granted by a speaker or writer but is not stated or made explicit by them.
Point: A statement or a proposition.

Premise: A preliminary point that justifies a conclusion; often there are a series of these leading logically from one to another.

Conclusion: The final point that claims to be true because of the premises.

Deductive (-tion): An argument where the premises logically prove the conclusion.

Entail (-ment): Premises in a deductive argument are said to entail the conclusion because the conclusion is a logical and necessary consequence of the premises

Inductive (-tion): An argument where the premises only suggest or support the conclusion without absolutely proving it. The conclusion may be very likely but is not logically inescapable.

Inference): Mental activity in which a reader extrapolates from premises to a conclusion, making a logical leap; usually inferences are based on probability. Inferences can be strong (that is, very likely) or weak (not so likely).

Fallacy: An illogical or unreliable argument

Syllogism: A three-part argument with a major premise and a minor premise leading to a conclusion

APPENDIX K
CRITICAL THINKING EVALUATION GRID

(Part One: 80 Points)

	4 - Exemplary If applicable, consistently does all or almost all of the following (9-10 points)	3 – Satisfactory If applicable, consistently does most or many of the following (7-8 points)	2- Below Satisfactory If applicable, consistently does most or many of the following (3-6 points)	1 - Unsatisfactory If applicable, consistently does all or almost all of the following (0-2 points)
Purpose	--Demonstrates a clear understanding of the assignment's purpose	--Demonstrates an understanding of the assignment's purpose	--Is not completely clear about the purpose of the assignment	--Does not clearly understand the purpose of the assignment
Key Question, Problem, or Issue	--Clearly defines the issue or problem; accurately identifies the core issues --Appreciates depth and breadth of problem --Demonstrates fair-mindedness toward problem	--Defines the issue; identifies the core issues, but may not fully explore their depth and breadth --Demonstrates fair-mindedness	--Defines the issue, but poorly (superficially, narrowly); may overlook some core issues --Has trouble maintaining a fair-minded approach toward the problem	--Fails to clearly define the issue or problem; does not recognize the core issues --Fails to maintain a fair-minded approach toward the problem
Point of View	--Identifies and evaluates relevant significant points of view --Is empathetic, fair in examining all relevant points of view	--Identifies and evaluates relevant points of view --Is fair in examining those views	--May identify other points of view but struggles with maintaining fairmindedness; may focus on irrelevant or insignificant points of view	--Ignores or superficially evaluates alternate points of view --Cannot separate own vested interests and feelings when evaluating other points of view
Information	--Gathers sufficient, credible, relevant information: observations, statements, logic, data, facts, questions, graphs, themes, assertions, descriptions, etc. --Includes information that opposes as well as supports the argued position --Distinguishes between information and inferences drawn from that information	--Gathers sufficient, credible, and relevant information --Includes some information from opposing views --Distinguishes between information and inferences drawn from it	--Gathers some credible information, but not enough; some information may be irrelevant --Omits significant information, including some strong counter-arguments --Sometimes confuses information and the inferences drawn from it	--Relies on insufficient, irrelevant, or unreliable information --Fails to identify or hastily dismisses strong, relevant counter-arguments --Confuses information and inferences drawn from that information
Concepts	--Identifies and accurately explains/uses the relevant key concepts	--Identifies and accurately explains and uses the key concepts, but not with the depth and precision of a "4"	--Identifies some (not all) key concepts, but use of concepts is superficial and inaccurate at times	--Misunderstands key concepts or ignores relevant key concepts altogether
Assumptions	--Accurately identifies assumptions (things taken for granted) --Makes assumptions that are consistent, reasonable, valid	--Identifies assumptions --Makes valid assumptions	--Fails to identify assumptions, or fails to explain them, or the assumptions identified are irrelevant, not clearly stated, and/or invalid	--Fails to identify assumptions --Makes invalid assumptions
Interpretations, Inferences	--Follows where evidence and reason lead in order to obtain defensible, thoughtful, logical conclusions or solutions --Makes deep rather than superficial inferences --Makes inferences that are consistent with one another	--Follows where evidence and reason lead to obtain justifiable, logical conclusions --Makes valid inferences, but not with the same depth and as a "4"	--Does follow some evidence to conclusions, but inferences are more often than not unclear, illogical, inconsistent, and/or superficial	--Uses superficial, simplistic, or irrelevant reasons and unjustifiable claims --Makes illogical, inconsistent inferences --Exhibits closed-mindedness or hostility to reason; regardless of the evidence, maintains or defends views based on self-interest
Implications, Consequences	--Identifies the most significant implications and consequences of the reasoning (whether positive and/or negative) --Distinguishes probable from improbable implications	--Identifies significant implications and consequences and distinguishes probable from improbable implications, but not with the same insight and precision as a "4"	--Has trouble identifying significant implications and consequences; identifies improbable implications	--Ignores significant implications and consequences of reasoning

4 = Thinking is exemplary, skilled, marked by excellence in clarity, accuracy, precision, relevance, depth, breadth, logicality, and fairness
3 = Thinking is competent, effective, accurate and clear, but lacks the exemplary depth, precision, and insight of a 4
2 = Thinking is inconsistent, ineffective; shows a lack of consistent competence: is often unclear, imprecise, inaccurate, and superficial
1 = Thinking is unskilled and insufficient, marked by imprecision, lack of clarity, superficiality, illogicality, and inaccuracy, and unfairness
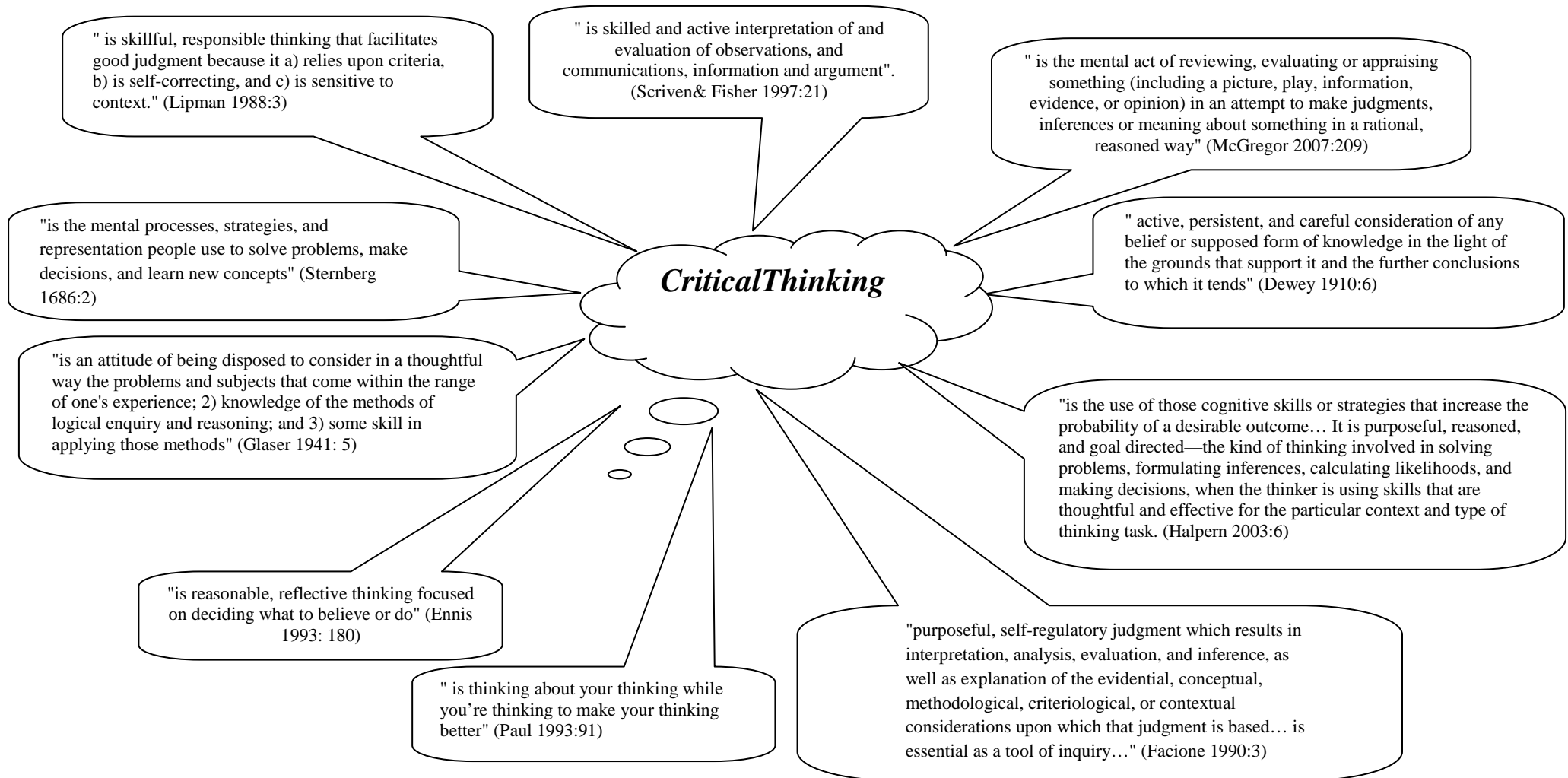
CRITICAL THINKING GRID (Part Two: 20 Points)
Overall Score: _____

If applicable, score the element (1-5)	Evaluation of Reasoning	Comments
	Purpose: Is the purpose well-stated or implied? Is it clear and justifiable? Are the question and purpose directly relevant to each other?	
	Key Question, Problem, or Issue: Is the question at issue clear and unbiased? Does the expression of the question do justice to the complexity of the matter at issue?	
	Point of View: Is sensitivity to alternative relevant points of view or lines of reasoning shown? Is consideration given to objections framed from other relevant points of view? If so, were they responded to?	
	Information: Is relevant evidence, experiences and/or information essential to the issue cited? Is the information accurate? Are the complexities of the issue addressed?	
	Concepts: Are key ideas clarified when necessary? Are the concepts used justifiably?	
	Assumptions: Is there sensitivity to what is being taken for granted or assumed? Are questionable assumptions being used without addressing problems which might be inherent in those assumptions (insofar as those assumptions might reasonably be questioned)?	
	Interpretations, Inferences, conclusions: Is a line of reasoning well developed explaining the main conclusions? Are alternative conclusions considered? Are there any apparent inconsistencies in the reasoning?	
	Implications, Consequences: Is sensitivity shown to the implications and consequences of the position taken?	

1=Unacceptable evaluation, unskilled (0.4- points)
2= Low level evaluation, minimally skilled (6-8 points)
3= Mixed level evaluation, beginning skills (10-12 points)
4= Commendable evaluation, skilled (14-16 points)
5=Excellent evaluation, highly skilled (17-20 points)

APPENDIX L
DEFINITIONS OF CRITICAL THINKING

" is skillful, responsible thinking that facilitates good judgment because it a) relies upon criteria, b) is self-correcting, and c) is sensitive to context." (Lipman 1988:3)

" is skilled and active interpretation of and evaluation of observations, and communications, information and argument". (Scriven& Fisher 1997:21)

" is the mental act of reviewing, evaluating or appraising something (including a picture, play, information, evidence, or opinion) in an attempt to make judgments, inferences or meaning about something in a rational, reasoned way" (McGregor 2007:209)

"is the mental processes, strategies, and representation people use to solve problems, make decisions, and learn new concepts" (Sternberg 1686:2)

CriticalThinking

" active, persistent, and careful consideration of any belief or supposed form of knowledge in the light of the grounds that support it and the further conclusions to which it tends" (Dewey 1910:6)

"is an attitude of being disposed to consider in a thoughtful way the problems and subjects that come within the range of one's experience; 2) knowledge of the methods of logical enquiry and reasoning; and 3) some skill in applying those methods" (Glaser 1941: 5)

"is the use of those cognitive skills or strategies that increase the probability of a desirable outcome… It is purposeful, reasoned, and goal directed—the kind of thinking involved in solving problems, formulating inferences, calculating likelihoods, and making decisions, when the thinker is using skills that are thoughtful and effective for the particular context and type of thinking task. (Halpern 2003:6)

"is reasonable, reflective thinking focused on deciding what to believe or do" (Ennis 1993: 180)

" is thinking about your thinking while you're thinking to make your thinking better" (Paul 1993:91)

"purposeful, self-regulatory judgment which results in interpretation, analysis, evaluation, and inference, as well as explanation of the evidential, conceptual, methodological, criteriological, or contextual considerations upon which that judgment is based… is essential as a tool of inquiry…" (Facione 1990:3)

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