College of Graduate Studies

Department of Education

Critical Thinking and Cooperative Learning in Teaching Essay Writing to EFL University Students

استخدام مهارة التفكير الناقد والتعلم التعاوني في تدريس كتابة المقالة باللغة الانجليزية كلغة أجنبية لطلبه الجامعات

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Birzeit University- Palestine

August 2013

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to our education.
This is your passion,
and our liberation.
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but encourage and believe,
that there's nothing out there,
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ENGLISH ABSTRACT

Critical Thinking and Cooperative learning in Teaching Essay Writing to EFL University Students

Acknowledging the complexity of teaching writing and the constant need to search for supportive methods and activities, this study attempts to investigate the teaching of essay writing to upper-intermediate Palestinian students learning English as a second/foreign language in a cooperative-learning setting as a learner-centered approach and aided by critical thinking strategies at Birzeit University, Palestine. Explored as well are pedagogical implications and students' attitudes towards cooperative learning.

The theoretical framework for this research is based on Vygotsky's social constructivist theory which emphasizes student cognitive development as being intimately linked to construction of knowledge within a social context. Within this learning context, students reflect and internalize and re-construct new knowledge as part of a constructive process. Vygotsky points out that higher cognitive functions such as analysis and synthesis, seem to develop most fully only with the support system of verbal language- particularly of written language (Vygotsky, 1962). Students as readers and writers build internal representations of various texts; engage in problem solving through reasoning and critique; and, consequently, become confident in the task of putting their thoughts into written words to produce a clear text.

The study design is a mixed method research that combines qualitative and quantitative tools, each of which is used to examine relevant aspects. It is an experimental study in which two groups (experimental and control) are randomly selected**.** Qualitatively, the study uses an in-depth analysis of student essays (pre, midterm, and final) collected on three different intervals throughout the second semester of academic year 2011-12, and they are analyzed for clear writing and critical thinking. The purpose is to document the development of students' writing and thinking. These essays are also analyzed quantitatively using SPSS and T-test in order to measure students' performance. In addition, an attitude questionnaire is used to study students' attitudes towards cooperative learning. Both groups are exposed to five critical thinking strategies: Instructional scaffolding, De Bono's PMI (Plus, minus, interesting), Socratic questioning, Problem-posing, and the Hegelian dialectic. However, one major

variation is that the experimental group is taught in a cooperative learning method whereas the control section is taught using a conventional method.

The Findings provide evidence that cooperative learning facilitates the execution of critical thinking strategies to promote growth in writing. The infusion and assimilation of the five critical thinking strategies in a cooperative learning environment significantly impacts students' performance in writing essays that are clear and effective. Results from the collection of students' essays indicate that the control group learners slightly developed in writing clear essays and witnessed noticeable signs of critical thinking in their essays using the conventional method whereas the experimental group learners outperformed the control group as they produced clear and effective persuasive/argumentative essays that reflected noticeable and strong signs of critical thought. Further, analysis of the attitude questionnaire for the experimental group regarding the execution of cooperative learning in the writing class also indicates that students have a very positive attitude towards cooperative learning as a teaching paradigm.

In conclusion, this study emphasizes that teaching essay writing is significantly enhanced through the infusion of critical thinking strategies within the cooperative learning framework.

ملخص الدراسة باللغة العربية

استخدام مهارة التفكير الناقد والتعلم التعاوني في تدريس كتابه المقاله باللغه الانجليزيه كلغة أجنبية لطلبة الجامعات

ملخص تنفيذي

إن إدراك تعقيدات تعليم الكتابة، والحاجة الملحّة للبحث عن أدوات وأنشطة مساندة، تبرر سعي هــذه الدراسة لفحص تدريس كتابة المقالة لطلبة الصفوف العليا من الفلسطينيين الذين يتعلمون الإنجليزيــة كلغة أجنبية ثانية من خلال طريقة التعلّم التعاوني كمنهجية تعليمية تعلّمية، يسندها استراتيجيات التفكير النقدي في جامعة بيرزيت– فلسطين، وكذلك استكشاف الدلالات التربوية واتجاهات الطلبة نحو الــتعلم التعاوني.

يتكيء الإطار النظري للدراسة على نظرية البنية الاجتماعية لفيجوتسكي التي تؤكــد علــى التطــور المعرفي للطلاب، والذي يتشكّل عبر الارتباط الوثيق للبناء المعرفي مع السياق الاجتماعي. في هــذا السياق، يعيد الطلبة استدخال وتطوير وإعادة بناء معرفة جديدة كجزء من العملية البنائية الاجتماعيــة الأوسع.

يشير فيجوتسكي (1962) إلى أن عمليات الإدراك العقلي، كالتحليل والتركيب، تتشكل فقط عبر جهاز مساند من اللغة الشفاهية، خاصة تلك التي تملك حروف الكتابة. إن الطلبة، كقارئين وكاتبين، يبنــون تمثّلات مختلفة داخلية للنصوص، ويتشاركون في حل الإشكاليات الناشئة من خلال المنطــق والنقــد؛ وبالتالي، يصبحون أكثر ثقة بقدرتهم على تحويل وصياغة أفكارهم كتابياً، وبالتالي إنتاج نصٍ واضحٍ.

هذه الدراسة مصممة لتدمج بين المنهج الكيفي و المنهج الكمي في ضوء توجه تجريبي حيث تم اختيار مجموعتين ضابتتين عشوائياً، واحدة تُدَرَّس من خلال طريقة التعلّم التعــاوني والأخــرى بالطريقــه التقليدية، وباستخدام أدوات بحثية كمية وكيفية، للتحقّق من التحليلات الأساسية. كيفياً، تستخدم الدراسة التحليل المعمق لمقالات الطلبة المكتوبة على مراحل ثلاث (قبلية، وأثناء تطبيق الدراسة، ونهائيــة)، والتي تم جمعها خلال فترات مختلفة خلال الفصل الثاني مــن الســنة الدراســية 2011–2012. إن الهدف من كل ذلك هو توثيق تطور قدرة الطلاب كتابياً وتفكيرياً. كذلك، سيتم تحليل هذه المقالات من خلال المنهجية الكمية عبر أداة T–test، وذلك لقياس أداء الطلبة. إضافة لكل ذلــك، تــم اســتخدام

استمارة لقياس توجهات الطلبة نحو التعلم التعاوني. كلتا المجموعتين سيتم تعريضهما لخمس استراتيجيات تفكير نقدي وهي: الأساسات التعليمية، ديبونو PMI (زائد، ناقص، شيّق)، التساؤلات السقراطية، طرح المشكلات لباولو فريري، وأخيراً الديالكتيك الهيغلي. إحدى المجموعتين سيتم تدريسها بطريقة التعلّم التعاوني، فيما المجموعة الثانية سيتم تدريسها بالطريقة التقليدية.

تزودنا نتائج الدراسة بإثبات دلائل على أن التعلم التعاوني يسمح بتيسير تنفيذ الكتابات النقدية للطلبة. إن استيعاب الاستراتجيات الخمس للتفكير النقدي في بيئة التعلم التعاوني تؤثر، بشكل واضح، على أداء الطلبة في كتابة مقالة واضحة ومؤثرة. تؤشر النتائج المستخلصة من التحليل المعمق للمقالات على أن المجموعة الضابطة التي قامت بتنفيذ استراتيجيات التفكير الناقد الخمس بالطريقة التقليدية في الكتابة أنتجت كتابة تُظهر ملامح من التفكير النقدي مع بعض الوضوح في التعبير الكتابي، بينما تفوقت المجموعة التجريبية في أدائها على المجموعة الضابطة حيث أنتجت مقالات واضحة، ومبصرة، ومقنعة، وجدلية، تؤشر بقوة إلى تفكير نقدي. بالإضافة لذلك، فإن تحليل استمارة التوجهات للمجموعة التجريبية حول تطبيق التعلم التعاوني في صف الكتابة يؤشر أيضا على أن الطلبة لديهم توجهات إيجابية نحو التعلم التعاوني كأداة تعليم.

بالمحصلة، فإن الدراسة تؤكد على أن تعليم كتابة المقال يصبح أكثر غنى عبر توظيف استراتيجيات التفكير النقدي في إطار التعلم التعاوني.

CHAPTER ONE

1.1 Introduction

In today's contemporary and challenging world, we are witnessing changes on a daily basis. As educators, it is important to "roll with these changes" in all aspects of the academic arena, particularly in the field of writing. Besides, effective participation in today's global educational arena is quite demanding and requires students to be better thinkers. Thus, because of the relationship between language and thinking, many English language teachers are refining and shaping their strategies for teaching writing. According to Bean (2001), students need to be engaged in problem-solving situations by designing thought-provoking writing and critical thinking strategies to encourage inquiry, exploration, and discussion. These strategies should also help students deepen their understanding of their own ideas in order to elicit sustained critical thought as a life-long skill to write more clearly.

The attempt to understand students' thinking process may greatly contribute to enhancing their writing skill. Such a process can be best communicated in a collaborative classroom where students are able to think aloud, construct meaning cooperatively, and self-regulate their own learning (Tinzmann et al., 1990). Therefore, teachers need to be constantly helping their students to be aware of their own thought processes, if they wish to see positive results. This should encourage teachers to challenge the traditional writing pedagogy and focus instead on teaching students to organize their thoughts before their pens ever touch paper. In other words, teachers need to pay special attention to helping students become critical thinkers as they are approaching different learning tasks. This is particularly the case for a complex task, such as writing, and even more so when writing in English as a Foreign Language (EFL)[1].

Critical thinking is an integral part of the map of thinking. It is not restricted to the sphere of logic and philosophy, but it is a skill that has applications in every aspect of our daily lives. According to Scriven and Paul (2004) "Thinking is a natural process, but left to itself, it is often biased, distorted, partial, uninformed, and potentially prejudiced; excellence in thought must be cultivated" (as cited in Duron, Limbach, & Waugh, 2006, p.160). Therefore, developing the skills to think critically helps students to nurture their thinking and

[1] English as a Foreign Language describes situations where students learn English in order to use it with any other English speakers in the world. Students often study EFL in their own country.

cultivate knowledge to become better citizens. This research examines critical thinking in relation to teaching essay writing carried out in a cooperative learning setting.

One important reference to the definition of critical thinking is presented by Ennis (1993), author of the *Cornell Critical Thinking Tests,* who argues for a powerful relationship between critical thinking and reflective thinking as modes of thought. He believes that critical thinking is "*reasonable reflective thinking that is focused on deciding what to believe and do"* (p. 180). To him, reflective thinking is best defined as a meaning-making process that moves the learner from one experience into another with deeper understanding of its relationships with and connections to other experiences and ideas. It is "the thread that makes the continuity of learning possible" (Rodgers, 2002, p.845). Critical thinkers are therefore disposed to care that their beliefs are true and that their decisions are justified based on considering alternative hypotheses and explanations in the process of inquiry and reflection.

According to the Critical Thinking Company (2005), "critical thinking is defined as "the identification and evaluation of evidence to guide decision making; a critical thinker uses broad in-depth analysis of evidence to make decisions and communicate his/her beliefs clearly and accurately" (p. 1). From an educational perspective, Duron, Limbach and Waugh (2006) define critical thinking as the "ability to analyze and evaluate information. Critical thinkers raise vital questions and problems, formulate them clearly, gather and assess relevant information, use abstract ideas, and think open-mindedly to communicate effectively" (p. 160).

There is a need to trace the impact of employing critical thinking strategies in teaching essay writing to EFL learners using cooperative learning as a paradigm. As an instructional method, cooperative learning has emerged as an alternative to traditional methods. It has a long history in North American education, going in and out of fashion over the years. Today, evolving constructivist perspectives have demonstrated, as Webb and Palincsar (1996) indicate, that there must be a context where elaboration, interpretation, explanation, and argumentation are integral to the activity of the group and its processing where learning is supported by other individuals.

In cooperative learning environments, students interact in purposefully structured heterogeneous groups to support their own and other group members' learning. These environments are characterized by a set of processes which help people interact with each other in order to accomplish a specific goal or develop an end product which is usually content-specific (Johnson, Johnson, & Holubec, 1994). There are five key components that must be present for cooperative learning to lead to significant gains. The first is the

promotion of interdependence within groups, fostering the perception among group members that they must work together to accomplish their goals. The second is the requirement for students to be individually accountable for demonstrating their understanding of the material. The third is face-to-face interaction. The fourth is use of social and collaborative skills, and the final key component is group processing (Johnson & Johnson, 1989). Cooperative learning creates an effective setting for moving learners towards critical thinking. This interdisciplinary teaching method, which is built upon existing theory and best practices in cognitive development, provides both teachers and students with a lively and enjoyable learning environment, especially in classes where English is taught as a foreign language.

Essay writing presents a real challenge for English language teachers and students alike. Over the course of their studies, students in schools and colleges are required to write a multitude of essays on a range of topics. Therefore, it is imperative for students to learn how to construct essays and present ideas in a coherent manner. The major focus for a college essay nowadays is on analysis, which is reinforced by critical thinking. Thus, based on this researcher's observation as an instructor, there is a general tendency among English language teachers to consider teaching essay writing a complex task. It involves using an appropriate teaching methodology, which enables students to relate words to thought at the pre-writing stage. Sperling and Freedman (2001) indicate that this decade has witnessed an exciting conceptual evolution marked by the integration of cognitive and social-cultural perspectives on writing in general, and on learning to write essays in particular. Sperling and Freedman (2001) go on to say that researchers have developed two related assumptions about writing: one, writing is a cognitive and social process, and two, critical relationships exist between writing and other language processes. Such cognitive processes have led EFL teachers to question the efficiency of using traditional methods in teaching essay writing. Teachers now seek to re-think the traditional processes of teaching essay writing, which require a fixed organization and a five-paragraph format.

This study is an attempt to move in the same direction, utilizing critical thinking and cooperative learning to help EFL learners develop their essay-writing skills in an EFL university setting. Examined as well are the strategies used for enhancing critical thinking and the students' attitudes towards cooperative learning as a teaching method.

1.2 The Research Problem

There is a need for empirical evidence to support the procedural cooperative learning strategies that teachers can employ in their classes. Although teachers devote great time and energy to developing activities and instructions that best promote students' writing abilities, the reality remains that students still encounter great difficulty with writing correctly and coherently in English, despite years of learning the foreign language. This leaves teachers puzzled as to how to unravel the mysteries of writing for their students. This researcher, being herself an instructor of English at school and university levels for several years, has experienced first-hand the complexities and controversies associated with teaching writing. She has, therefore, decided to pursue the issue further and design a study to approach the teaching of essay writing, as one of the writing modes, through critical thinking within a cooperative learning setting. The targeted learners may be classified as upper-intermediate EFL students[2] at Birzeit University in Palestine, where the researcher is currently working. Writing is the main concern of different university departments at Birzeit University, especially the Department of Languages and Translation and the Department of English Language and Literature. Nonetheless, teachers of writing have expressed (in conversations and meetings) their great disappointment with their students' level of writing, particularly essay writing. Thus, this thesis is an attempt to understand further the nature of essay writing and offer useful input by implementing critical thinking strategies within a cooperative learning framework.

According to Duron et al. (2006), the lecture format of learning is a popular approach to content delivery in higher education; however, it often does not encourage critical thinking among students. Those new to the teaching profession often adopt the lecture format, most likely because it is teacher-centered and supported by a strong tradition. Unfortunately, it is very difficult to increase a student's critical thinking skills with the lecture format, especially when writing is taught through lecturing. Topics are discussed didactically in a sequence rather than critically, and students tend to memorize the material and are restricted to the essay format regardless of how ideas are generated. As Maioranan (1991) writes that the student is placed in a passive role, since teachers do the questioning, talking, and even thinking (Duron et al., 2006).

[2] Upper-intermediate EFL students include those enrolled in ENGC 231 course at Birzeit University. This is the final course in the general communication sequence of courses at the Department of Languages and Translation, which ranges from the low-level courses 101 and 102, to intermediate ENGC 141. Students who pass 141are transferred to upper-intermediate ENGC 231. The aim of this course is to further the students' communication skills to a level of fluency, accuracy, and comprehension that will ensure high quality university work. Emphasis is placed on extensive reading, and essay writing including its different technical aspects.

Recent developments in pedagogical applications have led to the emergence of the learner-centered approach as an alternative to lecturing in many classes (Woolfolk, 2010). According to K.L. Brown (2003), "twenty-first century classrooms should shift from traditional, teacher-centered curriculum to a more learner-centered approach. The teacher-centered approach is associated with the transmission of knowledge whereas the learner-centered approach places the characteristics of all learners under the microscope with specific emphasis on low-performance learners" (as cited in Arna'out, 2010, p.22).

The learner- centered approach occurs when "students solve problems, answer questions, formulate questions of their own, discuss, explain, debate, or brainstorm during class using cooperative learning, in which students work in teams on problems and projects under conditions that assure positive interdependence, individual accountability, and inductive teaching and learning" (Felder & Brent, 2007, p. 1). Further, Blyth (1997) points out that teachers should shift their focus from teaching to learning. Tasks should be enjoyable and should lead to more cognitive engagement, participation, concentration, and persistence. Further, the focus of learning must be on both the learner and the content (Arna'out, 2010). According to Graffam (2003), the role of the teacher is transformed into a participating voice not a controlling voice (Arna'out, 2010). Based on the researcher's observations, this shift in paradigm to the learner–centered approach continues to be challenging for many college teachers. However, compared with traditional instruction, learner-centered methods, such as cooperative learning, can alleviate the great anxiety and consternation that many college students feel toward writing due to the traditional way in which it has been taught.

1.3 Statement of the Problem

The present study investigates the teaching of essay writing to EFL university learners through the implementation of critical thinking strategies guided by cooperative learning as a learner-centered approach. The targeted learners are upper-intermediate EFL students at Birzeit University in Palestine. Pedagogical implications and relevant strategies, together with students' attitudes towards cooperative learning are explored as well.

1.4 Significance of the Problem

A limited number of studies address the role of cooperative learning within teaching essay writing. The studies conducted thus far, for example, by Coats (2003), *Using Writing Portfolios and Cooperative Learning as Methods of Assessing Students' Writing Skills*, and Kabilan (2000), *Creative and Critical Thinking in Language Classrooms*, have dealt with the issue from a linguistic perspective, neglecting the pedagogical implications. Presently, there is a need for studies that document the implementation of new pedagogical strategies in the classroom.

The purpose of the present study is to explore the pedagogical implications of these new strategies through a predominantly qualitative approach in a dynamic learning environment. It will also provide teachers with evidence of the benefit and usability of cooperative learning as an alternative approach to teaching essay writing. It is worth noting that several models have been devised within the cooperative learning paradigm, such as Slavin's (1995) Student Teams-Achievement Divisions (STAD), structuring cooperation using academic controversy. In this study, the researcher has implemented Johnson's model of cooperative learning (1972). The reason behind the selection of this model is that it sets a theoretical and conceptual foundation that will enable the researcher to develop critical thinking strategies in teaching essay writing in a cooperative structure to empower students by organizing them into cooperative teams as a form of social support. In addition, it sets a mood that is active and conducive to learning. In addition, many studies have demonstrated that "when compared to other instructional approaches, group activities structured along cooperative learning tenets are associated with gains on a host of key variables: achievement level, higher level thinking, self-esteem, liking of the subject matter" (Cohen, 1994; Johnson & Stanne, 2001; Sharan, 1980 as cited in Arna'out, 2010,p.20).

1.5. Questions of the Study

The present study attempts to answer the following questions:

1. What is the role of critical thinking in L2 English essay writing for students?
2. What strategies contribute to developing students' critical thinking ability as they are engaged in essay writing?
3. How can cooperative learning facilitate the use of critical thinking in essay writing at the process and product levels?
4. What are students' attitudes towards cooperative learning in essay writing?

1.6 Definition of Terms

Critical Thinking: the concept of critical thinking seems best defined by Robert Ennis (1993), and elsewhere (Ennis 1987, 1991), who states that **"**critical thinking is reasonably and reflectively going about deciding what to believe and do" p. (180). Therefore, according to Ennis (1993), a person characteristically needs to do most of these things (and do them interdependently):

1. Judges the credibility of sources.
2. Identifies conclusions, reasons, and assumptions.
3. Judges the quality of an argument, including the acceptability of its reasons, assumptions, and evidence.
4. Develop and defend a reasonable position well.
5. Asks appropriate clarifying questions.
6. Plan experiments and judge experimental designs.
7. Defines terms in a way appropriate for the context.
8. Be open-minded.
9. Try to be well informed.
10. Draws conclusions when warranted, but with caution.

Five Critical Thinking Strategies

- **Instructional Scaffolding**

Lawson (2002) defines scaffolding in an educational context as the process by which the teacher provides students with a temporary framework for learning. Done correctly, such structuring encourages students to develop their initiative, motivation, and resourcefulness. Once students build knowledge and develop skills on their own, elements of the framework are dismantled. Different types of instructional scaffolding are used to promote learning, such as clustering and brainstorming, use of resources, completing writing tasks, use of graphic organizers, modeling, guidance on the development of cognitive and social skills, and reflective writing.

- **De Bono's PMI strategy**

De Bono's PMI stands for plus, minus, and interesting. It is a thinking technique that is simple, practical, and powerful. According to De Bono (1994), there are at least two key thinking processes that free humans from imprisoning ideas: problem definition and suggesting solutions. These two are manifested in the PMI CT strategy: (1) How to treat

ideas; (2) The deliberate examination of an idea for good (Plus), bad (Minus), or interesting possibilities; (3) PMI use eliminates the immediate acceptance or rejection of an idea. (De Bono, 1994).

- **Socratic Questioning**

This strategy lies at the heart of critical thinking. According to Copeland (2005), when effectively implemented, Socratic seminars enhance speaking, listening, and, especially, writing skills by giving learners ownership over the classroom discussion around texts that enable students to take responsibility for their own learning. Socratic questioning is based on the practice of a disciplined and thoughtful dialogue. The instructor professes ignorance of the topic under discussion or elicits dialogue from students using a series of constructive questions. The philosophy of this technique stems from Socrates who is convinced that thoughtful questioning enables students to examine ideas logically to determine their validity, and, ultimately, their truth and accuracy.

- **Paulo Freire's Problem-Posing**

This strategy is a term coined by the Brazilian educator Paul Freire in his book (1970) titled "Pedagogy of the Oppressed." It emphasizes critical thinking for the purpose of liberating the mind. The philosophy of this strategy is the foundation of modern critical pedagogy, which is defined by Giroux (1983) as an educational movement that is guided by passion and principle and helps students develop consciousness of freedom. It is a significant attempt to engage critically and link the practice of schooling to democratic principles and transformative social action in the interest of oppressed communities by creating conscious learners. Problem-posing places a strong emphasis on posing questions as a case-based approach to relate theory to practice to transform reality.

- **Hegelian Dialectic**

This strategy aims at creating a strategic plan for promoting dialogue and reasoning using the counterparts of a thesis, and anti-thesis argument. According to Raapanna and Friedrich (2005), The Hegelian Dialectic is divided into three parts called the thesis, anti-thesis, and synthesis. The Hegelian Dialectic is the framework for guiding thought and actions into conflicts that lead to a predetermined solution.

- **Cooperative Learning**

David W. Johnson, Roger T. Johnson, and Smith (1991) define cooperative learning as, "Creating a setting that provides the means for operationalizing a new paradigm of teaching and provides the context within which the development of student talent is encouraged. Carefully structured cooperative learning ensures that students are **c**ognitively, physically, emotionally, and psychologically actively involved together in constructing their own knowledge" (p.7). There are three types of cooperative learning groups:

- **Formal Cooperative Learning Groups**

They are groups that have fixed membership and are assigned by the instructor. They have well-defined short written tasks to be accomplished. The role of the instructor is to make pre-instructional decisions, structure the academic task, explain it to the students, intervene, and provide task assistance while groups are processing.

- **Informal Cooperative Groups**

They are temporary, ad hoc groups that last for only one discussion or one session. Their purpose is to focus student attention on the material to be learned, set a mood conducive to learning, help organize in advance the material to be covered in a class session, and ensure that the students cognitively process the material being taught.

- **Structured Academic Controversy Groups**

They are groups that join together to create a high level of reasoning, thinking and meta-cognition by solving a controversial topic. Groups have four members each. Two members are with (pros) and two against (cons) the issue. Students are given the choice to select their own controversial topic stemming from their own interest. They research the issue, organize their own information, and prepare their positions. Teams actively advocate for their positions. As a result, students experience "epistemic curiosity" and therefore, they (a) actively search for more information to support their position, and (b) seek to understand the opposing position and its supporting rationale. Finally, the groups of four reach a consensus. (Johnson, Johnson, & Smith, 1991).

- **The Writing Process**

Harmer's definition (2004) is that writing is a form of communication that delivers thoughts or expresses feelings through the written form. The stages of writing are: planning, drafting, editing, and revising.

1.7 Limitations of the Study:

A number of limitations need to be addressed and acknowledged regarding the present study. First of all, this study was conducted at Birzeit University in Palestine in the scholastic year 2011-2012, so it investigates the impact of using critical thinking as a tool in teaching writing in a cooperative learning environment to a small number of participants who are studying in one Palestinian University.

Participants come from a variety of social and regional backgrounds in Palestine. Their ages range form 18-20 years old. They have different majors in science, chemistry, engineering, media and psychology. Therefore, the number is too small to warrant generalizations. In addition, large scale studies are needed to confirm the findings of the present study.

Further, this study is limited to a short time length of data collection. This process took place for four successive months (from January till end of April) during the second semester of 2011/2012 which in turn limited the number of tools used. As a result, this also limited the number of writing strategies and CT strategies selected for implementation in the writing classroom.

CHAPTER TWO

Theoretical Framework and Literature Review

2.1 Introduction

Is thinking a problem, or is it a problem to think? It is not an oddity that every human being thinks, as thinking is part of human nature. If left alone however, one's thinking can become unclear, isolated, partial, and skeptical (Scriven & Paul, 2004). Thus, it must be developed. People's thinking can develop significantly only if they are encouraged to consistently practice critical thinking, allowing them to cultivate precise, high-quality thought. One of the ways to do this is through the writing process, which teaches and nurtures excellence in thought.

This chapter introduces the theoretical framework for this study, and examines three types of studies:

- Studies that focus on how to teach writing for ESL/EFL learners;
- Studies that focus on teaching writing through critical thinking, and
- Studies that link cooperative learning to writing and critical thinking.

It further examines cognitive development in relation to writing, critical thinking, and cooperative learning.

2.2 Theoretical Framework

Social constructivism forms the conceptual framework that guides this study. It is a theory of knowledge with roots in philosophy and psychology. The term refers to the idea that "learners construct knowledge for themselves, and each learner individually (and socially) constructs meaning as he or she learns" (Hein, 1991, p.1). Ultimately, constructing meaning involves both learning and thinking. The general principles behind social constructivism have had far-reaching consequences for the study of cognitive development and learning, as well for the practice of teaching (Hein, 1991). According to Simon (2004), these principles are:

- Knowledge is actively constructed by the individual;
- Learning is both an individual and a social process;
- Learning is a self-regulated process;

- Learning is an organizational process that enables people to make sense of their own world;
- Cognition serves the organization of the experiential world, not the ontological reality. In other words, truth is viability not validity;
- Reality is an interpretation;
- Learning is a social activity that can be enhanced in meaningful contexts;
- Language plays an essential role in learning. Thinking takes place through communication;
- Motivation is a key component in learning (pp.1-2).

Hein (1991) suggests that the "dramatic consequences" of these principles as they directly relate to this study are twofold. First, we have to focus on the learner in thinking about learning (not on the subject or lesson) to be taught. A key tenet of constructivism is that meaning is actively constructed by learners. And second, there is no knowledge independent of the meaning attributed to the experience (or constructed) by the learner or community of learners. This second tenet means that learning and development are socially situated activities that are enhanced in meaningful contexts (Hein, 1991). Consequently, the use of a critical thinking methodology that puts the focus on the learner has become a major tool for reforming the educational system. Both constructivism and critical thinking share the belief that learning occurs as learners are actively exploring and constructing meaning. Both opt to unmask the true abilities of learners who are the makers of meaning and knowledge. Constructivist teaching fosters critical thinking and creates motivated and independent learners. Nonetheless, the exact definition of critical thinking is problematic and debatable.

According to Mason (2010), like constructivism, the concept of critical thinking is also relative to the dynamic relationship between how teachers teach and how students learn (Lunenburg, 2011). To encourage critical thinking, the classroom design must shift from a model that ignores thinking to one that depends on it (Cohen, 2010). Critical thinking is viewed as the ability to think carefully and interpret, analyze, and evaluate ideas and arguments. This view is based on a widely shared conception of the function of critical thinking. However, for many educators, the relation of critical thinking to teaching remains questionable. For some, the emphasis must be on teaching content. They claim that "how to think" is indirectly or implicitly reinforced through the content itself. Those who teach critical thinking, on the other hand, see content as inseparable from the thinking that generates, synthesizes, organizes, and transforms knowledge. They emphasize that only those who can think through content truly learn it (Lunenburg, 2011). Furthermore, they argue that critical

thinking skills can be noticeably enhanced in an explicit and direct manner rather than indirectly in the course of teaching the subject (Fisher, 2001). Given the high regard that these advocates have for critical thinking, one may wonder if it is the same as good thinking.

2.2.1 The Relationship between Good Thinking and Critical Thinking

What does it mean to be a good thinker? All of us exercise thinking naturally on a daily basis. However, far from being innate, good thinking is a skill that needs practice and education. Therefore, you can improve your thinking by learning about the tools and strategies that produce your "best" thinking. With critical thinking, we strive to become good thinkers.

Improved thinking ability leads to better learning and more fruitful teaching. Students need to improve their own thinking so they can self-regulate and monitor their own learning. The terms "good thinking" and "thinking well" are commonly tied to critical thinking. There is a growing literature based on psychology and philosophy that argues for the need to help students to engage in thinking for themselves (Pithers & Soden, 2000). In another body of literature concerned with learning and teaching, it is implied that good thinking in any area involves being able to identify questions worth pursuing, and being able to pursue one's questions through a self-directed search for and interrogation of knowledge. This requires the belief that knowledge is "contestable by being able to present evidence to support one's argument" (Pithers & Soden, 2000, p. 238). In the literature on the nature of good thinking and how it might be taught, "critical thinking is often used to describe competencies which seem to be applicable to teaching-learning in context." (Pithers & Soden, 2000, p. 239). As such, transferring good thinking to new contexts requires a desire or ability to be a critical thinker, and critical thinking can be best shaped in a writing classroom because writing is thinking on paper. Focusing on critical thinking strategies to teach writing would enable students to develop both their thinking and writing skills to become good thinkers who can write clearly.

What are the characteristics of good thinking? According to Baron (1985), good thinking requires a sense of doubt about what to do or believe , goals, possibilities, evidence seeking, and evidence use. These essential doubts motivate thinking as they require attention. Teaching writing can be fostered through improving good thinking. Good thinking is practiced and used "when the approach towards ideas forms the standpoint of deliberate consideration" (Harris, 2001, p.1). This characteristic of good thinking can be defined as a teaching tool that can be used in teaching writing, which requires "deliberate attention". According to Harris (2001),

attention is a second characteristic of good thinking. Good thinkers develop the habit of analysis and take the time to think about claims and issues instead of just reacting to them. They "examine everything carefully and hold fast to that which is good" (Harris, 2001, p.1). Thinkers take claims apart and see what is happening in isolation from their own real experiences. One vital strand in the discourse on "good thinking" is the notion of self-regulating one's own thinking, a process that can also be nourished by writing. The assumption is that this "meta-cognitive ability, for instance, involving perception, critique, judgment, and decision making allows people to orchestrate and self-regulate their own learning strategies and those abilities encompassed in the term critical thinking" (Schunk and Zimmerman, 1994, as cited in Pithers & Soden, 2000, p.241). One may conclude that good thinking requires thinkers who take claims apart, self-regulate their thinking process, monitor their actions, and judge themselves from the inside out. Good thinking is encapsulated by the ability to think critically, yet, critical thinking is challenging to define because it "gets pulled in many directions and loses its focus" (Fisher, 2001, p.1). Also, it continues to be challenging to find methods for using critical thinking as a tool for teaching writing.

In their article "Higher Order Thinking Skills," Lewis and Smith (1993) argue that the challenge of defining terms like "thinking skills, reasoning, critical thinking, and problem solving" has been referred to as a "conceptual swamp" for which "there is no well-established taxonomy" (Lewis & Smith, 1993, p.1). In addition, explanations of how learning occurs have also been viewed as inadequate, with no single theory sufficiently explaining how learning takes place. Petty (2004) points out that learning is an active "meaning-making" process. He argues that constructivism is the view that learning is the construction of meaning on the basis of prior learning and instructional experiences (Arnaou't, 2010).

Thus, the understanding that takes place when students fully engage in their own learning and teaching is just a tool to achieve deeper levels of actual knowledge. Elder and Paul (1994) move a step further to say that critical thinking is the ability of thinkers to take charge of their own thinking. This requires students to develop sound criteria and standards for analyzing and assessing their own thinking and to routinely use these criteria to improve the quality of their thought (Elder &Paul, 1994).

According to Lewis and Smith (1993), several factors may account for these views about thinking and learning. First, different types of learning require different teaching strategies. No single method works for all learning. Second, intelligence is no longer seen as an unchanging general ability but as a pot of abilities that are affected by many factors. Third, the understanding of the thinking process is now that it is multidimensional—more a complex

network of interactive capabilities than a linear, hierarchical, or circular process. Fourth, the research "over the last two decades has focused on more specialized topics such as insight, wait time for problem solving, visual imagery and metaphors, and schemata" (Lewis & Smith, 1993, p.7). Therefore, many educators and researchers use, to a certain extent, the terms "critical thinking" and "higher order thinking" interchangeably while others label critical thinking as a form of higher order thinking and an outcome of student learning.

Despite the challenges related to defining higher order thinking, educators, agree on the value of teaching it. The need to set standards for higher order thinking skills resulted in a series of reports in the 1980s and 1990s. In the 1980s, documentation came from the National Assessment for Educational Progress which is part of the US Department of Education (NAEP); the National Commission on Excellence in Education in *A Nation at Risk* (1984); Goodlad's *A Place Called School* (1984), which focused on social studies and science; the (1985) Commission on Reading Report in Washington which is part of the National Institute of Education called *Becoming a Nation of Readers* (Anderson, 1985); and the 1986 Carnegie Forum on Education and the Economy's Task Force on Teaching (Carnegie Corporation, 1986, as cited in Smith & Lewis, 1993).

2.2.2 Definitions of Critical Thinking

There is a burgeoning literature about what critical thinking is. For example, Willingham (2007) states that critical thinking is *not* a set of skills that can be deployed at any time and in any context. It is a type of thought that even three-year-olds can engage in and even trained scientists can fail at. Hence, Kuhn (1991) views critical thinking as the skill of argument, while Ennis (1993) describes it as reflective thinking focusing on tasks, people, or beliefs. It is important to note that both definitions exclude creative thinking. Further, Kuhn (1991) views attitudes or dispositions as very important elements of critical thinking, which is conceptualized as a type of argument with an explicitly social dimension. Others, like Pithers and Soden (2000), view the ability to evaluate as necessary for critical thinking, since evaluation involves identifying a problem and its associated assumptions and then determining the intended outcome of the problem-solving process, clarifying and focusing on the problem by analyzing and understanding it. All these processes require inductive and deductive logic and synthesis in order to evaluate.

As mentioned above, despite the widespread recognition of the importance of critical thinking, there is a noticeable lack of consensus as to what it really is. However, despite the

fact that this "buzz word" is problematic, critical thinking, in relation to education, can be examined from two main standpoints: the philosophical approach and the cognitive psychological approach.

The literature on critical thinking has roots in two main disciplines: philosophy and psychology. Sternberg (1986) articulated a third strand based in the field of education (Lewis & Smith, 1993). The writings of Socrates, Plato, Aristotle, Dewey, and, more recently, Lipman (1988) and Paul (1992) exemplify the philosophical approach (Lai, 2011). Sternberg (1986) has noted that this school of thought approaches the critical thinker as an ideal type, focusing on what people are capable of doing under the best of circumstances. Accordingly, Paul (1992) discusses critical thinking in the context of "perfections of thought" (p. 9). This preoccupation with the ideal critical thinker is evident in the American Philosophical Association's (APA)[3] consensus portrait of the ideal critical thinker as someone who is inquisitive by nature, open-minded, flexible, fair-minded, has a desire to be well-informed, understands diverse viewpoints, and is willing to both suspend judgment and to consider other perspectives (Facione, 1990).

2.2.2.1 The Philosophical Approach

Flashing back into history, John Dewey, the American philosopher, psychologist, and educator, who is known as the "father" of the modern critical thinking tradition, called it "reflective thinking" (Fisher, 2001). Dewey defined reflective thinking as an "active, persistent, and careful consideration of a belief or supposed form of knowledge in the light of grounds which support it and the further conclusions to which it tends" (1933, p.9). Dewey described the process of thinking as a sequenced chain of events. He indicated that critical thinking is not passive, it is "essentially an active process—one in which you think things through for yourself, raise questions, find relevant information" (Fisher, 2001, p.3). He also wrote that it is persistent and careful, contrasting it with unreflective thinking, which we use randomly in our daily lives. In defining critical thinking as "persistent" and "careful," Dewey is relating critical thinking to good thinking, which is also a "deliberate consideration" (Harris, 2001).

However, the most important pieces of Dewey's definition are "the grounds which support a belief," and the "further conclusions to which it tends." He is saying, explicitly, that what matters are the reasons for believing in something and their implications (Fisher, 2001).

[3] The American Philosophical Association was founded in 1900 to promote the exchange of ideas among philosophers and to encourage creative and scholarly activities.

Therefore, he relates critical thinking to reason, which constitutes a solid theoretical foundation that supports the argument in this thesis, that persuasive and argumentative essays are the kinds of writing that most demand critical thinking techniques, including logic and reason. Before going into more detail about the central role of reason and reasoning, let us examine other philosophical definitions of critical thinking. Edward Glaser, who is a co-author of what is now called the critical thinking test (Watson-Glaser Critical Thinking Appraisal), defines critical thinking 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, and (2) knowledge of the methods of inquiry and reasoning and some skill in applying those methods. Critical thinking calls for and needs persistent effort to examine any belief or supposed form of knowledge in the evidence that supports it, and further conclusions to which it tends" (Glaser, 1941, p.5, as cited in Fisher, 2001). According to Fisher, it is "obvious that this definition owes a lot to Dewey's original definition" (p.3). Both Dewey and Glaser see the skill of critical thinking as careful thinking which is synonymous with good thinking.

Dewey had significant influence on progressive educators concerned with advancing democratic ideals within education. His beliefs centered on the ideas that education must engage with and enlarge experience that thinking and reflection are central to the act of teaching, and that students must freely interact with their environments when constructing knowledge. He provided a "language of possibility," a philosophical construct that has been of foremost significance to the evolution of critical pedagogy (Darder, Baltodano, & Torres, 2003). The term critical pedagogy evolved out of a yearning to give some shape and coherence to the theoretical landscape of radical beliefs and practices. It consists of a significant attempt to link the practice of schooling to democratic principles of society and to transformative social action in the interest of oppressed communities (Darder et al., 2003). This, in turn, has a direct impact on the process of teaching and learning in general, and on methodological practices in specific.

Critical pedagogy is a philosophy of education described by Henry Giroux as an educational movement that is guided by passion and principle to help students develop consciousness of freedom (Giroux, 1983). Proponents of critical pedagogy like Shor (1996) define it as "habits of thought, reading, writing, and speaking which go beneath surface meaning, first impressions, dominant myths, official pronouncements, traditional clichés, received wisdom, and mere opinions, to understand the deep meaning, root causes, social context, ideology, and personal consequences of any action, event, object, process,

organization, experience, text, subject matter, policy, mass media, or discourse" (Shor, 1996, p.129).

Critical pedagogy was also heavily influenced by the works of Freire who encouraged students to think critically about their own educational situations as a way to recognize the connections between their individual problems and their experiences in social contexts. This critical consciousness or "conscientization" is a necessary step for praxis which is a very important action that seeks to bridge the gap between theory and practice and create a cycle linking theory, application, evaluation, and reflection (Freire, 1994).

The principle of dialogue, as defined by Freire, is one of the most significant aspects of critical pedagogy. Dialogue constitutes an educational strategy that centers on the development of critical social consciousness within the learner. Within the practice of critical pedagogy, dialogue and analysis serve as the foundation for reflection and action. They are activities that support a problem-posing approach to education where the students and the teacher are both involved in the exploration of existing conditions and beliefs in order to understand how they originated and how they can be changed. This process empowers students to deepen their awareness of the social realities that shape their lives and discover their own capacities to change them. This interaction lies at the heart of critical thinking and critical pedagogy. According to McAllister (2009), "critical thinking's best practice is closely coupled with a variety of methods, all of which seem to hinge around constructivist theory in which students take on the responsibility for creating their own knowledge"(McAllister, 2009, p.8). Further, Burbules and Berk (1999) argue that both critical thinking and critical pedagogy help people see the world as it is and act accordingly. Those who are educated in critical thinking and use the skills of reason and logic have increased freedom and greater ability to recognize their own possibilities. Clearly, both theories urge students to be open-minded, skeptical, and critical in thought (Burbules & Berk, 1999). As such, these characteristics are also associated with good writers who are also good thinkers.

In 1990, the American Philosophical Association (APA) formed a panel of critical thinking researchers for the purpose of coming to a consensus on a definition of critical thinking. They attempted to summarize some of the conflicting viewpoints on critical thinking and establish a more tangible definition. Ennis, Paul, and other experts in the field contributed to the study. The definition below was produced by the scholars in the study and serves as the most comprehensive and cited definition to date:

> *We understand critical thinking to be "purposeful, self-regulatory judgment that 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. As such, critical thinking is a liberating force in education and a powerful resource in one's personal and civic life (Facione, 1990, as cited in McAllister, 2009 p.5).*

This study often referred to as the Delphi study, identified six additional core skills that are believed to be associated with critical thinking: interpretation, analysis, evaluation, inference, explanation, and self-regulation. These are defined as follows:

- Interpretation is to comprehend and express the meaning or significance of a wide variety of experiences, situations, data, events, judgments, conventions, beliefs, rules, procedures, or criteria. Interpretation includes the sub-skills of categorization, decoding significance, and clarifying meaning.
- Analysis is the identification of the intended and actual inferential relationships among statements, questions, concepts, descriptions, or other forms of representation intended to express beliefs, judgments, experiences, reasons, information, or opinions. Analysis includes the sub-skills of examining ideas, detecting arguments, and breaking down arguments into their component elements.
- Evaluation is the assessment of the credibility of statements or other representations which are accounts or descriptions of a person's perceptions, experience, situation, judgment, beliefs, or opinions; and the logical strength of the actual or intended inferential relationships among statements, descriptions, questions, or other forms of representations. Evaluation includes the sub-skills of assessing claims and assessing arguments.
- Inference is to identify and secure the elements needed to draw reasonable conclusions, to form conjectures and hypotheses, to consider relevant information, and to examine the validity emerging from data, statements, principles, evidence, judgments, beliefs, opinions, concepts, descriptions, questions, or other forms of representation. Inference includes the sub-skills of finding evidence, coming up with alternatives, and drawing conclusions.
- Explanation is the presentation of one's reasoning in the form of cogent arguments. It relies on the ability to state the results of one's reasoning and to justify that reasoning in terms of the evidential, conceptual, methodological, criteriological, and contextual considerations

upon which the reasoning was based. Explanation includes the sub-skills of stating results, justifying procedures, and presenting arguments (Facione, 1998, pp. 6-10).

A sixth cognitive skill identified by the Delphi panel, is referred to in the critical thinking literature as meta-cognition. The Delphi panel called it self-regulation, which it defined as

> *self-consciously to monitor one's cognitive activities, the elements used in those activities, and the results deduced, particularly by applying skills in analysis and evaluation to one's own inferential judgments with a view toward questioning, confirming, validating, or correcting either one's reasoning or one's results* (Facione, 1990, pp.13-14).

Additionally, sixteen sub-skills and nineteen dispositions were established to further define critical thinking capacities and behavior. These dispositions include such things as "inquisitiveness" and "amenability to being well-informed" (Facione, 1990, as cited in McAllister, 2009, p.6).

Those working within the philosophical tradition also emphasize qualities or standards of thought. For example, Bailin, et al. (1999) define critical thinking "as thinking of a particular quality, or essentially good thinking that meets specified criteria or standards of adequacy and accuracy" p. 287. Further, the philosophical approach has traditionally focused on the application of formal rules of logic (Lewis & Smith, 1993; Sternberg, 1986). One limitation of this approach to defining critical thinking is that it does not always correspond to reality (Sternberg, 1986). By emphasizing the ideal critical thinker instead of what people have the capacity to do; this approach may have less to contribute to discussions about how people actually think (Lai, 2011).

In his widely accepted definition of critical thinking, Ennis (1989) adds the idea of *making decisions* to the formula of critical thinking. Ennis (1989) defines critical thinking as "a reasonable and reflective thinking that is focused upon deciding what to do or believe" (Norris & Ennis, 1989, p.4, as cited in Fisher 2001). Fisher points out that this definition emphasizes two main concepts: "reasonable" and "reflective," which, according to her, "picks up on earlier definitions" (Fisher, 2001, p.4). Swartz and Parkins (1989, as cited in Dajani, 2001, p.13) explain Ennis's definition as follows: critical thinking is good thinking that relies appropriately upon the use of good reasons. Good thinking is not arbitrary because it leads to the best solutions. The best solutions are those supported by the best reasons, so critical

thinking must rely upon good reasons in reaching conclusions. Second, critical thinking is defined as reflective thinking. Critical thinkers must be reflective in that they examine the reasonableness of their own and of other's thoughts. Thinking does not become reasonable thinking by accident. Critical thinkers must consciously seek and use good reasons. Third, critical thinking is focused thinking. This attribute suggests that critical thinking is consciously directed with a purpose in mind. Finally, the focus of critical thinking is a decision about what to believe or to do, followed by an evaluation of any statements or actions (Dajani, 2001).

Coming back to the concept of meta-cognition, Paul's contribution to the notion of thinking about thinking (meta-cognition) is central. Fisher (2001), for example, writes that Paul consciously aims to improve the notion of critical thinking by referring to it as a model of good thinking where students use real and practical tools to acquire knowledge, transfer it to different contexts, and monitor their own learning. From the philosophical perspective, reflection, thinking, and meta-cognition are the building blocks that turn critical thinking into good thinking.

Definitions of critical thinking emerging from the philosophical tradition include:

- "The propensity and skill to engage in an activity with reflective skepticism" (McPeck, 1981, p. 8);
- "Reflective and reasonable thinking that is focused on deciding what to believe or do" (Ennis, 1985, p.45);
- "Skillful, responsible thinking that facilitates good judgment because it 1) relies upon criteria, 2) is self-correcting, and 3) is sensitive to context" (Lipman, 1988, p.39);
- "Purposeful, self-regulatory judgment which results in interpretation, analysis, evaluation, and inference, as well as explanation of the evidential, conceptual, methodological, criteriological, or conceptual considerations upon which that judgment is based" (Facione, 1990, p.3);
- "Disciplined, self-directed thinking that exemplifies the perfections of thinking appropriate to a particular mode or domain of thought" (Paul, 1992, p. 9);
- "The mode of thinking about any subject, content or problem in which the thinker improves the quality of his/her thinking skillfully by taking charge of the structures inherent in thinking and imposing intellectual standards upon them" (Fisher, 2001, p4);

- Thinking that is goal-directed and purposive, "thinking aimed at forming a judgment," where the thinking itself meets standards of adequacy and accuracy (Bailin et al., 1999, p. 287); and
- "Judging in a reflective way what to do or what to believe" (Facione, 2000, p. 61, as cited in Lai, 2011, p.6).

To summarize, most definitions of critical thinking include the ability to analyze, reason, reflect, judge, and make inferences and decisions. Other abilities identified as relevant to critical thinking include asking questions and interpreting. In addition to skills or abilities, critical thinking, according to the APA consensus definition of the ideal critical thinker, also involves dispositions or attitudes such as truth-seeking, open-mindedness, analyticity, maturity, systematicity, inquisitiveness, and self-confidence.

2.2.2.2 The Cognitive Psychological Approach

According to Lai (2011), the cognitive psychosocial approach directly contrasts with the philosophical perspective in two ways. First, behavioral psychologists tend to focus on how people think rather than how they could or should think under ideal conditions (Sternberg, 1986). Second, rather than defining critical thinking by pointing out the characteristics of the ideal thinker, those working in cognitive psychology tend to define critical thinking by the types of actions or behaviors critical thinkers are capable of (Lai. 2011).

Therefore, the cognitive psychological approach targets actions and strategies that learners have and can do. Definitions of critical thinking that have emerged from the cognitive psychological approach include:

- "The mental processes, strategies, and representations people use to solve problems, make decisions, and learn new concepts" (Sternberg, 1986, p.3).
- "The use of those cognitive skills or strategies that increase the probability of a desirable outcome" (Halpern, 1998, p. 450 as cited in Lai, 2011, p 7).

Lai (2011) points out in her research review that philosophers have often criticized this latter aspect of the cognitive psychological approach as being reductionist, that it diminishes a complex orchestration of knowledge and skills into a collection of disconnected steps or procedures (Sternberg, 1986). For example, Bailin (2002) argues that it is a fundamental misconception to view critical thinking as a series of discrete steps or skills, and that this misconception stems from the behaviorist's need to define constructs in ways that are directly observable. According to this argument, and because the actual process of thought is

unobservable, cognitive psychologists have tended to focus on the products of such thought, for example behaviors or overt skills (e.g., analysis, interpretation, formulating good questions). Other philosophers have also cautioned against confusing the activity of critical thinking with its component skills (Facione, 1990), arguing that critical thinking is more than simply a procedural step. Indeed, there are a few proponents of the philosophical tradition who have raised the issue that it is possible to simply "*go through the motions,"* or proceed through the "*steps*" of critical thinking without actually engaging in critical thought (Bailin, 2002).

2.2.2.3 The Educational Approach

Finally, those working in the field of education have also contributed to the definition of critical thinking and come up with revealing conclusions from real learning environments. Benjamin Bloom and his associates are the first names to be mentioned in this category. Their taxonomy of information-processing skills (1956) is one of the most widely cited sources for educational practitioners when it comes to teaching and assessing higher-order thinking skills. In each of Bloom's[4] three taxonomies, the lower levels of learning provide a base for the higher levels. His taxonomy is hierarchical, with comprehension at the bottom and evaluation at the top. The highest levels (analysis, synthesis, and evaluation) are frequently said to represent critical thinking (Lai, 2011).

The benefit of the educational approach is that it is based on real practices that stem from experiences and observations of the student learning, unlike both the philosophical and the psychological traditions (Sternberg, 1986). However, many researchers, such as Ennis (1985) and Sternberg (1986), think that the educational approach is limited by its vagueness. For example, the taxonomy lacks the clarity necessary to guide instruction and assessment in a useful way. Furthermore, the frameworks developed in education have not been tested as vigorously as those developed within either philosophy or psychology (Sternberg, 1986).

Despite the differences between the philosophical and the cognitive psychological schools of thought and their approaches to defining critical thinking, they both agree that critical thinking involves abilities, such as:

- analyzing arguments, claims, or evidence (Ennis, 1985; Facione, 1990; Halpern, 1998; Paul, 1992);

[4] Benjamin Bloom (1956) identified three domains of educational activities: cognitive, or mental skills (*knowledge*); affective, or growth in feelings and emotional areas (*attitude*); and psychomotor, or manual and physical skills (*skills*).

- making inferences using inductive or deductive reasoning (Ennis, 1985; Facione, 1990; Paul, 1992; Willingham, 2007);
- judging or evaluating (Case, 2005; Ennis, 1985; Facione, 1990; Lipman, 1988); and
- Making decisions or solving problems (Ennis, 1985; Halpern, 1998; Willingham, 2007, as cited in Lai, 2011, p.8).

There is some controversy over this amalgam of dispositions and abilities. In 1991, Ennis posited a definition that has become widely accepted. He argued that critical thinking is "reasonable reflective thinking focused on deciding what to believe or do" (McAllister, 2009). Paul broadened this definition to include the associated dispositions of critical thinkers themselves, as well as certain standards of intellectual thought, which those thinkers should apply (Paul, 1987). Still, scholars debate whether critical thinking can indeed be considered to be a set of general skills and dispositions, or if it is too imprecise and broad for simple categorization. It seems that researchers cannot agree on whether it is the process and structure of thought or the quality of the thinking (McAllister, 2009).

According to Lai (2011), as early as 1985, researchers working in the area of critical thinking recognized that the *ability* to think critically is distinct from the *disposition* to do so (Ennis, 1985). Critical thinking is dependent upon a person's disposition to use it (Paul, 1992). This term is defined by Facione (1995) as the willingness, motivation, inclination and intention to be engaged in critical thinking while reflecting on significant issues to make decisions. Philosophers like Dewey agree that critical thinking or, in his terms, reflective thinking includes the dimensions of skill and disposition (Dewey, 1933; Norris & Ennis, 1989).

Thus, opinion of researchers appears to confirm the notion that critical thinking abilities and disposition are, in fact, separate entities (Facione, 2000). The disposition necessary to undertake critical thinking has variously been cast as attitudes or habits of mind. Facione (2000) defines them as "consistent internal motivations to act toward or respond to persons, events, or circumstances in habitual, yet potentially malleable ways" (p. 64). Researchers tend to identify similar sets of dispositions as relevant to critical thinking. For example, the most common include (Lai, 2011, p.10):

- Open-mindedness (Bailin et al., 1999; Ennis, 1985; Facione 1990, 2000; Halpern, 1998);
- Fair-mindedness (Bailin et al., 1999; Facione, 1990);
- The propensity to seek reason (Bailin et al., 1999; Ennis, 1985; Paul, 1992);
- Inquisitiveness (Bailin et al., 1999; Facione, 1990, 2000);

- The desire to be well-informed (Ennis, 1985; Facione, 1990); and
- Flexibility (Facione, 1990; Halpern, 1998).

Based on McAllister's report (2009), when planning educational activities with the goal of developing critical thinkers, it is necessary to determine what skills and mindsets are most desirable. While the six core skills[5] laid out by the Delphi study form the heart of most critical thinking programming, there exist a variety of additional skill-sets, which are found in educational literature. Scholars remain divided as to whether these are subject-specific skills or whether they may be transferred between subjects. For the purpose of this study, sources are chosen to offer converging viewpoints. Below is a summary chart of the six Delphi core skills and a handful of selected skill-sets from other sources for comparison that McAllister presented in her study (McAllister, 2009). These additional sources highlight examples of how the Delphi skills could be applied in an educational setting.

Table 1

Application of the Delphi Skills in an Educational Setting

Delphi Report	Halpern	Ten Dam	Pithers and Saden
Interpretation	Verbal reasoning	Analyzing arguments	Collecting, analyzing, and organizing information
Analysis	Argument analysis	Judging the credibility of sources	Planning activities
Evaluation	Thinking as hypothesis-testing	Asking clarifying/challenging questions	Problem solving
Inference	Likelihood and uncertainty (evaluating predictability)	Using technology	Communicating information
Explanation	Decision making and problem solving		Working with others
Self-Regulation			Using technology

[(Facione, 1990) (Halpern, 1998) (ten Dam, 2004) (Pithers & Soden, 2000) as cited in McAllister, 2009, p.6]

[5] As listed above, these include interpretation, analysis, evaluation, inferences, explanation, and self-regulation.

According to McAllister (2009), the core skills sets and their interpretations can be further broadened into more specific behaviors or dimensions. This explicit description can be helpful when defining exact aims for students. The following examples are from a list which Paul and his colleagues developed to apply core critical thinking skills to learning situations. According to Paul (1987), "these strategies are broken down into three categories: affective strategies, macro-cognitive abilities, and micro-cognitive abilities. Examples are:

- Clarifying issues, conclusions or beliefs.
- Developing criteria for evaluation.
- Generating or assessing solutions.
- Making interdisciplinary connections" (McAllister, 2009, p.7).

McAllister asserts that this list of strategies provides an insightful look into how the definition of critical thinking could be broken down into very relevant classroom structures. While none of the lists of skills, dispositions or strategies can truly be considered exhaustive because of the lack of agreement on the underlying definition of critical thinking, the list by Paul and associates stands out because of its educational applicability (McAllister, 2009).

To conclude, according to Lai (2011), the definition of critical thinking remains unresolved. Although most researchers agree that critical thinking involves both skills and disposition, disagreement remains as to whether the disposition to think critically should be viewed in its normative sense in addition to its laudatory sense (Lai, 2011, p.12). The cultivation of the learner's habits and behaviors is a major focus within the areas of the critical thinking literature that deal specifically with methodology. That is, while skills remain at the core of educational programming, many authors see these habits and behaviors as necessary building blocks.

Although many of APA researchers in this panel agreed that dispositions were an important component, they disagreed on the particular role of dispositions within the definition of critical thinking, with some arguing that dispositions have merely a "laudatory role," and others maintaining that dispositions also have a normative role (Facione, 1990). That is, most researchers agreed that critical thinking is synonymous with "good thinking," in the sense that truly critical thought can only be exhibited by those with both the ability and the disposition to think critically. As such, a person who is capable of thinking critically and chooses not to do so is not a critical thinker. The assumption is that activity does promote critical thinking, but the degree of effectiveness that it has upon a student's actual cognitive behavior remains debatable (Lai, 2011).

2.2.3 The Relationship between Writing and Critical Thinking

There is an inevitable connection between writing and critical thinking because writing is thinking on paper. So, students who write a lot think a lot (Meyer, Sebranek, & Rys, 2011). Lev Vygotsky, A.R. Luria, and Jerome Bruner have pointed out that "higher cognitive functions, such as analysis and synthesis, seem to develop most fully only with the support system of verbal language, particularly, it seems, of written language (Vygtosky, 1962, as cited in Emig, 1977, p. 122). For the purpose of guiding students towards clear writing, critical thinking can be infused into each stage of the writing process.

According to Meyer, Sebranek, & Rys (2011), Paul Diederich, along with a group of experts, proposed seven traits of effective and clear writing. This framework is supported by many years of research:

Table 2

Seven Traits of Effective and Clear Writing

IDEAS	**ORGANIZATION**	**VOICE**
• focus on a main point. • Supporting points are logically developed and well explained. • Information is accurate, precise, complete, and current.	• The writing has a strong opening, middle, and closing. • The organization fits with the audience and purpose. • Details follow a clear order. • Transitions link sentences, paragraphs, and sections. • Lists make information accessible.	• The tone is positive, polite, confident, and convincing. • The piece shows attention to the reader and is convincing. • The voice connects with and encourages the reader.
WORDS	**SENTENCES**	**CORRECTNESS**
• Words are conversational and understandable. • Key words and technical terms are precise and defined. • Language respects gender, ethnicity, and ability.	• Sentences are concise and easy to read. • Lengths and patterns are varied. • Active and passive voices are used effectively.	• Grammar, punctuation, spelling, and mechanics are correct. • Correctness makes communication clear.
	DESIGN	
	• Format is complete and consistent • Page design makes the document attractive and easy to read	

Therefore, teaching clear writing through critical thinking can best be done with an understanding of the six levels of thinking that, to some extent, all of us use. Bloom's revised taxonomy identified six levels of thinking.

Table 3

Bloom's Taxonomy

	The Cognitive Process Dimension					
The Knowledge Dimension	Remember	Understand	Apply	Analyze	Evaluate	Create
Factual Knowledge	List	Summarize	Classify	Order	Rank	Combine
Conceptual Knowledge	Describe	Interpret	Experiment	Explain	Assess	Plan
Procedural Knowledge	Tabulate	Predict	Calculate	Differentiate	Conclude	Compose
Meta-Cognitive Knowledge	Appropriate Use	Execute	Construct	Achieve	Action	Actualization

(www.oregonstate.edu/instructourses/taxonomy/explain.htm)

Both clear writing and careful critical thinking require focus and attention. Certain critical thinking strategies can be used to encourage the seven traits of good writing mentioned above. To be more specific, practicing specific strategies, such as the ones designed and implemented in this study, can strengthen the ability to think well and thus to write critically and clearly. Obviously, there is an indispensable connection between the two activities. As a result, good writing becomes the outcome of using critical thinking.

Research on writing needs not only to examine the value of practices in the field of writing, but also to explore how to implement them in the classroom to the advantage of students. This study aims at bringing together the teaching of writing as process with the social and cultural in a Palestinian context. The second part of this literature review focuses on the research on ESL/EFL writing.

2.3 Research on ESL/EFL Writing

2.3.1 Introduction

In the past decade, the research on writing and writing instruction has grown dramatically. Writing research has been girded by national reform movements in the United States such as the Annenberg Challenge[6] and Accelerated Schools[7], which recognize writing as a key factor

[6] A national policy research and reform organization that works with urban districts and communities in the US to improve the conditions and outcomes of schools, especially in urban communities and in those attended by traditionally underserved children.

[7] The Accelerated Schools philosophy of powerful learning is based upon an approach in which learners construct knowledge and personal meaning from new experiences. In constructing their own understanding, students learn how to apply concepts, analyze information, and solve problems. Constructivist concepts are deeply embedded in the three Accelerated Schools principles: building on strengths, empowerment coupled with responsibility, and unity of purpose, as well as Accelerated School values, such as reflection, equity, participation, and risk-taking.

in students' academic lives; the National Writing Project (NWP), which is a nationwide network of educators working together to improve the teaching of writing in US schools and in other settings[8]; accompanied by the establishment of the National Center for the Study of Writing (NCSWL) [9] at the Graduate School of Education of the University of California at Berkley, which focused attention on conducting writing and literacy research, especially between 1985 and 1995. According to Sperling and Freedman (2001), "Parallel to this evolvement was the development of in-depth studies and theories about writing and learning from social, cultural, and cognitive perspectives" (pp.370). The context of this new educational climate is the growing diversity of the student population in the US. Student diversity has contributed to "mounting academic and popular concern for the writing and literacy skills of the students from varied linguistic, cultural and ethnic backgrounds" (Sperling and Freedman, 2001, p.370) and has involved both L1 & L2 learners.

Consequently, research on writing has wavered between researchers who believe that the topic of writing in particular witnessed a black period due to the lack of coherence in what to study, while others are optimistic about the progression of research on writing in the past decade. To them, there has been coherence in the study of writing if one subscribes to the philosophy that writing is inseparable from broader linguistic and communicative processes accompanied by the evolution in the study of language and critical theory. Hence, despite their different approaches, researchers have generally developed two related assumptions about writing pedagogy:

(a) Writing is a cognitive and social process, and

(b) Critical relationships exist between writing and other language processes.

These two related assumptions have led to the development of models for different writing processes.

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[8] *The National Writing Project is a nationwide network of educators working together to improve the teaching of writing in the nation's schools and in other settings. NWP provides high-quality professional development programs to teachers in a variety of disciplines and at all levels, from early childhood through university. Through its network of more than 200 university-based sites located in all 50 states, the District of Columbia, Puerto Rico and the U.S. Virgin Islands, NWP develops the leadership, programs, and research needed for teachers to help students become successful writers and learners. For more information, visit www.nwp.org.*

[9] The National Center for the Study of Writing and Literacy (NCSWL), one of the educational research centers sponsored by the U.S. Department of Education, has completed its mission and no longer functions as an independent entity. The center was based at the Graduate School of Education of the University of California at Berkeley, with a site at Carnegie Mellon University.

2.3.2 Models for the Writing Processes

Flower and Hayes's model (1981), and the Bereiter and Scardamalias's model (1987) have been frequently cited in English composition studies as they have directly shaped writing research for ESL/EFL learners who study English as a second language. Three main themes have emerged from studies about the development of writing:

- The differences between skilled and unskilled L2 writers;
- The varied classifications of writing strategies;
- The recognition of and emphasis on social and cultural aspects of the learning environment.

Inflamed by the strong cognitive perspective on writing that dominated the 1970s and 1980s, and fixated on the complexity and difficulty of writing, Flower and Hayes (1981) conducted what is arguably the most "influential study of writing for the past 25 years" (Graham, 2006, p.458). Flower and Hayes asserted that the "process of writing is best understood as a set of distinctive thinking processes which writers orchestrate or organize during the act of composing" (Sperling and Freedman, 2001, p.366). This approach reflected the general "cognitive revolution" that has continued to motivate much educational research in an attempt to establish a "cognitive paradigm" for understanding teaching and learning in relation to writing. This prevailing paradigm focuses on teaching students how to think and how to engage in problem solving and critical thinking through reasoning and critique during the study of diverse subjects including writing.

A natural outcome of this research has been the creation of models of writers' thought processes while composing such as the one created by Flower and Hayes who suggested that writing does not progress in linearly ordered stages, but rather flows recursively through a set of sub-processes that includes planning (generating ideas, setting goals, and organizing), translating (turning plans into written language), and reviewing (which involves evaluating and revising). Writers routinely use one sub-process to cycle into another, with many interruptions and sub-processes occurring in no fixed order (Flower & Hayes, as cited in Sperling & Freedman, 2001). Above all, this model views writing as a goal-directed and problem-solving process.

Flower & Hayes asked students to think aloud while composing. The purpose is to verbalize thoughts while students are writing. Their research paved the way for the examination of both the cognitive and psychological processes that are involved in writing, allowing them to construct a model of skilled writing that included three basic components:

task environment, cognitive processes, and the writer's long-term memory. More specifically, the task environment component involves external factors that influence the writing task. These include the writing topic, audience, and motivating cues. Another component, cognitive processes, provides a description of the mental operations employed during writing. These included planning, translation, and reviewing the text. The final component, the writer's long-term memory, included the author's knowledge about the topic, intended audience, and general plans for accomplishing the task. This model emphasizes three main principles: (a) writing is a conscious and self-directed activity that involves the intelligent use of a variety of mental operations, (b) the deployment of these operations does not flow in a linear fashion, but generally involves a complex interplay that is nested or interwoven together and (c) the writer must deal with many demands all at once (Graham, 2006).

A radically reduced version of the Flower and Hayes Model (1981) is that of Bereiter and Scardamalia (1987) who developed a model for novice writers which is referred to as knowledge telling and knowledge transforming. Bereiter and Scardamalia criticized the Flower &Hayes model for its methodology, which relied solely on protocol data, and for its inability to distinguish between skilled and unskilled writers. Bereiter and Scardamalia proposed that novice writers use a greatly simplified version of the idea generation process proposed in the 1980s. They convert the writing task into simply telling what is known about the topic. Their model has three main components. The first is the mental representation of the assignment, which involves understating and defining the function of the task. A second component is the long-term memory, which includes two types of knowledge: content knowledge, which is defined as what the writer knows about the topic, and discourse knowledge, which has to do with the writer's linguistic knowledge. The third and final component is the knowledge-telling process, which consists of several operations including making decisions on the actual topic, type of text, search and retrieval of information that can be transcribed into text. Bereiter and Scardamalia also proposed a more expert model of writing referred to as knowledge transforming. This approach to writing involves planning text content in accordance with rhetorical, communicative, and pragmatic constraints. All these processes are guided by the goals and constraints presented in problem analysis and goal setting.

However, Flower and Hayes (1981) argue that Bereiter and Scardamalia's theory is purely cognitive in nature and seems to ignore the social factors involved in writing (Abdullah et al., 2011). Another pertinent point that surfaced from their argument is that Bereiter and Scardamalia's model does not clearly indicate when an unskilled writer can progress or

develop his writing skills from knowledge telling to knowledge transformation during the process of writing (Abdullah et al., 2011). Furthermore, Myles (2002) points out that not all the components of the models presented earlier are appropriate in a second language (L2) context. The Flower and Hayes model, in particular, does not recognize cross-cultural differences and issues related to socio-cultural variation in the functions of the written language (Myles, 2002). Additionally, with native speakers, "writing ability is more closely linked to fluency in and familiarity with the conventions of expository discourse" (Kogen 1986, p. 25, as cited in Myles, 2002). L2 writers, however, are in the process of acquiring these conventions, and so they often need more instruction about the language itself. Limited knowledge of vocabulary, language structure, and content can inhibit a L2 writer's performance. In addition, the models do not account for growing language proficiency, which is a vital element of L2 writing development (Myles, 2002).

The critique that resulted from the models of writing paved the way for more research into the nature of L2 writing. To illustrate, the literature also reveals other inconsistent findings with respect to skilled and unskilled L2 writers (Abdullah, et al., 2011). For example, Zamel (1983) in his study on ESL students reports that, unlike unskilled learners, skilled learners focus more on meaning and only focused on form after describing their ideas. However, Raimes (1987) did not find any evidence to show that her unskilled learners were intimidated by errors in form. Sasaki (2000) reported that expert writers took longer time in planning a detailed overall organization, while the unskilled ones did less global planning[10]. She claimed that learners reported that expert writers took a longer time to determine their strategy use. While Chien (2008) agrees with Sasaki that skilled writers demonstrate more concern for global planning, he claims that skilled writers plan less. Yang (2002 as cited in Abdullah, et al., 2011) also observed differences between skilled and unskilled L2 writers in planning globally, generating ideas, and revising. Xiu and Xiao (2004) in their study on Chinese EFL strategies conclude that skilled and unskilled writers show differences in two writing strategies, namely organizing ideas and transcribing (Abdullah et al., 2011).

According to Abdullah and others (Abdullah et al., 2011), there are inconsistent findings in these studies, which may be attributed to the criteria used to classify L2 learners as skilled or unskilled. Different criteria are used in different studies. Zamel (1983) and Raimes (1987) designate their participants as skilled or unskilled on the basis of holistic assessment of their in-class compositions. Sasaki (2000) uses writing experience as a criterion, in addition to the

[10] Global planning is deciding how to organize the text as a whole.

holistic assessment of the participants. Xiu and Xiao (2004) differentiated their participants by their scores on a national English proficiency test. Yangt's (2002) participants are judged to be good or poor writers on the basis of their scores on two previous writing tests and a questionnaire. The different criteria used in the studies make it difficult to decide whether the writing competencies of the skilled and unskilled L2 writers are comparable across the studies. In this regard, Raimes (1985) cautioned more than twenty years ago that the validity of the criteria that differentiate skilled writers from unskilled writers should be a main concern in research design. Since the writing competence of the L2 writer can be influenced by many factors, the adoption of multiple criteria should contribute to more precise assessment of an L2 learner's writing competence in the target language (Abdullah et al., 2011).

This consideration motivated researchers, such as Abdullah et al. (2011) to adopt multiple criteria in classifying participants in their study. In their abstract, the researchers conclude that one of the most significant factors that affect the performance of those learning a second language is the difficulty of mastering writing skills. Their paper reveals qualitative research analyzing the written products and writing strategies of four ESL Malay undergraduate engineering students studying at a local private university. Specifically the study aimed to analyze their strategies for English composition using think-aloud protocols, written essays, post-session interviews, and audiotapes. The students are divided into two groups, one of good learners, and the other of weak learners. Analyses of the findings revealed that the two groups of students shared common cognitive writing strategies to generate ideas for their essays, and search for correct words or expressions. The difference between the two groups of skilled and unskilled students lay in the number of strategies being used, the reasons for their use, and the way the students regulated the strategies to solve problems concerning the writing task (Abdullah, et al., 2011).

Other significant factors affecting the process and products of ESL/EFL writing are illustrated by Angelova (1999). These factors include language proficiency, L1 writing competence, use of cohesive devices, meta-cognitive knowledge about the writing task, writing strategies, and the writer's personal characteristics. Among these factors, writing strategies seem particularly remarkable because many researchers (Arndt, 1987; Raimes, 1985; Victori, 1995; and Zamel, 1982, as cited in C Mu, 2005) claim that" it is primarily the writing strategies that separate successful from less successful writers" (C Mu, 2005, p.1).

According to C Mu (2005), one of the earliest studies on ESL/ EFL writing strategies is Arndt's (1987) investigation of six Chinese postgraduate EFL students as they produced

academic compositions in both their first and foreign languages. She adopts eight categories to code the strategies the students used in their writing, including planning, global planning, rehearsing, repeating, re-reading, questioning, revising, and editing. Arndt (1987) has used these categories to code Chinese students' writing strategies. However, Victori (1995) has identified seven types of writing strategies based on interviews and think-aloud protocol analysis. According to Victori (1995), planning strategies, monitoring strategies, evaluating strategies, resourcing strategies, and repeating strategies are all ways in which students use their mother tongues to generate new ideas, evaluate and make sense of the ideas written in their second language, or to find the right idea/word in their first language and then transcribe it into the second. Other researchers such as Riazi (1997), who conducted research on four Iranian doctoral students of education, divided the ESL/EFL writing strategies into three main categories, including cognitive, meta-cognitive, and social strategies.

After reviewing these studies on ESL/EFL writing strategies, it is evident that the classifications are "inconsistent and confusing" (C Mu, 2005. p.6). For example, Arndt (1987) puts planning and global planning into one category, while Victori (1995) and Sasaki (2000) divided planning into subcategories, including global planning and local planning. All these factors continue to affect writing instruction and the act of composition (C Mu, 2005).

To conclude, the development of English as second language (ESL) writing skills is very complicated, yet current studies mainly refer to the Flower and Hayes model as the criterion for exploring L2 writing One of the many challenges that affect the process of teaching writing is finding writing strategies that can shape different writers and "pave the way toward greater proficiency, learner autonomy, and self-regulation" among both skilled and unskilled L2 writers (C Mu, 2005).

2.3.3 Social and Cultural Perspectives

A third recurrent theme that emerges from the studies on writing regarding L2 writing development emphasizes the social and cultural perspectives. Over the past decade, the newly recognized theme of social and cultural perspectives on language and learning have forced many researchers on writing to offer alternatives to the cognitive theory of composing, which first attracted attention in the 1970s and 1980s (Sperling & Freedman , 2001). In sum, social-cognitive theories of writing examine how social contexts for writing operate together with the cognitive efforts of the writer, similar to how a person acquires a new language. However, the problem with applying L1 theories and subsequent models of instruction (such as the

process approach) to L2 instruction is that L2 writing also involves the cognitively demanding task of generating meaningful text in a second language. As a result, L2 students generally want more teacher involvement and guidance, especially at the revision stage. Consequently, in order to provide effective pedagogy, L2 instructors of writing need to understand the social and cognitive factors involved in the process of second language acquisition because these factors have a significant effect on L2 writing development (Myles, 2002).

This need can be seen when paying attention to cultural and social perspectives on learning to write. That is the main reason for this study; an attempt to bring together the cognitive with the social and cultural aspects into the writing classroom. In this respect, both Lev Vygotsky and Mikahel Bakhtin view language development as a process rooted in and inseparable from social relationships. Vygotsky's contribution to writing theory is a milestone for this study. His theories have forced writing researchers to pay attention not only to individuals learning to write but also to the social interactions through which he argues such learning occurs. He asserts that the social interactions between a child and others become for the child the raw material of thought. "Human learning," Vygotsky notes, "presupposes a specific nature and a process by which children grow into the intellectual life of those around them" (1978, p.88, as cited in Sperling & Freedman, 2001). Inspiringly, Vygotsky uses "the metaphor of buds or flowers that, with assistance, will bear fruit of independent accomplishments" (Vygotsky, 1978, p.88, as cited in Sperling & Freedman, 2001). These buds need to be nourished in the classroom through interactions which occur in the Zone of Proximal Development (the Zone) which is defined as, "the distance between the actual developmental level as determined by independent problem solving and the level of potential development under adult guidance or in collaboration with more capable peers" (Vygotsky, p.86, as cited in Sperling & Freedman in Richardson, 2001).

Following Vygotsky's lead, scholars, such as Bruner, Wood, and Ross have suggested that the learning process is one in which an adult or a peer acts as a scaffold to aid learning and development (Bruner, 1978; Sperling and Freedman, 2001). To do this, the adult or peer may perform part of the task for the learner, model the task, or in other ways offer guidance. Finally, real learning takes place when the scaffold is gradually withdrawn, and the learner takes over the task. In this way, learners begin to appropriate modes of speaking, acting, and thinking (Sperling and Freedman, 2001), and that represents their growth into the environment around them.

The implications of Vygotsky's theory for writing pedagogy is that to learn and develop as writers, and to "appropriate" (Vygotsky, p.86, as cited in Sperling & Freedman, 2001, p.374)

or organize the information, skills, and values associated with writing, students need to be engaged in social interactions that center around aspects that relate to their settings. These interactions revolve around aspects of the task of writing (including generating ideas, selecting language, and shaping and reshaping text) that they can't accomplish alone but they can accomplish with assistance. One likely reason for the acceptance of this theory is that, conceptually, this metaphor calls for socializing the students in meaningful contexts. This idea underpins the many calls to reform writing education in schools. In contrast, for other researchers, this metaphor is limited (Sperling & Freedman, 2001). Thus, "the metaphor of scaffolding has caught on, particularly for presenting a vision of classroom practice" (Sperling and Freedman, 2001, p.374). For example, Lawson (2002) asserts that:

> *Scaffolding in an educational context is a process by which the teacher provides students with a temporary framework for learning. Done correctly, such structuring encourages a student to develop his/her own initiative, motivation, and resourcefulness. Once students build knowledge and develop skills on their own, elements of the framework are dismantled. Eventually, the initial scaffolding is removed altogether; students no longer need it* (p.2).

One criticism is that this metaphor tends to highlight the teacher's role more than the student's in the learning interactions. Take, for example, Stone (1993), who suggests that the metaphor ignores the multiple communication mechanisms that learners and teachers employ in order for teaching and learning to take place. In particular, Stone singles out the linguistic and semiotic mechanisms of inference, through which learners come to share teachers' perspectives, the nature of teacher-student interpersonal relations, and, most importantly, the social value of the learning situations (Sperling &Freedman, 2001).

Despite this criticism, the Zone has occupied the minds of many researchers who are now studying specific interactive contexts in classrooms in order to understand their potential for the students' learning and development as writers. These interactive contexts can only appear when students attempt to actually "appropriate" the information and skills to create a particular written piece, or a student needs to adopt a particular social-cultural voice or speaking consciousness. Bakhtin suggests that the need for this particular voice to appear is bound to situate the learner in certain cultural and historical contexts (Sperling & Freedman, 2001).

Like Vygotsky, Bakhtin (1986) assumes the centrality and importance of social interactions in language and thought, but emphasizes the overlapping, intertwined, and interpenetrated nature of these interactions: "*Our thought itself—philosophical, scientific and artistic—is born and shaped in the process of interaction and struggle with others' thoughts*" (1986, pp.92-93, as cited in Sperling & Freedman in Richardson, 2001). For Bakhtin, language is nothing if not connotative, and is learned as such. This linguistic premise forms the basis of Bakhtin's idea of voice. How then, does Bakhtin view writing? To him, each piece of writing is composed from the writer's past interactions with the thoughts of others and of anticipated future interactions. Applying this theory to the classroom, it is assumed that students' writing is imbued with the viewpoints and values of multiple and sometimes competing voices. Another major implication of Bakhtin's theories for classrooms is that students' thinking and their written texts move inexorably toward reflecting the choices valued in the context. It follows that students' thinking and texts will be richer in learning contexts where multiple voices and multiple ways of voicing are welcomed (Sperling & Freedman, 2001).

To achieve such a learning context, teachers may need to open up their classrooms both to conventional academic texts and to texts that are not traditionally included in academic settings—incorporating various literary and nonliterary discourses form western and nonwestern cultures, ranges of genres reflecting students' social and cultural diversity, and non-verbal symbolic media, including gesturing, drawing, and signing. Towards this end, a study of non-academic contexts helps us to see beyond classroom genres to define discourses and texts broadly and to see both younger and older writers using combinations of verbal and nonverbal signs to make meaning (Sperling & Freedman, 2001).This implies that writing teachers need to incorporate defined discourses to establish literate meaning-making practices in schools and colleges. As Delpit (1995) argues, teachers will need to lead students to acquire the dominant discourse but, in the process, the students must find their own place within it.

According to Graham (2006), in the models reviewed so far, little attention has been granted to explaining how writers acquire the cognitive and non-cognitive skills underlying their writing performances. In his view, these models are snapshots of the complex processes undertaken at a particular developmental stage. An example is a model developed by Zimmerman and Risemberg (1997), which partially addressed this issue. Based on the theory of social cognitive learning, the model describes "self-initiated thoughts and feelings and actions that writers use to attain various literary goals including improving their writing skills as well as enhancing the quality of the text they create" (Zimmerman & Risemberg, p. 4, as

cited in Graham ,2006). According to this model, self-regulation occurs when writers use personal processes to strategically regulate their writing behavior or their environment. This model proposed that writers manage the composing process by bringing into play self-regulatory strategies for controlling their actions, their writing environment, and their internal thoughts by monitoring, evaluating and reacting to their own thoughts. Learning in this model is determined by interactions between personal processes, as well as behavioral and environment events (Graham, 2006).

The Zimmerman and Risemberg (1997) model is limited, as it does not address the effectiveness of the interactions between self-regulation and other processes involved in writing, such as the working memory or text transcription, however it does contribute to the description of the composing process for three reasons, as Graham outlines: (1) it offers an explanation of how writers exert deliberate control over the act of writing; (2) it provides a description of how writers' beliefs about competence influence and are influenced by their self-regulatory actions and subsequent performance; and (3) the model not only describes what writers do, but also the process of change through which writers acquire new self-regulatory behaviors (Graham, 2006).

To comment on the models described earlier and since the advent of the Flower and Hayes model in 1980, more sophisticated models have emerged. Graham (2006) used a metaphor to describe these models as "incomplete paintings" (p.462). He states that descriptions of the broader contextual, cultural, and social influences on writing remain "*untouched"* in the cognitive models reviewed in many studies about writing. He also believes that there is a need to create models that capture what the writing process looks like at different levels of development, addressing how writing development takes place, and building on Zimmerman and Risemberg's model (1997). Such models "would especially be useful in designing writing interventions as they would provide both development and theoretical guidelines" (Graham, 2006, p.462).

To conclude this section, the research on writing indicates that despite the fact that the process of writing may not be fully understood, the road from novice to expert writer is likely paved by changes in the writer's self-regulatory or strategic behavior, basic writing skills, knowledge, will, and motivation. One common point of agreement in the models that were described above is that skilled writers are writers who are self-directed within the process of writing. Another ingredient is the element of planning. Flower and Hayes found that 80 percent of the content offered by skilled writers comes from focused planning. That is, planning can differentiate a skilled writer from an unskilled writer, as mentioned in the

previous studies. The third ingredient is revising, which also plays an important role in the development of writing because it requires considerable cognitive processing. Finally, knowledge and the types of knowledge are important for the progression of writing.

Thus, to Graham (2006), empirical data about transfer of knowledge is thin, yet there is cumulative evidence that supports the position that writing development is shaped by changes in writing knowledge. The question at this point is, if these four factors: self-regulation, planning, revising, and knowledge, which are essential for the development of writing, exist in the class, will the painting become complete? Will the outcome be better writers, or is there something else missing? Clearly, there is a huge gap between theory and practice on writing. Finally, with reference to the writing models, Graham's analysis of how writing develops continues to be an "incomplete painting." The current study is an attempt to fill a few of these gaps in the field of L2 writing, specifically at the college level.

2.3.4 The Status of Writing and Critical thinking at the College Level

Written communication skills and complex reasoning through critical thinking are widely assumed to be at the core of college education. A 1972 study of 40,000 faculty members done by the American Council on Education found that 97 percent of the respondents indicated the most important goal of undergraduate education is to foster students' abilities to think critically (Paul, 2004).

However, what is the current state of critical thinking in higher education? This question is addressed by Paul (2004) in his article "*The State of Critical Thinking Today*." He announces sadly that the studies of higher education demonstrate some disturbing facts: (1) most college faculty at all levels lack a substantive concept of critical thinking, and (2) lecture and rote memorization are still the norm in college instruction and learning. Research demonstrates that critical thinking is not fostered in the typical college classroom. Paul supports this statement by referring to Lion and Gardner (1995) who documented the following disturbing pattern, " faculty aspire to develop students' critical thinking skills, but research consistently shows that in practice, we tend to aim at facts and concepts at the lowest cognitive levels rather than development of intellect and values" (Paul, 2004, p.2).

Recently, in an unprecedented study, *The Hechinger Report* (2011) published by Rimer from the Teachers College at Colombia University, researchers observed the cognitive growth of several thousand undergraduates through four years of college. They found that large numbers didn't learn the critical thinking, complex reasoning, and written communication

skills that are widely assumed to be at the core of college education. Many of the students graduated without knowing how to sift fact from opinion, make a clear written argument, or objectively review conflicting reports of a situation or event (Rimer, 2011).

In criticism of the status of college writing, Prince (2007) also expressed his concern about the status of writing at the college level. In his essay, "*A New Beginning in College Writing,"* he expresses his concern about the confusion over what "student-centered" really means. He describes an educational philosophy that has dominated high school English and college composition for the past quarter century. He questions its "dubious oppositions" (Prince, 2007, p. 2) between student-centered approaches, process-and-product writing, teacher-centered approaches, passive reproduction, and active critique. He believes that the process-based approaches tend to put a self-conscious, methodological spin on writing. Teachers confuse stages of learning with reflection on learning and, for him, this is not enough, as students are "led unobtrusively" (Prince, 2007, p. 3). To him such strategies overload students, and "process becomes its own product because they place fluency before correctness, expression before form, and personal voice before public discourse" (Prince, 2007, p. 3-4).

Further, in another "provocative piece" in the weekly *Chronicle Review*, "A Rescue Plan for College Composition and High School English," Prince (2009) continues to argue that college composition classes should be reformatted entirely. In the discussion following the article, many teachers agreed with him, but there were many who didn't. He raised a probing question with regards to writing and critical thinking, arguing that "The assumptions of the critical-thinking movement have had a deleterious effect on college composition and its forced imitator, high-school English- What if it has all been a huge mistake?" (Prince, 2009, p.1). He elaborates by saying that the critical thinking, reading, and writing movement is obsessed with the process of thinking yet at the same time deprives students of basic rhetorical techniques in writing. There is a rush to make them critical and that, to him, doesn't make sense" (Prince, 2009, pp.1-2). Despite the disagreement over what Prince is advocating, and in defense of the Prince, there is real value in pushing forward these foundational questions of pedagogy: how can we best help our students learn to read and write at a college level?

One important finding emerges from these criticisms about teaching writing which is that the infusion of critical thinking strategies may reinforce writing, and therefore, there is an urgent need for more empirical studies that capture the pedagogical implications of actual

written compositions in the L2 English writing classroom. This is the main purpose of this study.

A basic premise of this study is that the cognitive school of thought is the most effective approach to explore real and actual practices of writing at the college level. It maintains that writing does happen in "steps," but they are not necessarily always in the same order, since it is the fluid process of moving back and forth between processes that makes up the act of clear writing (Rose, 1985). Despite the tremendous interest in how to teach writing through critical thinking, pedagogical problems still remain. And, as is evident from the studies mentioned earlier, the language of writing instruction at the college level has to be addressed thoroughly in L2 classes, which require students to write clearly using complex reason and critical thinking. How then, can EL writing teachers take advantage, in their process-pedagogies, of certain powerful critical thinking strategies? In order to address this issue, it is necessary to point out the importance of considering the teaching of writing as a method of instruction in English L2 classes.

2.3.5 Teaching Writing

Teaching writing continues to be a challenge for teachers, including the researcher herself. Many English language teachers and scholars continue to offer remedies for effective and good writing, famously known as the stages of an effective writing process. The writing process presents students with a step-by-step procedure that leads to the completion of a piece of writing. Students follow a formula to solve a math problem, and so they can follow this procedure to produce the best five-paragraph piece of writing possible. These stages include *pre-writing, writing, revising, editing, and handing in assignments to the teacher.* Therefore, good writing is largely the result of taking the right five steps to create an effective writing process for writing in the five-paragraph form.

There is a debate in US universities between the traditional approach to writing that gives preference to structured writing and another approach that advocates free writing, or "lets students write what they want," especially at the university level. But, both sides agree that writing must be in the form of what is called an essay**.** Essay writing, especially at universities, requires students not only to demonstrate their understanding of a given topic, but more importantly to demonstrate their ability as independent thinkers in academic settings.

2.3.5.1 Essay Writing

There is no doubt that the essay is a well-established genre in higher education. Originally, the word, essay, goes back in history 400 years to Michel do Montaigne, a lawyer who devoted his life to observing the world and writing about it. Four centuries later, Montaingne's writings make for remarkably good reading, for he was a brilliant thinker and writer who also happened to invent one of the major literary forms. Montaingne's *Essais* is a collection of his writings, most of them brief and on a single subject. The French word *essai* means literally "attempt." Figuratively, it means "excursion" or "exploration" (Pharr & Buscemi, 2005).

The most important idea that lies behind the form "essai" is that it should reflect options *or possibilities,* as reflected in Montaigne's sense of the essay. The essay is only one form of writing practiced in the academic and business world. Nevertheless, many students dread the thought of having to write an essay. Some witness such assignments as a needlessly formal, artificially narrow means of judging their writing, while others fear the idea of writing and thinking seemingly altogether. However, and according to Pharr and Buscemi (2005), there are three good reasons why it is essential to learn how to write essays:

- Someone who can write a solid essay proves that he or she can communicate effectively with educated readers;
- Essays provide an unparalleled opportunity for readers to judge someone's critical thinking, organization, and language usage;
- The writer of a successful essay has thought through the topic, taken "ownership" of the developed topic, and worked through the stages of the writing process. Therefore, creating a quality essay can be a source of pride.

Essays may be written on all kinds of subjects, and they can be long, sometimes approaching 25,000 words. However, the essays that students are asked to write in college are much shorter. The normal procedure is that students are asked to choose a topic or are given one to write about. Then they consider the topic, plan the essay, organize it, and develop it by providing examples, experiences, and other information. At the same time, students must follow the rules of what is called "proper English" and usage of grammar and mechanics (Pharr & Buscemi, 2005). The good news is that there is no single or perfect way to write an essay. Despite the fact that essays appear in many different forms, every essay has two features. First there is the rhetorical context, which is the reason that the essay exists. The writer must have a clear purpose and audience. The second feature is the rhetorical structure,

which is the way the writer chooses to shape the essay so it best fulfills that purpose and reaches that audience. Traditionally, there are four main categorical purposes for writing: (1) to express (2) to inform (3) to entertain, and (4) to persuade. These four categories are starting points that may lead the writer into a world of options that will enable them to decide how to write.

The essay is central to assessment in higher education. Andrews (2001) points out a number of reasons that can be given for the centrality of the essay in higher education. First, it is a genre and text-type in which explicitness is a key characteristic. In an essay, "you spell out connections" (Andrews, 2001, p.3). Secondly, the essay sits firmly within the rationalist and the humanist paradigm, which is a well-supported belief that discourse in words is important and that the presentation and exchange of ideas is fundamental to civilized human discourse. It is a genre that lends itself to persuasive discourse where ideas are "paraded, supported by evidence, linked to meaningful sequence, and commented upon to persuade the reader of the position" (Andrews, 2001, p.3). These qualities, Andrews argues, make the essay "assessable" in the academic field.

Recently, a study announced the death of the essay in its five-paragraph format. According to the article, titled "*Bid Goodbye to the Five Paragraph Essay*," published at the University of Southern California (2010), the traditional five-paragraph format may help the writer get started, but it will very soon begin to hinder any further progress. The article claims that students need to write what they want to write. That is, restricting the format to a five-paragraph essay inhibits the student's free and creative expression. Not all ideas lend themselves to full development in five paragraphs because some ideas may require four or six paragraphs (*Bid Goodbye to the Five Paragraph Essay*, 2010). Therefore, it is necessary to be aware that (1) the five-paragraph form is entirely artificial because it does not relate to any form of academic discourse; (2) it also depends upon categorical scheme of organization that divides any topic into three main reasons using the body part of the essay in its three-paragraph form; it has neither the flexibility nor the range to address the complexity of most college writing assignments. Worst of all, the article concludes, this five-paragraph format stifles the writing process and encourages poor writing habits, since it does not foster thought or creativity and thus undermines the entire notion of pre-writing in general and innovation in particular. This format simply insults the intelligence of the reader, ignoring their needs and interests (*Bid Goodbye to the Five-Paragraph Form*, 2010). However, there are other scholars like Andrews (2001) who believe that the essay is not dead because of its flexibility and ability to adapt to different functions.

One distinction that the article points to is that the only “rationale” for keeping the five-paragraph essay form is teaching a non-native English speaker the structure of the “traditional” five-paragraph essay. According to the article, one of the greatest weaknesses of non-native speakers of English is their organization of ideas. Therefore, non-native speakers of English need to focus on organization first. Moreover, the five-paragraph essay is the most effective foundation for all writing skills because its organization makes it easy for the reader to understand what the writer is trying to say.

2.3.5.2 The Mode of Persuasive / Argumentative Essays

While some argue that this era marks the end of the essay, others argue for the effectiveness of selecting certain functions in essay writing that are best suitable for teaching writing through critical thinking in higher education, such as the persuasive or argumentative essay. For example, Avery (1994), in his article “*Critical Thinking Pedagogy: A Possible Solution to the Transfer Problem,”* emphasizes that the use of a model of persuasive or argumentative essay in specific is an effective way to teach critical thinking skills, since it can help provide some “transfer-inducing instruction” (Avery, 1994, p.50). However, Thomas Newkirk argues in his article, *“Critical Thinking and Writing: Reclaiming the Essay”* (1989), that the traditional argumentative essay that has its thesis in the first paragraph gives too much away too soon, which takes away from the enjoyment of the reader who wants some exploratory intrigue. To Avery (1994), this is an unwarranted objection because the foremost purpose of the argumentative essay is not enjoyment but clarity. Starting the thesis statement in the first paragraph instead of later on only facilitates clarity for the reader, who then knows exactly what is at issue. Furthermore, the thesis-controlled essay does not take away from the exploratory intrigue of reading, for the reader still has the critical task of determining whether the author has succeeded in proving the case or not, which is an exciting activity in itself (Avery, 1994). Thus, there is affirmation that writing as a process can be empowered by using critical thinking as a tool especially in persuasive or argumentative essays. In fact, the argumentative essay, as a form of writing, is the effective tool to develop thinking and writing.

2.3.5.3 The Stages of Writing

Harmer, in his book *How to Teach Writing,* calls the stages of writing a shopping list. He argues that this shopping list may not seem to provide an example of sophisticated writing, but it nevertheless tells us something about the writing process. It does provide evidence of the progression that the writer goes through in order to produce something in its final written form. This process may be affected by the content of the writing and the type of the writing, in addition to the medium it is written in. Thus, he agrees with the fact that there are four main elements: planning, drafting, editing, and the final version (Harmer, 2004).

Harmer provides insight into the link between how we consider writing and how we teach it in the form of an essay. Many traditional approaches, for example, failed to incorporate these kinds of insights into the writing process. To comment on this, it may be that "insight" for Harmer is the same as "inspiration" for Draayer (1990), and the same as reflective thinking for Dewey. Harmer provides a simple explanation here. In some teaching, students write a composition in the classroom, which the teacher corrects and hands back the next day covered in ink, often red ink. The student puts the corrected piece in his folder and the words are then buried for years. For years, this has been the case. The teaching of writing has been focused on writing as a product rather than the process. The student's attention in the use of the five-paragraph form is geared towards the "what" rather than the "how" of text construction. Harmer, in this regard, suggests three main concerns: (1) how to get students to plan, (2) how to encourage them to draft, reflect, and revise, and (3) and how to respond to our students' writing, or feedback.

To support Harmer's view, both the Flower and Hayes (1981), and the Bereiter and Scardamalia (1987) writing process models serve as the theoretical basis for using the process pedagogy approach in both L1 and L2 writing instruction. Writing instruction is a key element in the success of a good writing class. For example, by incorporating pre-writing activities such as collaborative brainstorming; a choice of personally meaningful topics; strategy instruction during the stages of composing, drafting, revising, and editing; multiple drafts; and peer-group editing; then the instruction is taking into consideration what writers do as they write. In addition, attention to the writing process stresses more a workshop approach to instruction, which fosters classroom interaction and engages students in analyzing and commenting on a variety of texts. The L1 theories also seem to support less teacher intervention and less attention to form.

Research has also identified other key processes of good writing in its different stages, such as the pre-writing stage, which is, according to Rohman (1965), "the stage of discovery in the writing process." To him, the process of writing is continuous growth and change. He was concerned with pre-writing for two reasons: it is crucial to the success of any writing that occurs later, and it is seldom given the attention it consequently deserves (Rohman, 1965). Pre-writing as a key factor for success is also identified by Berkenkotter (1982)who found out that expert writers are able to plan their writing better than novice writers (Sasse & Fitzpatrick , 2004). This finding has led Berkenkotter (1982) to suggest that students must be given exploratory opportunities to engage in explicit pre-writing activities. This process pedagogy approach allows time for students to think and to make revisions to their initial thoughts (Sasse & Fitzpatrick, 2004).

As Rohman (1965) indicates, pre-writing or planning is often a neglected or underestimated area in the study of L2 writing. Kellog (1990), in his study "*Effectiveness of Pre-writing Strategies as a Function of Task Demands,"* found the pre-writing process to be more effective than other strategies. College students wrote a short informative essay calling for analytical thinking. The students began drafting without any pre-writing time. They first prepared a hierarchical written outline or a visual network of ideas and their relations through clustering. Task demands were also varied. The writing task demanded generation and organization of ideas, provided suggested ideas for the topic, and provided both ideas and a possible organizational scheme. The quality of the documents, in terms of content and style, the fluency of composing, and characteristics of the pre-writing plans generated by outlining and clustering were measured. The results show that outlining significantly improved the overall quality of documents and the fluency of drafting the text. Clustering increased the number of ideas generated during pre-writing, but had no impact on document quality and actually cost writers in terms of composing fluency based on total time spent on the task (Kellog, 1990).

Likewise, Torrance and Robinson (1994), in their study "*The Writing strategies of Graduate Research Students in the Social Sciences,"* used the cluster analysis at the pre-writing stage to identify three distinct groups of students in terms of the strategies they used when writing: "planners," who plan extensively and then make few revisions, "revisers" who develop content and structure through extensive revision, and "mixed strategy" writers, who both plan before starting to write and revise extensively as part of their writing processes. The planners reported higher productivity than both the revisers and mixed strategy writers. Planners and revisers did not differ significantly in how difficult they find writing to be, but

planners find writing less difficult than the mixed strategy writers. The researchers conclude that working from a plan can be an effective writing strategy for some, but that planning is neither a necessary nor a sufficient condition for writing success (Torrance & Robinson, 1994).

Unlike, Torrence and Robinson (1994); Hayes and Nash (1996) considered planning to be a type of reflection to be examined along with other reflective processes. They argued that planning can be distinguished from other types of reflection because it occurs in an environment different from that of the task itself. They argue that there are two types of planning: process planning and text planning. Process planning is focused on the writer and how the task is to be performed, whereas text planning is focused on the content and form of what is to be written. This can entail abstract text planning that leads to the production of ideas, notes, and outlines involving content and rhetorical organization, language planning, or both. According to Hayes and Nash (1996), a number of studies that investigated the effect of planning concluded that "the effect of planning on text quality is almost entirely attributable to time on task" and that "planning is neither more nor less valuable than other writing activities" (p. 53). In other words, planning leads to better-quality texts and greater fluency in writing simply because it affords learners more time overall to be spent on writing (Hayes & Nash, 1996). Therefore, whether planning is an effective tool in the pre-writing stage or it is only one more valuable tool that is added to the writing process remains questionable.

Clearly, the pre-writing stage can nurture good thinking too. Advocates of critical thinking encourage teachers to opt for maximum exploration to provoke thinking in that stage. For example, Meyers (1986), argues that teachers ought to begin every class with "something that is a problem or a cause for wonder" (p.44, as cited in Bean, 2001). Bean (2001) adds that presenting students with problems in an early stage evokes their natural and self-fulfilling desire to know. He distinguishes between any problem and the nature of the so-called problems that we need to design for our students. He says that "not all problems are academic problems" (p.3). To grow as critical thinkers, students must develop the mental habits that allow them to experience problems phenomenologically in order to understand what makes a problem actually problematic (Brookfield, 1987).

Similarly, Paul (1987) argues that thinking involves entering imaginatively in the pre-writing stage into opposing views to create "dialogic exchange" between our own views and those whose thinking differs substantially from our own (Bean, 2001). Kurfiss (1988) likewise believes that critical thinkers pose problems by questioning assumptions and aggressively seeking alternative views. For her, the prototypical academic problem is "ill-

structured," in that it is an open-ended question that does not have a clear and right answer and therefore must be responded to with a proposition that is justified by reason and evidence (Kurfiss, 1988). To further explore the connection between critical thinking and writing, Bean (2001) says, "writing is the process of doing critical thinking and a product communicating the results of critical thinking" (p.3). For him, writing instruction "goes sour whenever writing is conceived primarily as a 'communication strategy' rather than as a process and product of critical thought" (p.3).

To conclude, writing grows through critical thinking. Critical thinking can't simply be a description of facts and ideas; it requires skillful writers who can increase their knowledge to create cohesive logical arguments to support their views on paper. University writing is not creative writing or writing only for yourself. It is about persuading others that you are part of an academic community, and that your thoughts are "quality thoughts." They need to be thoughts that come from thinking critically, and they need to be able to withstand the critical analysis of others. Finally, Paul and Elder (2006) identify nine qualities that are typical of good critical thought that are also considered standards for critical thinking instruction:

1. CLARITY. Are you being as clear as possible? Have you done everything possible to make sure that your reader understands exactly what you have to say?
2. ACCURACY. Is your evidence correct? Have you cited your sources so that your reader can check on your data for herself? Have you avoided sloppy errors?
3. PRECISION. Have you been as exact as possible? Can you be less vague about certain claims?
4. RELEVANCE: Is it clear how everything you say relates to the problem that you are tackling?
5. DEPTH: Have you dealt with the complexities at the heart of the problem? Are your analysis and evidence superficial? Is there another side to the story that you have neglected?
6. BREADTH: Can this problem be looked at from a different point of view? Is your analysis too one-sided?
7. LOGIC: Is your thinking logical? Does your argument make sense? Do your points really do what you say that they do?
8. SIGNIFICANCE: Have you dealt with the issues that are most important or have you been focusing on something that is relatively trivial?
9. FAIRNESS: Have you made an effort to acknowledge and overcome your prejudices or vested interests in this topic? (Paul & Elder, 2006, p12).

2.4 Summary of Linking Writing to Critical Thinking

Although capturing the writing development is a complex and somewhat uncertain process, the evidence that is suggested by the existing models implies that growth in writing is shaped by changes in knowledge, skill, will, and self-regulation (Graham, 2006). In addition, the process-pedagogy is a rich approach for teaching L2 writing. Teaching writing through critical thinking can be enhanced in different stages of the writing process, especially in the pre-writing stage, which is a neglected area of research. Studies also indicate that these factors vary based on the context examined by the learner, yet all these variables play an important role in transforming learner's capabilities (Graham, 2006). Further, social and cultural factors play a significant role in L2 writing and writing instruction. Taken together, these conclusions have several implications for the teaching of writing**.**

Writing programs should be designed so that they promote the development of the skills, knowledge, and self-regulation strategies needed to write effectively, as well as enhance the writer's motivation. Also, it should be possible to teach reading so that it promotes writing development. Because the correlations between writing and reading are far from perfect, it is necessary to provide separate instruction and experiences in each domain, while taking advantage of how the two disciplines can be mutually supportive (Graham, 2006).

Another implication from the literature reviewed is that a "one size fits all model of instruction is not appropriate. Writer's instructional needs vary depending on their knowledge, skills, will, and self-regulation" (Graham, 2006, p.468.) However, instruction in writing is still an essential component. A final implication is that writing development takes place over a long period of time. Thus, the effective teaching of writing is never limited to one teacher or one setting. Instead, it requires a coherent, coordinated, and extended effort in schools and colleges. Scientific data about the effective teaching of writing has not been rich enough to allow researchers to draw a roadmap, yet many attempts have been made to provide effective strategies that incorporate the different elements needed to create a rich process. This study is one of them. Graham (2006) provides three basic principles, based on his own research, that provide teachers with some basic instructional strategies:

- Principle 1: Directly teach writing strategies, skills, and knowledge. It is necessary to directly teach writing, skills, and knowledge that enhance writing development. Modeling is a key factor in the success of this principle. The aim of this instruction is to improve the tools that students bring to the task of writing. One strategy is to directly teach them how to plan and revise.

- Principle 2: Structure the writing environment to maximize students' success and learning. Teachers need to put into place procedures and activities designed to help students be more successful when they write. This includes creating a rich environment in which they can flourish.
- Principle 3: Facilitate writing development through peer interactions. Other classmates play an important role in facilitating writing development. Peers can help with planning, revising, and drafting, and they can reinforce the mastery of skills and strategies as taught by the teacher.

To conclude on this section, skills such as dialogic thinking, peer interactions, and preference of the mode of writing are valued to promote writing. Based on Bean (2001), dialogic thinking skills are appreciated in essay writing. Also, teaching argumentative writing means reinforcing the thinking processes that underlie academic inquiry. To promote the teaching of writing through thinking teachers need to make the design of writing assignments a significant part of course preparation and adopt teaching strategies that give students repeated, active practice to explore questions and problems. Additionally, it is important to emphasize inquiry, question asking, and "cognitive dissonance" (Bean, 2001, p.35). Writing is not "a pretty package for disguising ignorance," rather, it is a way of discovering, making, and communicating meanings that are significant, interesting, and challenging (Bean, 2001).

2.5 The Use of Cooperative Learning in Teaching Essay Writing

2.5.1 Introduction

One of the best ways to promote writing through critical thinking as a tool is to foster productive and participatory interactions among peers using goal-directed cooperative learning as teaching paradigm .Critical thinking and interaction are processes that nurture writing. However, neither skill can be mastered without practice. In college teaching, a paradigm shift is taking place. According to Johnson, Johnson, & Smith (1991), "minor modifications and adjustments in current teaching practices will not solve the problems of college instruction. Teaching success in today's world requires a new approach to instruction" (p.1). This study aims at implementing a new approach in instruction, teaching writing through critical thinking in a cooperative environment.

We, as educators, desperately need to break loose from the notion that critical thinking is sufficient. It is not. Critical thinking in isolation is like an empty vessel. If left alone, it can

deteriorate. According to Debono (1994), awareness is a dynamic tool to nurture critical thinking. Without it, our thinking will stay trapped within a pattern that governs our behaviors. Therefore, it is necessary to create "attention-directing" tools in settings that foster discussions and debates in order to use critical thinking as a tool to teach writing.

Meaningful discussions that facilitate reflective thinking can be initiated when learners raise thoughtful questions or provide critical feedback. From an educational perspective, Duron et al. (2006) define critical thinking as the "ability to analyze and evaluate information. Critical thinkers raise vital questions and problems, formulate them clearly, gather and assess relevant information, use abstract ideas, and think open-mindedly to communicate effectively" (p.160). To communicate effectively means that students need to interact and cooperate. The terms "collaboration" and "cooperative learning" have a long history in education. In the early 1900s, Dewey criticized the use of competition in education and encouraged educators to structure schools as democratic learning environments. These ideas fell out of favor in the 1940s and 1950s. In the 1960s, there was a swing back to individualized and cooperative learning structures, stimulated in part by concerns related to the Civil Rights Movement (Woolfolk, 2001).

Today, constructivist interactive learning is another structure that is often used in developing the writing process because the structures emphasize many of the behaviors which are seen to promote good thinking habits which lead to clear writing. It involves private speech which guides the thinking process while writing. To illustrate, the development of language is a major principle in Vygotsky's socio-cultural theory. One important aspect of language development involves private speech. Private speech is self-talk children (and adults) may use to guide actions and aid in thinking. While Piaget may view private speech as egocentric or immature, Vygotsky understood the importance of self-directed speech. Private speech is considered to be self-directed regulation and communication with the self, and becomes internalized after about nine years (Woolfolk, 2001). Internalization, which is private speech that develops from social interactions, serves to transfer knowledge, when acquired, to a peer. Vygotsky also emphasized the importance of cultural tools in cognition. Cultural tools can be any technological or symbolic tool that aids in communication (Woolfolk, 2001). Language, the media, television, computers, and books are only a handful of all the cultural tools available for problem solving or learning. Higher-level processing is "mediated by psychological tools, such as language, signs, and symbols" (Woolfolk, 2001). After receiving guided help, learners internalize the use of the cultural tools and are better able to utilize them in the future on their own (Woolfolk, 2001). To employ the Zone

effectively, students need efficient interaction through dialogue. Cooperative learning is the appropriate approach for such an endeavor.

As an instructional method, cooperative learning has emerged as an alternative to traditional methods. It has a long history in American education, going in and out of fashion over the years. According to Webb and Palincsar, evolving constructivist perspectives have demonstrated interest in situations where elaboration, interpretation, explanation, and argumentation are vital to the activity of the group where learning is supported by other individuals (Webb & Palincsar, 1996).

The "new wave" of cooperative learning appeared in the early seventies, following the pioneering work of Dewey and, later, Meil & Thelen in the 1950s. Yet the challenges of educating teachers to employ cooperative learning methods and implementing those methods in schools and at universities still remain. According to Sharon (1994), cooperative learning seems to have become, or is on the road to becoming, an integral part of the instructional repertoire of many schools. However, it is not yet widely employed at schools or universities, and its impact on classroom organization and procedures in secondary education has yet to be noticed. Even if it is implemented, its degree of effectiveness is debatable. Further, cooperative learning at the high school level has not been explored sufficiently in systematic research. Over the past three decades, it has become increasingly apparent to the proponents and investigators of cooperative learning that adoption and institutionalization of such an approach in instruction requires system-wide changes in school organization and function. Cooperative learning at its simplest transforms the classroom from a collection of individuals to a network of groups. That alone alters the social structure of the classroom from one of being an audience to a social system comprised of interacting parts (Sharon, 1994).

The terms "group learning" and "cooperative learning" often are used as if they meant the same thing. Actually, group work is simply several students working together. They may or may not actually be cooperating. According to the Johnsons, there are three basic ways students can interact with each other as they learn. They can *compete* to see who is "best," they can work *individualistically* on their own toward a goal without paying attention to other students, or they can work *cooperatively* with a vested interest in each other's learning as well as their own. Cooperative learning as a concept is defined as the instructional use of small groups so that students work together to maximize their own and each other's learning. The main goal for grouping is to achieve an academic goal (Johnson & Johnson, 1989). Cooperation, a form of collaboration, is "working together to accomplish shared goals" (Johnson & Johnson, 1989, p.2).

2.5.2 Models of Cooperative learning

There are seven generic methods of cooperative learning that can be applied to a wide variety of subject matter or used in the teaching of integrated or multidisciplinary curricula. The **first** one is called *Student Teams-Achievement Decisions (STAD),* which are a set of instructional techniques developed and researched at Johns Hopkins University and designed by Slavin (1978), collectively known as Student Team Learning. This method is based on the idea of having students work in cooperative learning teams to learn academic objectives. It emphasizes the use of team goals and team success.

The **second** model is called *Team Assisted individualization (TAI).* It is a comprehensive model that was designed by Slavin & Madden (1995) targeting specific subject domains like mathematics. This program specifically combines cooperative learning with individualized instruction to meet the needs of diverse classrooms. The **third** type is the *Jigsaw Method* where groups share two kinds of interdependence in living and working together. They depend upon one another to achieve tasks. Members of effective groups bring together diverse strengths, interests, expertise, and knowledge to reach goals that surpass those that can be achieved by individual members (Sharon, 1994).

A **fourth** type is called *Group Investigation in the Cooperative Classroom*, which was designed by Sharon and Sharan (1994). This advanced level comes after teachers incorporate a series of cooperative learning methods. As students become more confident, they join in investigation groups. Investigating in groups calls for students to use all the interpersonal and study skills acquired in other cooperative learning methods and to apply them to the planning of specific learning goals. The **fifth** approach is presented by Kagan and called *The Structural Approach: Six Keys to Cooperative Learning*. The basic premise of this approach is that there is a strong relationship between what students do and what they are learning. That is, interactions in the classroom have profound effect on the social, cognitive, and academic development of the students. The **sixth** method presented by Feldman and Ellis is entitled *Creating Thought-full Classrooms* and aims at fostering cognitive literacy via cooperative learning and integrated strategies instruction. This method draws from the cooperative learning school and the thinking improvement schools of instruction (Sharon, 1994).

The **seventh** model, which is implemented in this study, is the Johnsons' model of Cooperative Learning. This model was developed by David and Roger Johnson (1974) of the University of Minnesota. It is one of the most widely used models of cooperative learning in higher education. The rationale for choosing this model is that "its conceptual framework is

based on an interaction among theory, research, and practice." (Johnson & Johnson, 1975, p.17). To illustrate, approaches to implementing cooperative learning may be placed on a continuum with conceptual application at one end and direct application at the other. These direct applications include strategy, curriculum, and lesson planning. Conceptual approaches to cooperative learning have been developed by Cohen (1986), and the Johnsons' (1970). Therefore, the Johnsons' model is characterized by being based on theory that is validated and is operationalized through the five elements identified as essential to cooperative efforts. Such elements must exist for cooperation to take place. Each cooperative lesson or activity should include the essential components that make cooperation work. The five elements include: positive interdependence, face-to-face interaction, individual accountability, social skills, and group processing (Johnson & Johnson, 1975).

2.5.3 The Johnsons' Model of Cooperative Learning

There are three types of cooperative learning procedures that should be used in an integrative way while working in groups:

- **Formal cooperative learning groups**

  This type of learning ensures active cognitive processing of information during a lecture. It consists of fixed memberships, and usually lasts from few days to few weeks. These groups have well-defined tasks and are assigned by the instructor. Groups may be structured for learning of information, concept learning, problem solving, or essay writing. The role of the instructor is to be a guide on the side and he/she must specify the objectives for the lesson, make decisions about putting students in groups, explain the task and goal to the students, monitor with effectiveness, and evaluate the students' achievements.

- **Informal cooperative learning groups**

  This type provides long-term support and assistance for academic progress. These groups are temporary, ad hoc groups that last for only one discussion or one class period. Yet these groups have focused discussions. Their purposes are to focus attention on the material to be learned, set a mood conducive to learning, help organize in advance the material to be covered, and ensure that students cognitively process the material. Also, in these groups the instructor assures that misconceptions, incorrect understanding, and learning experiences are personalized. These types of groups are useful during a lecture or direct instruction.

- **Structured academic controversy**

This type of grouping provides students with the opportunity to make choices about academic controversies. Further, groups are carefully structured to ensure that students manage them constructively. Cooperation, controversy, cognition, and met-cognition are four key elements that can result from interactions among these groups. For example, students are required to research and argue for a perspective from one side, and later for advocate the opposite perspective. After having promoted both/all sides, students are required to drop their given perspectives and work towards a solution from any angle, attempting in the process to base their decisions on evidence. Studies found that this type of interaction was more likely to develop epistemic curiosity in the students, leading them to question more as they learned more, rather than become comfortable with singular perspectives. In comparison with debate and other structures, the creative controversy structure helped students apply concepts to new situations with greater accuracy (Johnson, Johnson, & Smith, 1991).

According to the Johnsons, common practice in schools today is for teachers to separate students from one another and have them work on their own. Teachers continually use phrases like, “Don't look at each others’ papers! I want to see what you can do, not what your neighbor can do!” Or they say, “Work on your own!” Having students work alone, competitively or individualistically, is the dominant interaction pattern among students in classrooms today. The vast majority of the research comparing student-to-student interaction patterns indicates that students learn more effectively when they work cooperatively (Johnson & Johnson, 1994). The data suggests that:

- Students *achieve* more in cooperative interaction than in competitive or individualistic interaction. Data suggests that cooperation seems to be much more powerful in producing achievement than the other interaction patterns.
- Students are *more positive about school, subject areas, and teachers or professors* when they are structured to work cooperatively. (Johnson & Johnson, 1988).
- Students are *more positive about each other* when they learn cooperatively than when they learn alone, competitively, or individualistically—regardless of differences in ability, ethnic background, disabilities, etc. (Johnson & Johnson, 1988).
- Students are *more effective interpersonally* as a result of working cooperatively than when they work alone, competitively, or individualistically. Students with cooperative experiences are more able to understand the perspective of others, more positive about taking part in controversial discussions, have better developed interaction skills, and have

more positive expectations when working with others than students from competitive or individualistic settings. (Johnson & Johnson, 1988).

According to the Johnson & Johnson model, there are five elements that must exist in a cooperative learning environment. The key to these five elements includes instruction that involves students working in teams to accomplish a common goal under conditions that include these following five basic elements:

1. **Positive interdependence**—Team members are obliged to rely on one another to achieve the goal. If any team members fail to do their part, everyone suffers consequences.
2. **Individual accountability**—All students in a group are held accountable for doing their share of the work and for mastery of all of the materials to be learned.
3. **Face-to-face interaction**—Although some of the group work may be parceled out and done individually, some must be done interactively, with group members providing one another with feedback, challenging reasoning and conclusions, and perhaps most importantly, teaching and encouraging one another.
4. **Appropriate use of collaborative skills**—Students are encouraged and helped to develop and practice trust-building, leadership, decision-making, communication, and conflict management skills.
5. **Group processing**-Team members set group goals and periodically assess what they are doing (Johnson, Johnson, & Smith, 1991, p. 19-20).

Table 4 illustrates the comparison between traditional learning groups and cooperative learning groups.

Table 4

Comparison between Traditional and Cooperative Groups

Cooperative Learning Groups	**Traditional Learning Groups**
Positive Interdependence	No Interdependence
Individual Accountability	No Individual Accountability
Heterogeneous Membership Encouraged	Homogenous Membership
Shared Leadership	One Appointed Leader
Task and Relationships Emphasized	Only Task Emphasized
Social skills Directly Taught	Social Skills Assumed or Ignored
Teacher Monitors Groups and Intervenes	Teacher Ignores Groups
Group Processing	No Group Processing

Basic Elements of Cooperative Learning adopted from Johnson D.W., R.T., Johnson, & Smith K.A.(1991, p.7).

Additionally, the nature of cooperation that must exist in the class is nurtured by effective classroom discussions and interaction. To illustrate, “dialogic” is a key element in cooperative learning. Peer-to-peer interaction is extremely important in creating a learning environment that is conducive to promoting critical thinking while writing. From the theoretical standpoint, not only do learners create their own knowledge through discussion and social engagement, but they also create an active learning perspective, which highlights the notion that students learn best when they are engaged in participation (Cook, 2008). Discussion has long been a structure used to push critical thinking development. Cook outlines three types of discourse among students during peer-to-peer interactions. Cumulative talk refers to the act of building on one another’s ideas and is the most common type of communication found in classroom conversation. Confrontational talk occurs when a student tries to promote his or her own idea without taking the ideas of others into account. Exploratory talk involves the active consideration of multiple perspectives. Cook proposes that exploratory talk does not always happen naturally in the classroom, but can be facilitated by an instructor. Further, exploratory talk is the standard toward which critical thinking instruction should push, as it requires learners to think and consider different points of view. This is difficult of course, because most students tend to move toward a point of convergence in their dialogue (Cook, 2008). As suggested earlier, a possible method to counteract this is to use creative controversy principles, which require students to advocate from different points of view and to do so in a non-competitive atmosphere.

Hence, the Johnsons continue to elaborate not only why students choose to interact, but how they do that. This issue is a neglected aspect of instruction. Much training time is devoted to helping teachers arrange appropriate interactions between students and materials (i.e., textbooks, curriculum programs, etc.), and some time is spent on how teachers should interact with students. But how students should interact with one another is relatively ignored. In the author's point of view, it should not be! How teachers plan their activities to create patterns of student-student interaction to achieve their assigned objectives has a lot to do with how well the students learn, how they feel about school and the teacher or professor, how they feel about each other, and their self-esteem. An outline of Johnson and Johnson's model (1987) that the researcher adopts in her study explains how students interact. It includes:

I. Selecting a lesson and making decisions. These decisions include

1) Selecting the group size most appropriate for the lesson. The optimal size of a cooperative group will vary according to resources needed to complete the assignment (the larger the group, the more resources available); the cooperative skills of the group members (the less skillful the members, the smaller the group should be); the amount of time available (the shorter the time, the smaller the group should be); and the nature of the task.
2) Assigning the students to groups. For a variety of reasons, heterogeneous groups tend to be more powerful than extreme homogeneity. A lot of the power for learning in cooperative groups comes from the need for discussion, explanation, justification, and shared resolution of the material being learned. Quick consensus without discussion does not enhance learning as effectively as having different perspectives discussed, arguing for different alternatives, explaining to members who need help, and thoroughly delving into the material.
3) Arranging the classroom. Group members need to be close together and facing each other, and the teacher, as well as members of other groups, need to have clear access to all groups. Within the groups, members need to be able to see the relevant materials, converse with each other easily, and exchange materials and ideas.
4) Providing the appropriate materials. Providing one answer sheet to be turned in by the group with everyone's signature is one way to emphasize the positive interdependence. Another technique is to "jigsaw" the material so that each student has a part and responsibilities associated with their piece of the assignment (i.e., reading to the group, researching and reporting back for discussion, etc.).

II. **Explain the task and cooperative goal structure to the students**

A clear and specific description of the task needs to be given, coupled with an explanation of the group goal. The group goal should be a learning goal that all students set together. The group goal communicates that group members are in this together and need to be as concerned with other group members' understanding of the material as they are with their own. The reward system needs to be consistent with the structure. Students will more easily understand the group goal if they are turning in a single paper that each group member is able to defend, or can receive bonus points on the basis of how well each group member does, or how each group member will be able to do on the basis of a group score. It is also important to establish criteria for success as a classroom in order to make intergroup cooperation possible and extend the cooperativeness across the class. It is also necessary to specify the basic behaviors you expect to see in the groups so that students have an "operational" definition of what cooperation is (Johnson & Johnson, 1987).

III. Monitor the groups as they work

The teacher needs to monitor carefully how well the groups are functioning; determine what skills are lacking, both related to the subject matter and to the interaction; set up a way for the groups to process how well they functioned and discuss how to do even better; and intervene in serious problems to help the groups work them out. It is probable that some specific instruction will need to be focused on interpersonal skills, as students will not have necessarily learned how to work with others effectively (Johnson & Johnson, 1987).

To summarize, the idea of cooperative learning is simple if students' learning goals are structured to promote cooperation. This paradigm in teaching will help students construct knowledge, and discover, transform, and extend information to other students. It also demonstrates that learning is a social process that occurs through interpersonal interaction within a cooperative context. With this intent, critical thinking can be enhanced through the teaching of writing.

2.6. Previous Studies

The majority of recent literature in the fields of writing, cooperative learning and critical thinking education focuses attention on writing instruction and the effectiveness of using methods that have been introduced in the past. Studies evaluate the effectiveness of these methods, and then scholars write articles to highlight their applicability. This section highlights important prior studies in the field and will, additionally, look closely at new

variations that have proven successful, at least in self-reported studies. The current study looks at past studies from two perspectives: (1) Cooperative learning as a collaborative method that can be used to stimulate critical thinking and improve writing (2) and, how to enhance critical thinking through the teaching of writing.

Emergent themes within studies mentioned in this section link writing with cooperative learning by focusing on the effectiveness and productivity of group work as a channel to cultivate thoughtful dialogue reflected in writing. One of the most influential studies that have added to the research on cooperative learning is Cohen's (1994) review, *Restructuring the Classroom: Conditions for Productive Small Groups*, which moved beyond the general question of the effectiveness of small group learning. In her conceptual review, she proposes conditions under which the use of small groups in classrooms can be productive. In her analysis, she develops "propositions" concerning the kinds of discourse that are productive for different types of learning, as well as propositions concerning how desirable kinds of interaction may be fostered. Whereas a limited exchange of information and explanation is adequate for routine learning in collaborative seatwork, more open exchange and elaborate discussion are necessary for conceptual learning with group tasks and ill-structured problems.

The research also suggests that it is necessary to treat problems of status within small groups engaged with ill-structured problems due to the different learning styles and different levels of competency that exist among heterogeneous groups. With a focus on task and interaction, the analysis attempts to move away from the debates about intrinsic and extrinsic rewards and goal and resource interdependence that have characterized research in cooperative learning. The significance of this review has raised questions concerning the kinds of discourse that are productive for different types of learning. Furthermore, the focus has been on the factors that affect discourse, rather than factors that directly impact achievement. In other words, with interaction the central issue, the question becomes, what kinds of interactions are necessary for different kinds of outcomes? What are the task instructions, student preparations, and teacher roles that foster the desired type of interaction? With her focus on task and interaction, Cohen paves the way for more research and detailed knowledge of what makes cooperative learning productive and its impact on the writing process.

A more recent study by Dobao (2012) discusses the benefits of collaborative writing tasks. In her study, *Collaborative Writing Tasks in the L2 Classroom: Comparing Group, Pair, and Individual Work*, the author builds on previous research from the perspective of the socio-cultural theory of mind that suggests that writing tasks completed in pairs offer learners

an opportunity to collaborate and co-construct new language knowledge, produce more accurate written texts, and find solutions for their language-related problems. Building on this research, the author compares the performance of the same writing task for individual learners, pairs, and groups. Results from this study indicate that texts written by the groups are more accurate, not only than those written individually, but also more than those written in pairs. The implications of these results indicate the effectiveness of collaborative writing tasks as a method in teaching writing.

Further, Gokhale (1995) in his study *Collaborative Learning Enhances Critical Thinking* examines the effectiveness of individual learning versus collaborative learning in enhancing drill-and-practice skills in writing and critical thinking. The methodology was quantitative, as the independent variable was the method of instruction. The variable had two categories: individual learning and collaborative learning. The dependent variable was the post-test scores that were made up of the drill-and-practice items and critical thinking items. In addition, another data strategy tool in the form of a questionnaire of nine items was also used. The population consisted of undergraduate students in industrial technology enrolled at Western Illinois University.

Evidence derived from statistical analysis revealed that students who participated in collaborative learning performed significantly better on the critical thinking test than students who studied individually. It was also found that both groups did equally well on the drill-and-practice test. This result is in agreement with the learning theories proposed by proponents of collaborative learning (Vygotsky, 1978; Bruner, 1985). The collaborative learning environment provided students with opportunities to analyze, synthesize, and evaluate ideas cooperatively. The informal setting facilitated discussion and interaction. The author concludes that collaborative learning fosters the development of critical thinking through discussion, clarification of ideas, and evaluation. Clearly, there is a necessary relationship between cooperative learning and critical thinking, which in turn is reflected in improved writing.

Another interesting piece of research associates the two terms, critical thinking and cooperative learning, in a business English class to teach writing. The research conducted by Klimovience and others (2006), *Developing Critical Thinking through Cooperative Learning*, merges the skills of writing, critical thinking and cooperative learning. The research, conducted with 90 students, aimed to reveal the significance of using cooperative learning activities to develop critical thinking during a business English class. The research methodology was based on humanistic philosophy and cognitive theory, which is related to

constructivism. The purpose was to use practical steps and guidelines to teach writing using critical thinking in a cooperative setting. The findings indicated that the majority of the students did not understand the basic nature of critical thinking, and that the teachers had difficulties in changing their attitudes. Students who mastered the skill of good language also mastered the skills of critical thinking as well. The relationship between success in mastering critical thinking and good command of language is evident.

Mandal (2009), in her self-reported study titled *Cooperative Learning Strategies to Enhance Writing Skills,* asserts that students who master the skill of cooperative learning are good critical thinkers. She used many cooperative learning strategies to encourage her students to write. Amongst them were "three-step interview and critical debate." The researcher found that in cooperative learning, students were given the opportunity to write and revise and rewrite what they had written. The classroom research has revealed the relationship between cooperative learning, critical thinking, and writing. She found that peer critique aided students in sharpening their knowledge about essay structure and grammatical rules, as they were more confident in their writing. These findings are significant for this study, as they capture the need to enrich the writing process in the class by incorporating critical thinking tools and cooperative learning as a paradigm. It is evident that mastering the skills of cooperation and improved thinking leads to better learning and more fruitful teaching of writing.

Other studies give attention to the context of teaching writing by focusing on designing and planning writing instruction through thematic links within each suggested discipline to create a meaningful context that is appropriate for writing, such as social justice or teaching memoir. These studies assert the need to teach "live and meaningful topics to students that are related thematically. Planning thematic links allows the teacher to incorporate a variety of linguistic and literacy concepts, real life situations, and experiential learning into his or her instruction, with the goal of creating a meaningful social context for students to think actively. For example, Chapman, Hobble, and Alvarado (2011), in *Real-Time Learning*, point out that in the English Language classroom, social justice is a way to increase students' abilities to articulate their experiences, critique their world, and address identified issues with subsequent actions. By teaching students to use genre, voice, research support, and various writing conventions for social justice, teachers can help students learn to express themselves as individuals, community members, and global citizens.

Moreover, Brown (2010), in her study *The Memoir as Provocation: A Case for 'Me Studies,'* argues that students' writing dramatically improved as a result of teaching writing in

a context that is meaningful using memoirs in an autobiography class that she designed herself to meet the needs of her students. She realized that by discussing memoirs by Mary Karr, and by examining in-class writing exercises and assignment drafts, her students' writings "were becoming more vibrant and strong" (Brown, 2010, p.122). She also noticed that their class discussions were opening out into big-picture debates about ethics, narratives, voice, and social construction of selfhood. The autobiography course was, to Brown and her students, a provocative way to improve writing, reading, and critical thinking abilities because such a class allowed students and instructors to explore contemporary American culture's problematic, complex fascination with individuality and self-expression. These studies focus on the need to create meaningful contexts that will motivate students to internalize and write.

More studies conducted in-depth analysis of the teaching of writing through critical thinking by focusing on the various functions to be used in writing, for example persuasive essay writing. Jacobson and Reid (2010) in their study "*Improving the Persuasive Essay Writing of High School Students with ADHD"* used the Self-regulated Strategy Development SRSD[11] model as a writing instruction tool to help students with ADHD. Their study was based on research that suggests that the use of the SRSD model can be an effective method for improving writing. The aim of this study about Improving the Persuasive Essay Writing of High School was to (1) replicate the use of SRSD with ADHD students (2) expand the study to students who struggle with writing, and (3) expand the genres SRSD is used for to include persuasive essay writing. Their findings indicate that the holistic quality ratings of all students' essays improved considerably following instruction using STOP & DARE,[12] which could be attributed to time spent planning before writing.

Moreover, in a journal that was written by Smith (2010) titled *Diving In Deeper: Bringing Basic Writers' Thinking to the Surface*, a teacher describes her experience at California State University in teaching writing using critical thinking. She states that teaching meta-cognitive revision is a key to better writing. That is, when basic writing students are encouraged to value their thinking as they revise their prose, they are likely to become more constructive critical thinkers and less fearful performers of academic tasks.

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[11] The SRSD model was developed by Linda Mason and her colleagues and is grounded in strategy development combined with self-regulation procedures. Strategy acquisition is developed in six instructional stages: (a) developing pre-skills for an individual student's learning deficits; (b) discussing and describing the strategy; (c) memorizing the strategy steps; (d) modeling the strategy while thinking out loud; (e) teacher-supported guided practice; and (f) independent practice. Self-regulation of strategy use to promote generalization and maintenance of learning is fostered through teaching students to set goals, self-monitor their performance, use effective self-statements, and self-reinforce.

[12] STOP & DARE is an instructional procedure strategy for planning and essay writing developed by De La Paz and Graham (1997). STOP stands for suspend judgment, take a side, organize an idea, and plan. DARE stands for develop a topic sentence, add supporting ideas, reject possible arguments, and end with a conclusion.

She begins her description with the nature of the class that she teaches. Students who "landed in (her) class are described as unready college students who just can't think; as the administration describes them" (p.668). She put in effort to help students master the rhetorical, logical, and interpretive skills that would enable them to read more thoughtfully and use revision as a critical thinking skill. Therefore, she started working on their cultural literacy. She believes that writers write ineffectively because when they read and try to interpret academic texts, they are missing much of the cultural knowledge. Then their writing betrays them because they misunderstand or misinterpret the texts they are writing about. Consequently, students find themselves "non-divers" as they are unable to dive into the text when confronting certain academic problems They worry about errors and become obsessed with fragments and run-on sentences rather than with extending or thinking about an idea. She thinks that the problem with their thinking isn't that they aren't thinking at the highest level, but that they have trouble controlling their thinking in a constructive way. One teaching tool that she uses is revision. She relates that notion to meta-cognition. To her, the best time to teach thinking is after the first drafts because that is the time when students reshape their raw interpretations or drafts. "To me revision is a key to taming chaotic thought" (p.672). Smith provides in her journal samples of students' writings as evidence of how she was able to use revision as a writing skill to aid learners in writing their essays.

Significant reports on the results of two studies done by Festa (2009) and Tsui (2002) focus on the nature, amount, and type of writing assignments that can contribute to enhancing critical thinking through the teaching of writing. Two significant findings were revealed by Festa (2009) that target reflective writing and pre-writing. She refers to some research evidence in her study *Teaching Critical Thinking to Freshman Writers by Engaging Contemporary Artists' Work* that shows that creating a sequence of informal writing assignments based on art helps students shape their critical thinking skills. The three assignments that encourage critical thinking are as follows. First, is the reading and discussion guide, which is a list of guided questions about an artist's thesis, art, or language usage (diction and tone). The purpose is to create skilled readers who can analyze visual and textual representation to think critically about the social and historical context of subject matter. Prior to the class, students answer these questions and then they discuss them in groups. The second assignment is the connection paper that follows the reading and discussion guide. It is divided into two parts that require similar conceptual and critical depth. The first part is a summary of the text and the second part is an articulation of the learner's personal connections to the text. This assignment helps students reflect, connect, and internalize. The

third assignment is the self-commentary, which the author considers a highly effective self-reflexive learning tool. All these pre-planning assignments foster a well-structured essay, regardless of its function. This study goes against Smith's argument (2010), which emphasized the importance of the mode in writing. Findings and evidence from students' writings indicate that the three assignments support reading and writing critically, as each guide poses questions about the assigned texts and encourages an imagined dialogue between the student and the text. They also stimulate intense classroom discussion about art. It is clear that learning to write is supported by progression through informal assignments both individually and in group work.

A more specific study written by Tsui (2002), *Fostering Critical Thinking through Effective Pedagogy: Evidence from Four Institutional Case Studies*, turned more attention to the function of writing and rewriting in its formal and informal structures as tools to foster and teach writing using critical thinking. Her qualitative research encompassed multiple methods of data collection, including case studies in four universities. The bulk of the data came from classroom observations and interviews collected from four institutional case studies that revealed some consistent findings regarding how writing assignments and class discussions can contribute to critical thinking development. Depending on a comparative institutional analysis of two case studies, the author strives to prove her argument that effective pedagogy leads to critical thinking.

While innovation and new methods are necessary, studies on writing support the notion that teachers must make progress in letting go of ineffective practices, such as multiple choice tests. Tsui concluded that both writing and classroom discussions are essential components in fostering critical thinking. With regards to writing, evidence derived from the case studies suggests that the development of writing through critical thinking is likely to be linked to an emphasis on writing and re-writing. Other findings indicate that classroom discussions are a rich tool for developing a link between critical thinking and writing. Evidence from the studies supports a relationship between class discussions and the development of critical thinking skills, and some interviews also confirmed this finding. To conclude, Tsui's findings stress two realities: the amount and the nature of writing seem to matter, and classroom discussions create thoughtful dialogue that can enhance the writing process if faculty members provide an active learning environment. However, in order to optimize such learning, a critical balance must exist between the breadth and depth of the subject matter.

Further, other studies that link the effectiveness of teaching writing as a process to enhance critical thinking are also investigated. For example, in a study that was conducted by Duron,

et al. (2006) titled "*Critical Thinking Framework For Any Discipline,"* the authors identified a five-step framework that can be implemented in virtually any teaching setting to effectively move learning towards critical thinking. This interdisciplinary model, which is built upon existing theory and best practices in cognitive development, effective learning environments, and outcomes-based assessment, provides teachers with a useful framework. This framework can be used to move students towards a more active learning environment, which, ultimately, is more enjoyable and effective for teachers and students alike. An example of this model is applied in the context of accounting, which represents a business discipline in which critical thinking has been consistently cited as both necessary and difficult to implement.

The authors started by introducing techniques that encourage critical thinking, such as creating active learners in the classroom such as warm-up activities. Active learning can make the course more enjoyable for both the teacher and the students and, most importantly, it can help students to think critically. However, the lecture format of teaching nurtures neither active learning nor critical thinking. The study concludes that to achieve critical thinking, it is necessary to create opportunities for students to engage in the upper levels of Bloom's Taxonomy, which classified instructional activities as they advanced in difficulty.

The model offered is a five-step framework consisting of the following: (1) determine learning objectives by defining behaviors students should exhibit, and target behaviors in higher thinking orders; (2) teach through questioning by developing appropriate questions, employing these questions, and encouraging interactive discussions; (3) practice before you assess by choosing activities that promote active learning utilizing all components; (4) review, refine, and improve student work by monitoring class activities and collecting and giving feedback; and, finally (5) provide feedback and assessment for learning. The study concludes by providing readers with an illustrative example of accounting education.

Elliot (1993) summarizes her experience in using debates as a tool to teach a course on the psychology of women and how this tool enriched the writing process. This method helped students engage more effectively in the writing process. In her article, "*Using Debates To Teach the Psychology of Women,"* she provides evidence of change in her class as a result of using debates that encouraged class participation, active learning, cooperation, critical thinking, reading, and writing. The project was, to her, a stimulating and rewarding experience for most of the class and an excellent way to inspire class discussions. Her study is different from other studies because the teacher provides a specific procedure for including debating, preparation, timing, judging, and discussion sessions. She gives attention to procedures for judging as it involves critical thinking and follows up with how students can

evaluate their peers. The author concludes by saying that debating is an excellent device to reinforce and enhance critical thinking skills because this tool can support critical thinking in four main ways: (a) in preparing the debate, students are required to read, comprehend, and analyze complex articles; (b) developing a persuasive argument demands that students develop logical positions that reflect the team's position and that demonstrate an appreciation of the opposing team; (c) judging requires students to think critically about the issues presented, as opposed to taking notes mindlessly during a lecture; and finally, (d) critical thought is often sparked during class discussion following a debate.

Effective use of questioning is another tool that can be used to foster a thoughtful environment that will enrich the teaching of thinking and writing in the classroom. Rielding (2001) asserts that questions may be the most powerful "technology of all." In her study, *The Question is the Answer*, Rielding (2001) provides examples of the power of questions that allow us to solve problems, make decisions, change phenomena, make improvements, and invent new and better ways of doing things, either through the Internet or on paper. This study addresses a new approach to critical thinking, using technology as a tool. Rielding briefly explains a scenario of how both teachers and library media specialists ask questions for many purposes. Questioning is essential for learning and growing. However, the writer argues that in many cases, the questioning process is reduced and oversimplified to a search for pre-packaged answers.

Riedling believes that questions are intended to provoke thought and inspire reflection. The art of questioning must fuel the inventive process required to create something new. She introduces four types of questions: (a) interpretive questions that help students understand the consequences of information or ideas; (b) evaluative questions used as a set of criteria to arrive at a reasoned judgment; (c) inferential questions that require students to go beyond information that is immediately available; and (d) synthesis questions that allow student to put parts together to create a pattern. Finally, the writer concludes by saying that we can reduce the act of plagiarizing from the Internet if teachers ask questions that encourage reason and analysis for the purpose of writing.

Likewise, research conducted by McAllister (2009) in *Critical Thinking Development: A Report* presented a review of current best practices that consider the teaching of writing as a process of reflection both internally and on paper. Reflective writing is a valuable tool, as it helps students internalize, reflect, and create an academic voice. Dunlap (2006) builds on the ideas presented by Tsui (2002), examining current best practices in the field and highlighting that rewriting is another key to engaging students in reflecting on their own learning process.

"Reflective writing is at the heart of the literature at the moment because it encourages reflective thinking and supports the development of skills that can be transferred to other domains" (McAllister, 2009, p. 28).

Dunlop's (2006) more specific study, *Using Guided Reflective Journaling Activities to Capture Students' Changing Perceptions* highlights that rewriting may also help to make conceptual ideas more visible and thus, can drive discussion and dialogue forward. Dunlop recommends giving cues to help students focus their written responses and structuring writing tasks to connect with the actual activity they are doing (rather than teaching it as a stand-alone topic). The author provides examples of how reflective writing can be used to encourage students to reflect on their thinking to gain more effective acquisition and transferability of cognitive and meta-cognitive skills. They can identify and analyze their difficulties, make suggestions, and pursue questions of their own.

Another view on the impact of reflective writing on the teaching of writing as a critical thinking tool is demonstrated in a study of the field of nursing written by Kennison (2006) titled, *The Evaluation of Students' Reflective Writing for Evidence of Critical Thinking*. Kennison designed a teacher-accessible tool to measure the critical thinking of baccalaureate nursing students as evidenced by their reflective writing about their practical experiences. The study links critical thinking to reflection, as there is little research on the relationships among reflective writing and significant practical experiences and critical thinking. Teaching strategies to foster writing, critical thinking, and reflection have also been used in isolation using abstract rather than real and authentic situations. This study was conducted with graduating students from a nursing program at small liberal arts college who were asked to write about a significant experience they encountered during their last clinical course.

The purpose of this study was to establish inter-rater reliability of the Critical Thinking Scale (CTS), a teacher-accessible tool designed to measure the critical thinking of baccalaureate nursing students as evidenced in their reflective writing about their practice experiences. The study is an extension of an earlier pilot test of the CTS. Graduating students from a nursing program at a small liberal arts college were asked to write about a significant practice experience encountered during their last clinical course. Three teachers used the CTs[13] to independently evaluate the students' writing. California Critical Thinking Skills Test (CCTST) [14]scores provided a standard measure of critical thinking. Results indicated

[13] CTS is a teacher-accessible qualitative tool for evaluating data

[14]The California Critical Thinking Skills Test: College Level (CCTST) is a standardized test that targets core college-level critical thinking skills.

statistically significant positive relationships between the CCTST total critical thinking score and mean teacher ratings using the CTS. Meaningfully significant inter-rater reliability ratings for the CTS were also found. With further development, the CTS has promise as an appropriate tool to evaluate students' reflective writing for evidence of critical thinking. The evaluation indicated positive results and improvements in critical thinking strategies because of writing about their personal experiences.

The study is based on studies that have indicated that structuring reflective writing exercises and appropriate feedback can bring about positive change in students' critical thinking to help them write more effectively. In a qualitative study, Jasper (1999) conducted semi-structured interviews with twelve nurses who were completing a course in which reflective writing was a major component. The researcher asked them about their perceptions of the value of written reflection. The results indicate that reflective writing resulted in improving their critical thinking as they encountered challenges in their nursing practices, which, in turn, shaped their writing skills.

Likewise, in a similar study conducted by Simpson and Courtney (2007) in the field of nursing, *A Framework Guiding Critical Thinking through Reflective Journal Documentation: A Middle Eastern Experience***,** the authors indicate that critical thinking can be enhanced in teaching writing using reflective writing assignments. The purpose of the Simpson and Courtney paper was to present a framework to guide critical thinking through reflective journaling and describe how a group of twenty Middle Eastern nurses used reflective journaling to enhance their practice. Journaling was used during the clinical practicum to foster the development of critical thinking by assisting nurses in analyzing and evaluating their clinical experiences. The researchers' findings indicate that the nurses accepted the framework for journal documentation because it provided a structure for reflection, speculation, synthesis, and meta-cognition of events they experienced during clinical practice. Journaling gave the nurses the opportunity to transfer their thoughts onto paper and write down subjective and objective data. It also created dialogue between the nurses and their educators. They were engaged in a productive and positive activity to enhance their nursing practice. They also commented that writing helped to develop their confidence in writing English.

It is noticeable from the previous studies that teachers have alternated between favoring tools that are geared towards authentic topics that can be tailored to the students' backgrounds, creating meaningful contexts during the process of composing; and promoting interaction between students, such as using debates, questioning, and collaborative learning.

In addition, reflective journal writing assignments and the nature and amount of assignments contribute to developing writing processes infused with critical thinking tools.

In summary, this chapter has outlined the conceptual framework for this study, namely, social constructivism. Included in the review are previous studies that focused on cooperative learning as a collaborative method to promote writing through critical thinking. In addition, tools employed for teaching writing through critical thinking, such as the use of debates, questions, and interdisciplinary topic areas with thematic links. Further, it explored the use of critical thinking strategies, informal writing assignments, pre-writing and planning, re-writing and revision, classroom discussions, and reflective writing as tools that can develop and encourage the teaching of writing through critical thinking in a cooperative learning environment.

Chapter Three

Methodology and Study Design

This chapter presents the components of the study design which include population, instruments, procedures, implementation, and analysis procedures for the research questions.

3.1 Research Design

The main purpose of this study is to investigate the teaching of essay writing through critical thinking to upper-intermediate EFL Birzeit University learners within the cooperative learning paradigm. The study design is a mixed method research that combines qualitative and quantitative tools, each of which is used to examine relevant aspects. It is an experimental study in which two groups (experimental and control) are randomly selected .Qualitatively, the study uses an in-depth analysis of student essays (pre-, midterm, and final) collected at three different intervals throughout the second semester of academic year 2011-12. The purpose is to document the development of students' writing and thinking. These essays are also analyzed quantitatively using the Statistical Package for Social Sciences (SPSS) and a T-test to measure students' performance. In addition, a questionnaire is used to study students' attitudes towards cooperative learning.

3.2 Study Population

The population consists of two sections of ENGC 231, an advanced course in English, offered by the Department of Languages and Translation at Birzeit University. The course is required of all students at the University. It is a continuation of ENGC 141, an intermediate course in English, and the last in the sequence of general communication courses.

The ENGC 231 course aims to further students' communication skills to levels of fluency, accuracy, and comprehension that will ensure high quality university work with emphasis on persuasive writing, research methods, and advanced reading skills. In this course, students practice processes appropriate for university reading and writing, identifying contexts (audiences and purposes) common in academic discourse, and writing about academic readings as well as personal experiences.

The course is structured around fifteen weeks of teaching with three contact hours per week. It includes the development and revision of paragraphs and essays using various strategies; reading and discussion of selected essays, introduction to incorporation, and

documentation of material from primary sources. It is an integrative course comprising reading, writing, and speaking. Therefore, assessment capitalizes on reading comprehension, essay writing, and oral presentations. However, for the purposes of this study, investigation focuses on students' written production.

Students are required to write and revise several essays. This process is intended to help them refine their prewriting, drafting, and revision strategies, and enable them to produce focused and detailed essays where they use summarizing, paraphrasing, and source citation.

The main reason for selecting this course for this research is that the pedagogy of teaching writing is implemented using conventional methods such as the product approach to writing. In this approach, students are taught to imitate a model text or essay usually presented and analyzed in the early stages of writing (Hasan & Akhand, 2010). For example, in a typical product-approach-oriented classroom, students are exposed to a model that they are expected to follow for the purpose of constructing a new piece of writing. Based on conversations with some teachers in the Department of Languages and Translation and on my observation as an instructor who teaches this course, students are unable to experience the actual writing process and compose a well-organized, clear essay despite many attempts to integrate higher-order thinking skills within the product approach. Henceforth, the need to employ an alternative pedagogical approach is eminent.

The participants in the study include fifty one students randomly enrolled in two ENGC 231 sections (twenty six in the control group and twenty five in the experimental group). Their ages range from 18 to 20 years old. They come from a variety of social and regional backgrounds and have different majors.

The participants are also required to take ENGC 141 (intermediate level) with no prior exposure to critical thinking, actual composing of essay writing, or cooperative learning. The researcher, who coordinates ENGC 141, took part in designing the intended learning outcomes (ILOs) for this course. Based on her observations, the researcher is aware that cooperative learning is not used as an approach in writing. Further, critical thinking strategies and essay writing are also not practiced. This is also supported by informal conversations[15] with other teachers who teach this course.

[15] These informal conversations took place during a series of official meetings for the department and on different intervals throughout the year 2011-2012. The purpose of these meetings is to develop, evaluate, and enrich both the content and methodology of teaching writing along with other skills.

3.3 Data Collection Techniques

3.3.1 Five Critical Thinking Strategies (CTs)

Five critical thinking strategies (CTs) [16] have been selected by the researcher and are infused into different parts of the writing lessons for both the experimental and control groups. They are used as one source of the study data. The purpose is to account for and document the impact of such strategies on students essay writing and their critical thinking level as practiced in cooperative learning and conventional learning classroom environments.

The Johnson's model of cooperative learning (See Chapter Two, pp.54-60) is chosen as the paradigm for implementing the writing activities for the experimental group. However, the implementation of writing activities and the five CTs to the control group is carried out in a non-cooperative setting using conventional methods. The five CTs are designed to be sequential, appropriate to the students' levels, and purposeful. According to Dewey (1909), critical thinking is viewed as a "process of thinking that is a sequenced chain of events" p.9.

Table 5 presents the sequence of the five CTs that are implemented during and in the post stages of the writing process:

Table 5

Sequence and Implementation of the Five CTs during the Study Period

Five CT Strategies	Implementation of the CTs per Week (s)	Number Duration of Sessions	Writing Tasks	Themes /Topics	Processes of the Writing stage
Instructional Scaffolding	Weeks 1-7	12 sessions	Summary (3) Position papers (3)	Education	Pre-writing Reflective writing & planning
De Bono's PMI	6-7	2 sessions	First argumentative essay (250 words)	Education	Pre-writing Planning & writing
Socratic questioning	8-9	3 sessions	Second argumentative essay (250-350)	Family values & Gender relations	Pre-writing planning & writing
Problem posing by Paulo Friere	10-12	4 sessions	Second argumentative essay (250-350)	Family values	Drafting & revision & editing of the second essay
Hegelian dialectic	13- 14	3 sessions	Third Argumentative Essay (300-400)	Personal choice	Revision of the final essay

[16] Critical Thinking strategies selected by the researcher.

The framework for selecting the sequence of the CTs stems from the philosophy of both the researcher and her colleague, who believe that clear writing originates from good reading, as interconnections between reading and writing may have vital implications for classroom instruction. Both skills are active meaningful operations that include written language, reception of ideas from text, and expression of thoughts on paper. Therefore, each CT is selected and used based on its nature and type, how it can empower the different levels of thinking, and how it can stimulate the stages of writing, including planning, actual writing, and revision.

The five CTs used in the study are as follows:

3.3.1.1. Scaffolding as an Instructional Strategy

This strategy is used in the first seven weeks of the semester to teach writing to both the experimental and control groups. Different forms of instructional scaffolding are used in the early stages of pre-writing such as brainstorming, clustering, outlining, use of graphic organizers as illustrative methods, and modeling. At a later stage, reflective writing and feedback are also used as other forms of scaffolding. Further, additional activities are used with the experimental group as required by cooperative learning, such as teambuilding activities. Lawson (2002) asserts that:

> *Scaffolding in an educational context is a process by which the teacher provides students with a temporary framework for learning. Done correctly, such structuring encourages a student to develop his/her own initiative, motivation, and resourcefulness. Once students build knowledge and develop skills on their own, elements of the framework are dismantled. Eventually, the initial scaffolding is removed altogether; students no longer need it (p.2).*

Further, McKenzie (1999 as cited in Lawson, 2002) asserts that:

> *The defining features of successful scaffolding include clear directions, purpose, and expectation. This requires continuous sorting and sifting as part of a 'puzzling" process by which learners can combine new information with previous information to construct new ones (p.2).*

In order to provide a temporary framework for teaching writing for both groups, instructional scaffolding is purposefully infused in the pre-writing stage. The researcher and her colleague planned and selected the instructional scaffolding to activate students' prior

knowledge and energize their pre-writing stage. Keeping in mind what students know, and what they needed to know, both the researcher and her colleague have also set three main goals for using activities for the first seven weeks of the study period: encourage students to generate background knowledge, activate schema, and empower pre-writing. To achieve these goals, we started by teaching students brainstorming and clustering, reviewing strategies in reading for the purpose of writing, and teaching them how to plan. According to Myles (2002) and Kellog (1990), planning is a key element in the discovery stages of writing.

For example, with the experimental group in a cooperative setting, the researcher employed modeling and the T-chart (a critical thinking note-taking graphic organizer) in a workshop form which is directly related to cooperative learning to teach reading for writing whereas modeling and the T-chart was used in a conventional method with the control group as the teacher lead the process in a controlled manner. Accordingly, the experimental group learners were required to work in groups with assigned tasks. According to the writing process theory, attention stresses more on a workshop approach of instruction since it fosters classroom interaction, and engages students in a variety of tasks instead of lecturing (Hasan & Akhad, 2010).

At first, the researcher introduced the general idea of clustering as a pre-writing technique. Prewriting is considered to be an effective tool in producing quality writing. Also, Rico (1983) describes clustering as:

> *A process in which the writer constructs a visual network of ideas and relations among ideas. The writer jots down ideas, draws circles around each other and then links related ideas by drawing lines between them (as cited in Kellog, 1990, p. 329).*

Further, writers brainstorm while clustering (Kellogg, 1990). Therefore, brainstorming provides a starting point for building topic understanding in order to activate prior knowledge.

The theme of education is used to brainstorm some ideas to promote understanding of key concepts in this subject area. For two sessions per week, students in the experimental group are divided into heterogeneous groups that consist of four members in which they apply the techniques and strategies of using formal cooperative learning (See Chapter Two). In one session, the researcher gave them paper slips that had one or two reading strategies explained on them, such as determining importance, making connections, predicting, and visualizing. The task of each group was to read about the strategy, summarize it, and visualize it by drawing a picture/object that connected the strategy to real life. These reading strategies aim

at providing guidelines for reading critically in order to be able to summarize, paraphrase, and eventually synthesize the material they are reading. Some of these reading strategies include meta-cognition, schema, inferring, questioning, and determining importance, visualizing, making connections, and synthesizing (See Appendix One for explanation of reading strategies and T chart). All four group members drew a representation of the strategy on a big piece of poster board. Some students drew a train referring to making connections. Others drew upside down question marks referring to the kind and type of questions while other students drew a sieve to refer to how readers determine importance and prioritize ideas in reading for the purpose of better writing. Then, the whole class shared their strategies and drawings in the form of group presentations. They inductively discovered these strategies and then personalized them.

Later, in the third session, the researcher introduced a sample model of an argumentative essay titled "*What True Education Should Be*" by Sydney Harris (1994) for the purpose of teaching learners how to read strategically in order to write. Two instructional scaffolding strategies are used to achieve this purpose: modeling and the use of graphic organizers. Modeling and graphic organizers function well with brainstorming and clustering as they can help learners establish a pattern of how to perform the pre-writing activity, be creative, and spark new ideas. Further, graphic organizers can assist students in welcoming new information, organizing new concepts, and making connections between old and new information. This linkage will help in creating good writing practices. According to Bransford, Brown, and Cooking (2000):

> *some educators favor an apprenticeship model whereby an expert models an activity, provides the learner with advice and examples, guides the student in practice and then tapers off support until the student can do the task alone; others encourage methods that employ the ongoing use of tools such as graphic organizers and consultations with other people (as cited in Lawson 2002, p.3).*

The benefit of graphic organizers, which are given to students prior to the material to be learned, is that they provide a stable cognitive structure in which the new knowledge can be subsumed. Therefore, concepts are meaningful only when students can visualize them (Ausubel, 1963). The researcher used both strategies simultaneously to achieve her purpose, which was to practice good writing habits.

Modeling and graphic organizers are used as effective key strategies to scaffold students and guide them during the process of writing. To illustrate, the researcher began one of her sessions by showing students the T-chart, which is a critical thinking note-taking graphic organizer that interconnects reading and writing. While modeling, the researcher applied the instructional scaffolding called T-Chart which consists of two lines; one vertical for thinking and another horizontal for notes. The purpose of this chart is to help learners organize their thinking to connect what they already know with what they are learning. The researcher explained that this tool would help them keep track of their background knowledge, questions, and connections, as well as the new information obtained. She modeled how to chart a short passage from the reading to demonstrate how to paraphrase details, facts, gists, and the main ideas, and to record them on the "notes" column of the T-chart.

During this process, the researcher also introduced reflective writing as a third form of instructional scaffolding. She reflected, using the thinking column, by referring to her own experience as a student and finally modeled writing a summary of information from the chart on the blackboard. Later, students in their heterogeneous four-member groups continued reading and analyzing the reading while annotating and jotting down any idea that came to mind in the thinking section of the chart for the purpose of reflecting. They shared their information and gave examples from their daily lives. Finally, students were asked to complete this task as homework. The purpose is to give them enough time to internalize and process information, and make connections. This first writing task is introduced to the students in the form of a reflective writing or position paper which consists of two parts: a summary of the reading and reflection. These writing activities and practices of using modeling, various graphic organizers such as a KWL chart (what you know, what you want to know, what you learned), and, at a later stage, reflective writing continued to be introduced and in different amounts with the experimental group and in a purposeful manner using multiple readings that the researcher gave along with readings that students researched on their own in formal cooperative learning.

As for the control group, the instructor used the same forms of instructional scaffolding but in a conventional manner and in a non-cooperative setting. She gave direct instruction using the same material (i.e. T-chart and readings) but without using formal cooperative learning groups nor collaborative brainstorming or clustering. For example, she brainstormed some ideas on the blackboard while students presented ideas as individuals. The teacher presented the reading strategies to students by giving them a handout. Then, she modeled the reading passage and the T-chart. Students received the information and practiced on their own. The

implementation of these strategies lasted for one session. Students from the control group also wrote reflective papers on the theme of Education. One-to-one dialogue took place between the instructor and her students. Finally, students were asked to finish their first position paper as homework.

3.3.1.2. De Bono's PMI Strategy

The second strategy used with both groups is De Bono's Plus, Minus, and Interesting (PMI) strategy which is implemented in the middle stages of the semester (weeks six & seven) at the same time as the instructional scaffolding. The researcher and her colleague decided to continue to offer instructional scaffolding because they noticed that learners needed more assistance, guidance, and time to be familiar with the skills. Therefore, both PMI & scaffolding are used in an informal cooperative setting (See Chapter Two) as a paradigm for the experimental group and a non-cooperative setting for the control group. At this point, both groups are given instructions to complete their first argumentative essay (250 words).

According to De Bono (1994), there are at least two key thinking processes that free humans from being locked up in their own thoughts. These two thinking processes are, defining a problem and offering a solution for that problem. As such, these two key thinking processes are manifested in the PMI CT strategy to help learners reconsider and re-evaluate an idea. That is, using PMI can eliminate the immediate acceptance or rejection of an idea. To illustrate, the natural reaction to an idea is to like or dislike it, to approve or disapprove of it. If you like an idea, it is very unnatural to look for the negative or minus aspects. If you dislike an idea, it is very unnatural to look for the positive or plus aspects. It is equally unnatural to pick out the merely interesting aspects of an idea. Instead of just deciding whether or not you like an idea, this thinking operation will help you find the good points (Plus), the bad points (Minus), and the interesting points (Interesting) about an idea. The interesting points are those that are neither good nor bad but are worth noticing (De Bono, 1994). "Using PMI deliberately gives students a means of bypassing their natural emotional reaction to an idea; their objectives change from emotional reactions to carrying out a formal thinking operation with skill" (De Bono, 1994, p.18).

For the experimental group, and in the process of teaching planning/outlining during the pre-writing, the researcher introduced the strategy of PMI in weeks six and seven in two successive sessions per week. The main purpose is to shape students' process of planning for

the purpose of coming back and forth in thoughts and ideas before writing their first guided argumentative essay on the theme of traditional versus progressive education. In the first session, the researcher modeled this strategy and then asked students to use PMI for one controversial sub-topic that had emerged from the previous discussions and multiple readings on the theme of Education. The researcher also used the Total Physical Response approach (TPR), asking students to complete the PMI chart on the blackboard collectively. Later, students were asked to research the topic, find articles from accredited resources that directly relate to their stance on the issue, synthesize the articles in groups, and prepare for their first draft. After this process, feedback, which is part of instructional scaffolding, continued to be introduced to students. The researcher used one whole session to give feedback to the students both verbally and in writing. She drew their attention to the task by directing them on the quality of ideas, presentation, and to the language of writing argumentative essays.

In the non-cooperative setting, the control group was exposed to the same strategy. However, students completed the PMI handout in their seats. The teacher introduced the PMI strategy, modeled a sample idea, and asked students about some topics they had in mind. The teacher used one-to-one interaction and dialogue to explain the strategy to her students. There was a classroom discussion on various topics using PMI. Finally, students worked individually on their outlines in preparation for their first written assignment. The teacher in the control group also gave students feedback on their first draft.

3.3.1.3. Socratic Questioning

Socratic questioning, which lies at the heart of critical thinking, is implemented in weeks eight & nine, in addition to instructional scaffolding, using an informal structured cooperative setting (See Chapter Two) for the experimental group and a conventional method of teaching for the control group in a non-cooperative setting. According to Copeland (2005):

> *When effectively implemented, Socratic seminars enhance speaking, listening, and specifically writing skills by giving students ownership over the classroom discussion around texts that will enable them to take responsibility for their own learning to build meaning and understanding (p 15).*

In week nine, both groups were assigned the second 250 to 350 word argumentative essay as a writing task. The researcher and her colleague used Socratic questioning prior and during the process of writing, planning, drafting, and editing. They used the Socratic questioning

approach to teaching writing through a disciplined and thoughtful dialogue. The experimental group worked in pairs and the control group worked collectively.

For the experimental group, the day prior to applying this strategy, the researcher gave the students a Socratic seminar prep sheet to complete. It is essential for learners to read the text and prepare themselves with important questions and quotations. The classroom was arranged in two concentric circles. Students were assigned to either seminar (A) or (B). They were assigned a partner from the opposite seminar. Both seminars needed to shadow each other, either by taking notes or participating in the seminar. The main purpose of the seminar was to serve as a discussion and not a lecture. The conversation must begin naturally. The researcher introduced prompt questions on the topic, and then the students asked a question, responded to a question, and cited evidence from the text to support their stance. The role of the researcher was minimized as the students led the discussion.

The researcher adopted the taxonomy of Socratic questions; created by Paul (1993) (See Appendix Two for Paul's taxonomy of Socratic questioning). It is not a hierarchy in the traditional sense. The categories suggested by Paul (1993) include questions that probe reasons and evidence, assumptions, clarifications, and viewpoints and perspectives. They build upon each other, but they do not necessarily follow a pattern or design. One question's response will lead into another category of questioning not predetermined by the researcher. The role of the researcher was to keep the inquiry "train on track," but, also, to allow the students to "travel to a viable destination" of their own design (Paul & Binker, 1990).

As for the control group, the researcher's colleague also used Paul's taxonomy (1993) and asked specific questions (the same ones as the researcher) to generate discussion, but students asked and answered using one-to-one dialogue with the teacher. Then students raised questions and others answered in their own seats. Later, students continued working on their second argumentative essay focusing on outlining and editing. Both the researcher and her colleague provided students with feedback individually, during office hours, or addressed to the whole class.

3.3.1.4. Paulo Freire's Problem Posing Strategy

The problem-posing strategy was implemented in the later stages of the semester (weeks ten, eleven, and twelve) using informal structured groups for the experimental group and conventional teaching for the control group. The main purpose was to introduce students to a case-based approach. First, they were requested to write and respond to an authentic problem. Then, focused attention was devoted to the revision stage prior to writing. Both groups were given feedback on their second (300- to 450-word) argumentative assignment.

Problem-posing is a term coined by the Brazilian educator Freire (1970). The philosophy of the problem-posing method is the foundation of the modern critical pedagogy that was defined earlier in the literature review. Its essence lies in dialogue between the teacher and the learner or the learner and another learner. This strategy is multilayered, as it aims at helping students describe what they see. Description is a habit that nurtures understanding of what you can really see and fully be able to interpret and analyze. Within this strategy, students then interpret and evaluate. Therefore, problem-posing requires that learners describe, interpret, and evaluate (DIE), using visual argumentative pictures **(**Sorg et al., 2009).

In the process of teaching writing to the experimental group, the researcher managed to use this strategy by dividing students into groups and exposing them to visual argumentative pictures that reveal controversial topics. She asked them to describe what they saw without using judgment. After some discussion, students were asked to interpret using WH-questions to make sense of what the material or controversial topic was about. Finally, the researcher asked them to make their own judgments based on their interpretation and evaluation. Later, in groups, students applied the strategy of critical thinking, DIE, using a visual argumentative picture of their own choice about family life, divorce, or domestic violence. One picture was given to each group. They presented their findings to other groups using the gallery game in which students post their pictures and members of other groups visit their gallery to share their findings. Later, the researcher provided them with an authentic case study that posed a real problem. The title of the case was "Why me?" It is about a working mother who needs help in making a decision in her life. Students discussed the case and opted to give her practical solutions to help solve her problem. This case was introduced as part of the theme of family values and gender relations. Later, students were asked to write a response or solution to the person in the case study supported by alternatives from the team discussion.

As for the control group, the teacher demonstrated one picture and started a discussion about the topic. Later students were given the problem about a working mother, and were

asked to respond back to her in writing as homework. Finally, both groups finished their second in-class argumentative essay using many of the readings they took in class. In addition, they supported their stance by providing other readings that they synthesized to support their stance.

3.3.1.5. The Hegelian Dialectic

The last critical thinking strategy used in the process of teaching writing, is an advanced strategy called the Hegelian Dialectic. It is implemented at the end of the semester (weeks thirteen and fourteen) targeting all the different stages of writing for both groups in order to prepare them for the third and final essay. The purpose of this strategy is to create a strategic plan for promoting dialogue and reasoning using thesis and antithesis argumentation for the purpose of presenting an argument to the whole class and then writing an argumentative essay individually. The Hegelian dialectic "is the framework for guiding thoughts and actions into conflicts that lead to a predetermined solution. Hegel's dialectic often appears broken up for convenience into three moments called the "thesis," "antithesis," and "synthesis" (Raapanaa & Friedrich, 2005, p.1).

For the experimental group, the implementation of the strategy lasted for five successive sessions. The researcher directed the students into using this strategy while working in groups, i.e., structured controversy (see chapter two). Students were divided into four-member groups; two pros and two cons. Students were given the choice to select their own controversial topics stemming from their own interests. They researched the issue to organize their own information, and prepare their positions. Second, each group actively advocated their positions. Each pair presented their own position and reasoning to the opposition, thereby engaging in considerable cognitive rehearsal and elaboration of their position and its rationale. When the other team presented, students' reasoning and conclusions were challenged by the opposing view and they experienced conceptual conflict and uncertainty. Later, students discussed the issue critically evaluating the opposition and its rationale, defended positions, and compared the strengths and weakness of each position. As a result of this uncertainty, students experienced "epistemic curiosity" and therefore, they (a) actively searched for more information to support their position, and (b) sought to understand the opposing position and its supporting rationale. Finally, the groups of four reached a consensus and presented their findings to the whole class (Johnson, Johnson & Smith, 1991).

The control group, on the other hand, practiced this strategy for one session after the instructor modeled it. Students researched their topics alone and gave individual presentations on controversial topics of their own choice. Then they wrote their argumentative essays on the same topic individually.

3.3.2 Student Essays

Student essays were gathered from both sections and on three different intervals during the study period; the second, the eighth, and the end of the fourteenth week. Essays in the three periods covered topics that are controversial in nature. Students were given reading materials as basis for their essays were they were required to select their points and synthesize to reflect a level of their critical thinking ability. The controversial topics are:

- Whether or not university teaching system is necessary for success in life .Students were asked to give three reasons to support/refute their positions.
- With or against traditional or progressive education. Students were asked to choose a position and provide evidence to support their stance using sources and readings given to them during the exam.
- With or against parental control. Students were asked to argue either against or for authoritarian parenting using sources and evidence from readings given to them during the exam.

To elaborate, the pre-essay was conducted on the second week of January, the midterm essay on the eighth week in March, and the final essay on the end of the fourteenth week in April. The researcher selected a “purposeful sample” to collect student essays. The reason was to find data that is rich and informative for analysis. Qualitatively, an in-depth analysis of the pre, midterm, and final essays was used to trace the development of clear writing based on Diederich’s established framework of the seven traits of clear writing (See Chapter Two, Table 2, p.27). Further, collected essays were also analyzed qualitatively to trace the development of critical thinking; before the implementation of the five CTs, after the implementation of the first two CTs, and after the completion of the five CTs using the *Holistic Critical Thinking Scoring Rubric* (HCTSR) by Facione and Facione (1994) .Finally, students’ essays were analyzed quantitatively using statistical analysis and a T-test to measure students’ performance before, during and after the study period.

3.3.2.1 The Selection Process of Student Essays

With regards to the selection process of the pre, midterm, and final essays, the researcher selected six sets of essays as representative samples of three levels within each group: beginner, intermediate, and advanced. Each set consists of six essays for each level, totaling eighteen essays for each group and thirty-six essays for both groups.

The criteria for selecting the essays within each group are based on dividing students into three levels (beginner, intermediate, and advanced). To make these decisions, the researcher relied on students' results in the pre-test essays. The essay scores are determined using the *Department Persuasive/Argumentative Essay Selection Rubric* (Table 6) which is a composite of rubrics used in different American courses taught at Barry University, Bowdoin College, Yale University, Manatee Community College, and Florida International University. The rubric was developed by the researcher and her colleague and approved by the faculty (twenty-six members) of the Department of Languages and Translation. The role of this rubric is to determine students' levels and score the essays selected to represent these levels. The scale of the rubric ranged between 10-9 (excellent), 8-7 (very good/), 6-5 (good), 5-4 (limited), and below four as fail or (seriously limited|). These terms were decided and approved by the Department members. Fractions were rounded to the nearest number. This rubric is presented in Table 6.

Table 6

The ENGC 231 Department Persuasive/Argumentative Essay Selection Rubric

Total score is out of 60 (10 points per item) Final grade is out of 20 points	**excellent 9-10**	**very good 7-8**	**good 5-6**	**Limited 4-5**	**seriously limited below 4- 0**	**Mark out of 10 /per each category**
Thesis	Easily identifiable, plausible, novel, crystal clear.	Promising but maybe slightly unclear.	Unclear, contains vague terms, provides little around which to structure the paper	Difficult to identify	Has no identifiable thesis or an utterly incompetent thesis. Shows lack of effort or comprehension of the assignment	
Structure: 1. Introduction 2. 3 body paragraphs 3. Conclusion	Introduction is strong and effective and presents the opposing arguments. Body offers excellent transitions from point to point. Paragraphs support solid topic sentences. Conclusion restates the position and ties everything together.	Introduction is generally clear and appropriate, presents opposing views but may wander a little. Body paragraphs may have a few unclear transitions, or lack strong topic sentences. Conclusion restates the position but doesn't tie everything together.	Introduction is too short and does not present opposing views. Body paragraphs are clear, but often wander or jump around. There are few or weak transitions in and between body paragraphs and there are many paragraphs without topic sentences. Conclusion is too short.	Introduction is inappropriate. Unclear, often because thesis is weak or non-existent. Transitions in the body are confusing and unclear. There are no topic sentences. Conclusion is one sentence long.	No clear structure or organization. There is no conclusion. The paper just ends.	

Total score is out of 60 (10 points per item) **Final grade is out of 20 points**	**excellent** **9-10**	**very good** **7-8**	**good** **5-6**	**Limited** **4-5**	**seriously limited below 4- 0**	**Mark out of 10 /per each category**
Use of evidence: 1. Examples 2. Use of sources	Examples support thesis and fit within paragraph. Information from sources is incorporated to support every point.	Examples used to support most points. Some evidence does not support the points or may appear where inappropriate. Some factual information is incorporated.	Examples support some points. A moderate amount of factual information is incorporated.	Very few or weak examples or factual information. General failure to support statements, or evidence seems to support no particular point.	No attempt has been made to incorporate factual information or interpret primary and secondary sources.	
In-text citation: 1. Choice of quote or /& paraphrase 2. Its Integration	Citation is used efficiently and correctly, and a variety of quotations are appropriately incorporated in text.	Citation is used efficiently and correctly, and quotations are appropriately incorporated in text, but there is no variety in usage.	Citation is used efficiently, but in an incorrect way. Quotations are poorly integrated into sentences.	Citation is used but inefficiently and incorrectly. The citation does not seem to support a clear point. Quotations are poorly integrated into sentences	Citation is not used.	
Logic and argumentation: Usage of <u>one</u> of these argumentative techniques: 1. Counter arguments 2. Concession 3. Refutation	All ideas flow logically. The argument is identifiable, reasonable, and sound. There is effective use of counter-arguments and writer makes connections to support his claim or thesis.	Argument is clear and flows logically. Some evidence that counter arguments do exist, but not addressed. Little connections between ideas are made to support thesis.	Logic may often fail, or the argument may be unclear. May not address counter- arguments or make any connections with the thesis. May also contain logical contradictions.	Ideas do not flow at all, usually because there is no argument to support. There is a simplistic view of the topic and there is very little or weak attempt to relate evidence to argument.	Too incoherent to determine.	
Grammar: 1. sub-verb agreement 2. Tenses 3. Fragments 4. Run on sentences Mechanics: 1. Capitalization 2. Punctuation <u>Instructions for teachers:</u> • Total mark is out of 60 for each essay • Add the marks beside each item and tally results out of 60 • Divide the overall mark over 60 and multiply by 20 to get the final mark. • Final grade is out of 20	Language is clearly organized. Punctuation, sentence structure, and grammar; minimal or no spelling errors; absolutely no run-on sentences or comma splices.	Sentence structure and grammar strong despite occasional lapses; punctuation used correctly. Some spelling errors and at least one run-on sentence, sentence fragments, and comma splice.	Minor problems in sentence structure and grammar. Multiple errors in punctuation, and spelling. May have several (two to five) run-on sentences, sentence fragments, and comma splices.	Huge problems in sentence structure and grammar. Frequent errors in punctuation, and spelling. May have many (more than five) run-on sentences, sentence fragments, and comma splices.	Very difficult to understand owing to major problems in mechanics.	

In order to divide students into levels, the researcher relied on the results of the pre-essay grades for fifty one students in both sections. These results indicate that the highest grade is thirteen and the lowest is five out of twenty points. Therefore, and in order to divide students into three levels, the researcher calculated the differences between the lowest and highest grades (5-13=8), and then divided them by the number of the levels as a medium point (8/3=2.6). Accordingly, students are classified as follows: 5-7.9 as beginners, 8-9.9 as intermediate, and 10 and above as advanced.

To sum up, the total number of the beginner level students in the control group is three, the intermediate level is fifteen, and the advanced level is eight students. While the total number of beginner level learners in the experimental group is five students, the intermediate level is ten students, and the advanced level also is ten students.

3.3.2.2 Analysis of Clear Writing for Student Essays

Thirty six essays are selected from both sections and on three different intervals during the study period; the pre-essay is selected during the second week, the midterm essay is selected during the eight week, and the final essay during the end of the fourteenth week. For analysis of clear writing, the researcher compiled a rubric called *The Clear Writing Evaluation Rubric* established on the basis of Paul Diederich's seven traits of clear writing (Meyer, Sebranek, & RYs, 2011). The purpose of the *Clear Writing Evaluation Rubric* is to check the development of clarity in essay writing. It was given to nine referees for review and assessment. Two of these referees have PhD degrees, while the other seven have MA degrees in Teaching English as a Foreign Language (TEFL), applied linguistics, curriculum development, creative writing, and education. These referees earned their certificates from various universities in the US, England, and Canada (See Appendix Three for names of referees). The rubric is given in Table 7:

Table 7

Clear Writing Evaluation Rubric

Score	Category	Level of Clarity in writing	Essay Scoring Rubric
Score of 5	**Effective**	**Clear and consistent**	**An essay in this category is effective if it has the following:** 1. Effectively and insightfully develops a point of view on the issue with clear focus using relevant examples and supporting details. 2. Is well organized and clearly focused, demonstrating a smooth progression of ideas, coherence and cohesion. 3. The tone is clear and convincing. 4. Exhibits skillful use of vocabulary. 5. Demonstrates meaningful use of sentences that are easy to read. 6. Is generally free of most common errors in grammar, usage, and mechanics.
Score of 4	**Somewhat effective**	**Clear**	**An essay in this category is somewhat effective if it has the following:** 1. Effectively develops a point of view on the issue with clear focus using some relevant examples and supporting ideas. 2. Is organized enough and clearly focused, demonstrating adequate progression of ideas and adequate coherence and cohesion. 3. The tone is generally clear and convincing. 4. Exhibits appropriate use of vocabulary. 5. Demonstrates good use of sentences that are easy to read. 6. Has some errors in grammar, usage, and mechanics.
Score of 3	**average**	**To some extent clear**	**An essay in this category is average if it has the following:** 1. Develops a point of view on the issue with some clear focus using some relevant examples and supporting ideas. 2. Is limited in organization and sometimes focused demonstrating some progression of ideas and somewhat adequate coherence and cohesion. 3. The tone is somewhat clear and to a certain extent convincing. 4. Exhibits generally appropriate use of vocabulary with some inconsistency. 5. Demonstrates some variety in use of sentences with occasional lapses. 6. Has errors in grammar, usage, and mechanics.
Score of 2	**Somewhat limited**	**Unclear**	**An essay in this category is somewhat limited if it has the following:** 1. Develops a vague point of view on the issue providing irrelevant examples or supporting details. 2. Is not organized and lacks a logical flow of clear ideas, coherence, or cohesion. 3. The tone is not apparent. 3. Lacks facility in the use of language with inappropriate vocabulary. 4.Demonstrates frequent problems in sentence structure. 5. Contains many errors in grammar, usage, and mechanics.
Score of 1	**Seriously limited**	**Totally unclear**	**An essay in this category is seriously limited if it has the following:** 1. Develops no viable point of view on the issue, no focus, and no examples or supporting details. 2. Is poorly organized and *lacks* logical flow of clear ideas, coherence, and cohesion. 3. There is no tone. 4. Lacks facility in the use of language with weak vocabulary. 5. Demonstrates serious problems in sentence structure. 6. Contains an accumulation of errors in grammar, usage, and mechanics.

This means that an effective essay is both clear and consistent, a somewhat effective essay is clear, an average essay is to some extent clear; a somewhat limited essay is unclear while a seriously limited essay is totally unclear.

3.3.2.3 Pre-essays

The pre-essay was administered at the beginning of the second semester in January, 2012. Students were asked to write a persuasive/argumentative essay on a controversial topic. It is necessary to note that students were not exposed to any teaching strategy in writing before the study period. The pre-essay prompt asked the students to write an argumentative essay about a topic that was related to whether their University teaching in its system was necessary for success in life. Students were asked to support their argument by giving three reasons in reference to a reading. (See Appendix Four for instructions from the pre-essay test).

Twelve pre-test essays were selected for both groups from three different student levels (beginner, intermediate, and advanced) six essays per group. These essays were analyzed both qualitatively and quantitatively. Qualitatively, the researcher used the *Clear Writing Evaluation Rubric* established by Diederich (see Table 7). Quantitatively, the twelve pre-essay tests were also analyzed using a T-test to measure participants' baseline level of essay writing before the implementation of the critical thinking strategies. These essays are analyzed for students' critical thinking at the beginning of the study.

3.3.2.4 Midterm Essays

The midterm essay was administered during the eighth week of the second semester in March, 2012 following the implementation of the first two CTs (Instructional Scaffolding and PMI). Those essays were analyzed for students' critical thinking level at the beginning of the study.

Students were asked to write a persuasive/argumentative essay on a controversial topic. (See Appendix Five for instructions from the midterm essay test). The midterm essay asked the students to synthesize and write an argumentative essay about a topic based on reading materials that related to whether they were with or against traditional vs. progressive education during a two-hour exam.

Twelve midterm essays were selected for both groups from three different student levels (beginner, intermediate, and advanced); six essays per group. These essays were analyzed both qualitatively and quantitatively. Qualitatively, the researcher used the *Clear Writing Evaluation Rubric* established by Diederich (See Table 7). Quantitatively, the twelve midterm essay tests that are administered to both groups are also analyzed using T-test to

measure participants' level of essay writing after the implementation of the first two CTs (Instructional scaffolding and PMI).

3.3.2.5 Final Essays

The Final test essay was administered at the end of the 14th week of the second semester in April, 2012 following the implementation of the five critical thinking strategies to both groups and the use of cooperative learning as a paradigm for the experimental group only**.** Those essays were analyzed for critical thinking after the completion of the five CTs. Students were asked to write a persuasive/argumentative essay on a controversial topic.

The final-test was prepared by committee members from the Department of Languages and Translation. Both the control and the experimental groups sat for the same final-test that is prepared for all 30 sections of the ENGC 231 course. The final exam asked students to synthesize and write an argumentative essay about *parental controllin*g in reference to readings provided for students during the two hour exam (See Appendix Six for instructions from the final essay test).

Twelve Final essays were selected for both groups from three different student levels (beginner, intermediate, and advanced); six essays per group. These essays were analyzed both qualitatively and quantitatively. Qualitatively, the researcher used the *Clear Writing Evaluation Rubric* established by Diederich (Table 7). Quantitatively, the twelve final essay tests that are administered to both groups were also analyzed using T-test to measure participants' performances after the implementation of the five critical thinking strategies.

3.3.2.6 Analysis of Critical Thinking for Student Essays

The thirty-six selected essays chosen as a purposeful sample from both sections and on three different intervals during the study period were analyzed qualitatively to trace the development of critical thinking using the *Holistic Critical Thinking Scoring Rubric* (HCTSR) by Facione and Facione (1994) presented in below. The analyzed thirty six essays corresponded to three study periods: before the implementation of the critical thinking strategies, after the implementation of the first two CTs Instructional scaffolding & PMI (midterm essay), and after the completion of the five CTs (final essay).

The Holistic Critical Thinking Scoring Rubric
A Tool for Developing and Evaluating Critical Thinking
Peter A. Facione, and Noreen C. Facione.

Strong 4. Consistently does all or almost all of the following:
Accurately interprets evidence, statements, graphics, questions, etc.
Identifies the salient arguments (reasons and claims) pro and con.
Thoughtfully analyzes and evaluates major alternative points of view.
Draws warranted, judicious, non-fallacious conclusions.
Justifies key results and procedures, explains assumptions and reasons.
Fair-mindedly follows where evidence and reasons lead.

Acceptable 3. Does most or many of the following:
Accurately interprets evidence, statements, graphics, questions, etc.
Identifies relevant arguments (reasons and claims) pro and con.
Offers analyses and evaluations of obvious alternative points of view.
Draws warranted, non-fallacious conclusions.
Justifies some results or procedures, explains reasons.
Fair-mindedly follows where evidence and reasons lead.

Unacceptable 2. Does most or many of the following:
Misinterprets evidence, statements, graphics, questions, etc.
Fails to identify strong, relevant counter-arguments.
Ignores or superficially evaluates obvious alternative points of view.
Draws unwarranted or fallacious conclusions.
Justifies few results or procedures, seldom explains reasons.
Regardless of the evidence or reasons, maintains or defends views
based on self-interest or preconceptions.

Weak 1. Consistently does all or almost all of the following:
Offers biased interpretations of evidence, statements, graphics, questions,
information, or the points of view of others.
Fails to identify or hastily dismisses strong, relevant counter-arguments.
Ignores or superficially evaluates obvious alternative points of view.
Argues using fallacious or irrelevant reasons, and unwarranted claims.
Does not justify results or procedures, nor explain reasons.
Regardless of the evidence or reasons, maintains or defends views
based on self-interest or preconceptions.
Exhibits close- mindedness or hostility to reason.

According to Facione and Facione (1994), the following points should be observed: “1) understand what the rubric is intended to address: this four level rubric treats critical thinking as a set of cognitive skills in which a good critical thinker engages in analysis, interpretation, evaluation, inference, explanation, and meta-cognitive self-regulation. 2) Differentiate and focus: holistic scoring requires focus on critical thinking, content knowledge, and technical skill. In scoring for any one of the three, the scorer must attempt to focus the evaluation on that element to the exclusion of the other two. To use it correctly, one must apply it with focus only on the critical thinking-that is the reasoning process used 3) Practice, coordinate, and reconcile: in a training session with other rater, sample essays which are representative of each of the four levels are examined. Raters will be asked to evaluate and assign ratings to these samples.” (Facione & Facione, 1994, p.1).

Based on these criteria, both the researcher and her colleague followed certain procedures using inter-rater reliability to establish consistency and agreement. First, they independently corrected a sample of student essays. Then, it was given to a third rater for review and assessment. After review, both the researcher and her colleague proceeded with the correcting process. The rating scheme for the thirty six essays depended on the established criteria set by the (*HCTRS*). Each student essay obtained a score from 1-4 based on the established criteria. To care for subjectivity in rating, the two raters focused on scoring the essay writings independently and then they conducted a session together, so there was a discussion and agreement on the ratings. According to the rubric, if two scorers disagreed on the scores attributed to each writing essay, there are three ways to overcome the conflict: a) by mutual conversation b) by using a third scorer, and c) by taking the average of the two initial ratings. Half point scoring in this rubric is inconsistent with its intent; therefore, the first way is applied between the two raters.

Following these procedures, the researcher collected necessary data, and grouped the results of student essays based on the *HCTSR* into three levels: beginner, intermediate, and advanced levels. Students who scored between 1 and 2 (weak and unacceptable) are considered beginner level learners. Students who scored 3 (acceptable) are considered intermediate level learners. Finally, students who scored a 4 (strong) are considered advanced level learners.

3.3.3 Attitude Questionnaire

To investigate students' attitudes in the experimental group towards the cooperative learning environment to which they were exposed in essay writing throughout the study period, the researcher adopted the Johnson's (1983) questionnaire "Classroom Life Instrument," which is a five-point Likert type scale that addresses cooperative learning in the class . This instrument is designed by the Johnsons to measure twelve factors that directly relate to cooperative learning including: teacher academic support, teacher personal support, student academic support, student personal support, goal interdependence, resource interdependence, cooperation, alienation, extrinsic social support, cohesion, academic self - esteem, and fairness in grading. The researcher chose eight factors only from the 12 factors because they directly relate to the focus of the study, these eight factors are : teacher academic support, teacher personal support, student academic support, student personal support, goal interdependence, resource interdependence, cooperation , and fairness in grading.

The researcher contacted Dr. Roger Johnson and he provided her with the original copy of the questionnaire "Classroom Life Instrument". This instrument has been used many times in research on cooperative learning with both college and school students. For example, it has been used in a study that is conducted by Genevieve Marie Johnson (2005) on undergraduate college students enrolled in an educational college level psychology course. The study is titled *Student alienation, Academic Achievement, and Web CT Use*. Her investigation sought to understand the relationships between college student alienation, academic achievement, and use of WebCT as part of cooperative learning. Further, it has been used in another study that is conducted by the Johnsons, Buckman and Richards from the Cooperative Learning Center at the University of Minnesota. The study is titled *The Effect of the Prolonged Implementation of Cooperative Learning on Social support within the Classroom (1995),* and it targeted eighth grade school students.

Dr. Johnson provided the researcher with two forms of the questionnaire: a long version and a short version. The long version consists of 90 questions that target students' perceptions on a broad range of factors including cooperation, peer relationships, teacher relationships and self esteem (See Appendix Seven of the Long Form of the Johnson's Questionnaire). While the second version consists of a simplified form that consists of 59 questions that address students' perception on cooperative learning. Thus, Dr. Johnson advised the researcher to use the short version because the long version has more factors than needed. However, both versions are based on the five essential elements of cooperation from social interdependence

theory (positive interdependence, individual accountability, cooperative skills, processing (monitoring), and promotive interaction. Therefore, the researcher adopted in this study the short version that consists of 59 questions that target the five essential elements of cooperative learning. Consequently, the choice of questions and numbers in this study correspond with the short version (See Appendix Eight of the Short Form of the Johnson's Questionnaire).

The questionnaire was administered by the researcher to the experimental group in the original form of the short version. All students completed the fifty –nine items in the questionnaire. The questionnaire results were analyzed quantitatively using the Statistical Package for Social Sciences (SPSS). Descriptive statistical analysis (means reverse coding, and standard deviations) are used to analyze learners' responses to the questionnaire. The researcher followed certain procedures to administer the questionnaire. At first, she explained to the students that this questionnaire aimed to check their attitudes towards using cooperative learning in their class. She explained that their contribution would help the department to develop this writing course and its methodology. She also read the instructions clearly and asked them to follow the required scale to make sure that all students understood what they were supposed to do and how they were supposed to answer. Later, the researcher distributed twenty-four questionnaires (one of the twenty-five students was absent). The twenty four questionnaires were all filled and returned to her.

Students' responses to the positive items in the questionnaire were coded using the following scale: one equals completely false, two equals false much of the time, three equals sometimes true and sometimes false, four equals true most of the time, and five equals completely true. With regards to the scale of the questionnaire, the researcher and based on the instrument itself concluded that if the mean was more than three, then learners had a positive attitude towards using cooperative learning. If the mean of the responses was less than three, that means that students had a negative attitude towards using cooperative learning. This assumption is based on the fact that the Likert scale ranges from one, which is completely false and negative, to five, which is completely true and positive. The scale of three lies at the center, and therefore, is the mid-point.

In the process of collecting data from the questionnaire after its administration, the researcher ended up analyzing only thirty-eight items out of fifty-nine original items that were filled by the participants in the study for two main reasons. The first reason is that 4 questions from the 59 had a negative response, and the other reason is that 17 other questions do not correspond with the focus of the study and its intended factors.

To elaborate on the first reason, all of the fifty - nine original items had positive answers except for four questions that were excluded from the analysis and were considered negative items. These items are question number 2 which belongs to the first factor *Teacher Academic Support.* The second item (Q19) which belongs to factor fifteen about *Controversy*. The third item is (Q26) which belongs to the fifth factor *Goal Interdependence*. And the final item (Q33) which belongs to the seventh factor (*scale 2) about cooperation*. The reason for doing that is that these four questions had a negative response and their degree of coherence did not correspond with the overall responses given by students in the questionnaire. This can be attributed to students either not understanding the questions or not understanding their inferences. As a result, these four questions were removed.

Furthermore, seventeen other questions were also removed because they addressed the four factors that were eliminated since they are beyond the scope of the study and they also addressed irrelevant variables. The excluded factors are: *alienation, extrinsic social support, cohesion, and academic self – esteem.* To illustrate, the main focus of this study is to examine only eight factors from the twelve factors that the questionnaire originally addressed. According to Dr. Roger Johnson, because the items are factor analyzed, they can be used independently and the researcher can choose the factors needed to be used to achieve the purpose of this study. The selection of these eight factors was determined by the researcher's focus on the five elements of cooperative learning: positive interdependence, individual accountability, face-to face interaction, appropriate use of collaborative skills, and group processing. All these factors target the social aspect of cooperative learning that focuses on cooperation in the class (See Chapter Two). Therefore, the total number of items analyzed using SPSS is thirty-eight items only from the short form of the "Classroom Life Instrument".

In order to present the questionnaire results as clearly as possible, the researcher grouped the thirty-eight questionnaire items based on the scales and dimensions included in the "Classroom Life Instrument". These eight factors are, (a) teacher academic support (22, 28, and 38), (b) teacher personal support (13, 15, 40, and 43), (c) student academic support (1, 5, 17, and 25), (d) student personal support (7, 20, 29, 31, and 35), (e) goal interdependence (8, 14, 21, 27, and 34), (f) resource interdependence (39, 47, 50, 52, and 56) (g) cooperation (51, 53, 54, 55, 57, 58, and 59) and (h) fairness of grading within groups (16, 32, 42, 45, and 49).

To elaborate, learners' attitudes towards cooperation is shown in the first factor; **Teacher Academic Support** as illustrated in Table 8. The researcher wanted to measure how students responded to her academic role while working in groups. According to the Johnson,

Johnson, and Smith (1991), her role is to scaffold, mentor, provide feedback, and guide the dialogue of the groups.

Table 8

1. Learners' Attitudes Towards Teacher Academic Support

Item Number	Question
Q22	My teacher cares about how much I learn
Q28	My teacher likes to see my work
Q38	My teacher wants me to do my best schoolwork

Learners' attitudes towards cooperation is shown in the second factor; **Teacher Personal Support** as illustrated in Table 9. The researcher selected this factor because it is important to see the nature of the relationship between her and the students. Many students wanted encouragement during work, especially while writing. Therefore, the main purpose of the researcher is to create a positive atmosphere that would motivate them. They needed emotional scaffolding in addition to academic scaffolding. This factor is illustrated by Table (9) below:

Table 9

2. ***Learners' Attitudes Towards Teacher Personal Support***

Item Number	Question
Q13	My teacher really cares about me
Q15	My teacher thinks it is important to be my friend
Q40	My teacher likes me as much as he/she likes other students
Q43	My teacher cares about my feelings

Learners' attitudes towards cooperation is shown in the third factor; **Student Academic Support** as illustrated in Table 10. This factor is important because it reveals how much students like and accept each other. Also, it reveals the level of cooperation vs. competition between them. Therefore, the researcher observed their dialogue and interaction while working in groups to examine their group processing and cooperative skills. For example, she noticed how they distributed tasks and roles among each other while implementing their tasks in an informal cooperative setting.

Table 10

*3. **Learners' Attitude Towards Student Academic Support***

Item number	Questions
Q1	Other students in this class want me to do my best schoolwork
Q5	In this class other students like to help me learn
Q17	In this class, other students care about how much I learn
Q25	Other students in this class want me to come to class today

Learners' attitudes towards cooperation is shown in the fourth factor; **Student Personal Support** as illustrated in Table 11. The researcher observed how students accepted individual differences in their groups. This directly relates to individual accountability as a main element in cooperative learning. Also, this factor indicates how well they worked as a team in the Johnsons' "sink or swim approach." The fourth factor is illustrated by table (11) below:

Table 11

*4. **Learners' Attitudes Towards Student Personal Support***

Item number	Questions
Q7	Other students in this class think it is important to be my friend
Q20	In this class, other students like me the way I am
Q29	Other students in this class care about my feelings
Q31	Other students in this class like me as much as they like others
Q35	In this class, other students really care about me

Learners' attitudes towards cooperation is shown in the fifth factor; **Goal Interdependence as** illustrated in Table 12. This is the most significant of the five elements of cooperative learning. The researcher observed students' perceptions of joint outcomes and how the groups shared learning the assigned material. To examine this factor, the researcher gave one reading to the members in each group. Also, it is important to check if students set a shared learning goal as a team.

Table 12

5. ***Learners' Attitudes Towards Goal Interdependence***

Item number	Questions
Q8	When we work together in small groups we try to make sure that everyone in the group learns the assigned material
Q14	When we work together in groups , our job is not done until everyone in the group has completed the assignment
Q21	When we work together in small group , we all receive the same grade
Q27	When we work together in small groups , our grade depends on how much all members learn
Q34	When we work together in small groups, I have to make sure that the other members lean if I want to do well on the assignment

Learners' attitudes towards cooperation is shown in the sixth factor; **Resource Independence** as illustrated in Table 13**.** The researcher observed how the division of labor takes place in each group. In addition, she examined the "jigsawing" of material and their perception towards that. For example, she observed how students dealt with the material when given to beginner students compared to advanced students within the same group.

Table 13

6. ***Learners' Attitude Towards Resource Independence***

Item number	Questions
Q 39	When we work together in small groups, we cannot complete an assignment unless everyone contributes
Q47	When we work together in small groups, the teacher divides up the material so that everyone has to share
Q50	When we work together in small groups, we have to share materials in order to complete the assignment
Q52	When we work together in small groups, every one's ideas are needed if we are going to be successful
Q56	When we work together in small groups, I have to find out what everyone else knows if I am going to be able to do the assignment

Learners' attitude towards cooperation is shown in the seventh factor; **Cooperation** as illustrated in Table 14 .The researcher wanted to measure their attitudes toward working cooperatively with other students. She observed how they shared ideas, helped each other, refuted and argued, and how they determined importance while working.

Table 14

*7. **Learners' Attitudes Towards Cooperation***

Item number	
Q51	In this class I like to share my ideas and materials with other students
Q53	In this class, I can learn important things from other students
Q54	In the class, I like to help other students learn
Q55	In this class, I try to share my ideas and materials with other students when I think it will help me
Q57	In this class, it is a good idea for students to help each other learn
Q58	In this class, I like to cooperate with other students
Q59	In this class, students learn a lot of important things to each other

Learners' attitude towards cooperation is shown in the eighth factor; **Fairness in Grading** within groups as illustrated in Table 15. For example, any paper that the researcher takes to assess any group represents the grade of the whole group. The purpose was to ensure that all students were working equally on each assignment and that everyone in the group worked hard and had an equal chance to be successful.

Table 15

*8. **Learners' Attitudes Towards Fairness in Grading***

Item Number	
Q 16	Everyone in this class has an equal chance to be successful if they do their best
Q32	If a student works hard, he/she can definitely succeed in this class
Q42	Students in this class get the scores they deserve, no more no less
Q45	I deserve the scores I get in this class
Q49	Sometimes I think the scoring system in this class is not fair

3.4 Research Procedures

3.4.1 Implementation of the Research

A series of procedures are undertaken during the study period:

1. Two ENGC 231 sections (fifty one students) are randomly selected to participate in the study: one of them is used as the experimental group (twenty five students), and the other as the control group (twenty six students).
2. Students' compiled course book for the ENGC 231 are surveyed to identify the different strategies of reading various types of texts at different levels of comprehension & to examine the rhetorical strategies in teaching essay writing. The researcher found that it was necessary to replace and supplement some advanced reading passages to draw on thematic topics such as education, family values and gender roles. The purpose is to address academic and non-academic genres (Vygotsky, 1978 as cited in Graham, 2006) that students could react to from personal experience and also could reflect upon from more academic viewpoints.
3. A pre-essay writing task was conducted to both groups during the second week of. It was a two-hour in-class writing test during which students were asked to respond to a written prompt that discusses a controversial topic based on a reading .During the essay test, students were not allowed to discuss their topic with peers. They were also not allowed to ask the instructor for any vocabulary meaning or spelling. The same procedures were conducted in both sections.
4. The infusion of the five CTs and associated techniques in the writing stages was determined by the requirements of each stage (see table 5 for implementation of the five CTs). For example, the first three CTs, scaffolding, PMI, and Socratic questioning were infused into the early stages of pre-writing and planning using the brainstorming, modeling, and graphic organizing techniques. At this stage of writing, brainstorming is a good start for constructing, connecting, and transferring knowledge to new contexts. This stems from the researcher's belief that at the discovery stage, beginning learning stage, it is necessary to introduce learners to strategies that help them to generate new thoughts, organize them, plan for using them, establish links between them, and finally, recall them when needed. In addition, the researcher selected topics that relate to the learners' experiences to enable them to construct meaning, understand, internalize, write, reflect, and re-write their essays by creating a rich, motivating classroom environment. After some practice in writing, the last two CTs (problem-posing & Hegelian dialectic) were infused

into the actual and final stage of writing, which includes drafting, editing, and revising the first draft of an argumentative essay. The time duration for conducting the first three CTs lasted for two-three writing sessions, whereas the last two CTs lasted for four to five writing sessions.

Unlike the experimental group, the control group used a conventional method of teaching in a non-cooperative setting. Students were seated in rows and they were taught the material by the teacher. The researcher in the experimental group created a constructivist classroom that abides by the principles of constructivism using a learner-centered approach to teaching (See Chapter Two, pp.11-12).

3.4.2 Use of Cooperative Learning in the Current Study

In order to prepare the students and build a caring and supportive learning community in the beginning learning stages, students were instructed about their classroom environment where they will work together and cooperate in groups**.** In this study, the researcher selected the Johnsons' cooperative learning module for implementation as it provides the means of operationalizing a new paradigm of teaching to create a context that has provided scaffolding for the five critical thinking strategies within which the development of student critical thinking was examined. The researcher implemented the three procedural types of cooperative groups including, formal, informal, and structured controversy.

3.4.2.1. Formal Cooperative Learning Groups

During the first seven weeks, the experimental group was divided into formal cooperative learning groups with fixed membership, and well-defined short writing tasks to accomplish. Instructional Scaffolding such as (modeling, graphic organizers, and reflective writing) and PMI were the two main CT strategies infused in the pre-writing stage. An example of a cooperative learning session the researcher conducted in two sessions, three hours, is described below. This lesson is based on the guidelines suggested by Johnson, Johnson, and Smith (1991).

(A) **Pre-instructional decisions were made by the researcher prior to each session. Some of these decisions include:**

- Maximizing the heterogeneity of students by placing high, medium, and low-achieving students within the same learning group. Each group consisted of four members. The purpose was to promote optimal student combinations. These groups stayed together for

the whole seven weeks. The purpose was to "help groups remain stable long enough to be successful. Breaking up groups that are having trouble functioning effectively is often counterproductive, as the students do not learn the skills they need to solve problems in collaborating with each other," (Johnson , Johnson & Smith 1991, p.7).

- Arranging the room as a symbolic message of what is appropriate behavior. Members of a learning group sat close to each other so that they could share material, maintain eye contact, and talk quietly.
- Planning the instructional material to promote interdependence. For example, the researcher gave only one copy of the materials to the group so that they could become accustomed to working together. In addition, group members were given different books or resources to be synthesized. This information interdependence would help every member participate in the group.
- Assigning roles to ensure interdependence. These roles include a **summarizer** (who relates the group's major conclusions), an **understanding checker** (who ensures that all group members can explicitly explain how to arrive at an answer or conclusion), an **accurac**y coach (who corrects any mistakes in another member's explanation or summaries), an **elaborator** (who relates current concepts and strategies to material studied previously), a **researcher runner** (who gets needed materials for the group from the instructor or other groups), a **recorder** (who writes down the group's decisions), an **observer** (who keeps track of how well the group is cooperating) , and an **IT explorer**.

In order to ensure positive interdependence among the four members in the group as suggested by Johnson, Johnson, and Smith (1991) and Cohen (1994), the researcher assigned one role to a member. However, roles such as checking for understanding, summarizing, elaborating, and observing are vital roles to which all four members were deliberately assigned. According to Johnson, Johnson & Smith (1991), "these roles are vital to high-quality learning and are often absent in the college classrooms" (p. 9).

(B) Structuring the writing academic task and explaining it to the students. Students needed to be clear about the assignment and understand the objectives of the lesson. These academic tasks include:

- Reading a passage related to the theme of education by using the T-chart to analyze it. The purpose in writing a summary was to show their understanding of the work's main ideas and the relationships among those ideas**.**

- Writing an analytical response: Students needed to write an analytical response to the reading passage. In this part, they explained the elements of structure and style that the author has chosen.[17]
- Directing students by modeling a sample from the reading passage and defining and explaining some key concepts and principles such as the CT strategies. The researcher at this point modeled the assigned scaffolding strategies like the persuasive graphic organizer. This strategy was separately presented and explained to students for the purpose of guiding them on how to write a summary and a reflection, in addition to planning effectively for their essays.
- Asking the class specific questions to check their understanding of their roles and assignments.
- Explaining the criteria for success by ensuring that all group members were given the responsibility to work together. They would sink or swim together.

(C) The role of the researcher at this point was to:

- intervene and provide task assistance while groups were processing,[18]
- Scaffold students while writing their summaries and reflections collectively, and
- Assess students collectively by using the "sink or swim approach."

Different writing sessions and prompts were used throughout the course, with a focus on formal cooperative learning for the experimental group. Students explored a wide range of writing skills and were introduced to the structure of writing a persuasive or argumentative essay. The researcher also emphasized the importance of planning, drafting, and editing. Students were encouraged to spend time peer editing in groups too. Students wrote either collective essays and assessed them in groups or individual essays as a graded assignment to be completed at home.

Other activities in other cooperative learning sessions targeted not only teaching writing using CT skills, but also teaching students some team-building and leadership skills. The chief purpose of these activities was to set an engaging environment to motivate students,

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[17] GASP : think of the *Genre, Audience**, Stylistic** devices and purpose ;*
- Denotative and connotative word choice (house & home)'
- Writer's attitude;
- Recognizing tone;
- Analyzing style and word choice ;
- Repetition.

[18] Group processing is defined as reflecting on a group session to (a) describe what member actions were helpful or unhelpful, and (b) make decisions about what action to continue or change. The purpose is to clarify and improve effectiveness to achieve group's goal (Johnson, Johnson, & Smith. 3:10, 1991).

promote mutual respect, and create trust by performing group tasks where learners must depend on one another and trust their team members to work toward a common objective. In addition, it is necessary to foster cooperation among members of the team. Some of these activities are the "On the Moon Activity" and "The Bridge Activity." They were warm-ups introduced at the beginning of every session. The purpose was to help students become more familiar with formal cooperative learning. As an example, "On the Moon," is a consensus-building icebreaker developed by NASA. This activity involves building a consensus among teams by reflecting on how decisions are made. The team's task was to role-play that they were the crew on board a spaceship due to rendezvous with the mother ship on the lighted side of the moon. Mechanical difficulties, however, have forced their ship to crash land 300 kilometers from the rendezvous point. The rough landing has damaged much of the equipment aboard. Their survival depends on reaching the mother ship. They had to choose the most essential items for the 300km trip. The task was to rank the items in order of importance to their crew in an attempt to reach the rendezvous point. They had to write number one for the most important item, number two for the second most important item, and so on, through to number fifteen. Another task was called the bridge activity in which students cooperated to build a bridge using newspapers and glue only.

3.4.2.2. Informal Cooperative Learning Groups

The second type of cooperative learning that is used during weeks of eight through twelve is called informal cooperative learning groups. Informal groups are temporary, ad hoc groups that last for only one discussion session. Their purpose is to focus student attention on the material to be learned, set a mood conducive to learning, help organize in advance the material to be covered in a class session, and ensure that student cognitively process the material being taught. Two of the CT strategies were introduced at this stage: Socratic questioning and problem-posing. These two strategies were introduced in the pre-writing stage and during actual writing and planning. Students used multiple readings and writing exercises, moving from general to specific in order to demonstrate their understanding of the content by self-regulating their learning. In addition, students accurately selected, interpreted, and justified evidence, and also identified relevant arguments, reasons and claims, and pros and cons.

When implementing the paradigm of informal cooperative groups, the researcher ensured that misconceptions and incorrect understandings were addressed, and learning experiences

were personalized, especially when using the Socratic questioning. In this paradigm, there was a shift in the role of the students as they assigned their own roles. Likewise, the role of the researcher shifted to providing students with direct lecturing and direct teaching to ensure that students understood concepts and did the intellectual work of organizing the material. Therefore, the researcher resorted to the pedagogy of lecturing during these sessions. The rationale for this pedagogy is based on (a) theories of the structure and organization of knowledge, (b) the psychology of meaningful verbal learning, and (c) ideas from cognitive psychology associated with the representation and acquisition of knowledge (Johnson, Johnsons & Smith, 1991). Socratic questioning in informal groups was used to help promote awareness of students' level of knowledge by generating and asking meaningful questions about their experiences.

While implementing the strategy of Socratic questioning in the form of a seminar where students were seated in circles, the researcher paid special attention to creating productive dialogue within focused groups. Students were given some control to divide assigned roles between them depending on their learning styles[19]. The researcher focused the students' attention on the quality of thoughts and productive dialogue during the process of planning to ensure that students cognitively processed the material being taught by discovering themes on their own, and accordingly was prepared to write their first draft. The fourth critical thinking strategy that is also introduced using informal groups is problem-posing by Freire. At this point, students analyzed, in the form of a case-based approach, argumentative visuals to generate themes, questions, and ideas responding to readings, then planned and wrote a well-organized argumentative essay. In-depth analyses of elements of critical thinking are utilized to write a clear paper. Students read cases addressing various topics that relate to division of labor in the household, decision-making, early marriage, and working mothers.

3.4.2.3. Academic Structured Controversy

In the last four weeks of the course, students monitored and self-regulated their own learning in preparation for their structured controversy group presentations as a project to prepare them to write a persuasive or argumentative essay on an individual basis. The last and most advanced critical thinking strategy, "Hegelian dialectic," was introduced to assist students in structuring the dialogue in order to reveal their thoughts to other members in the teams.

[19] Visual, auditory, and tactile/kinesthetic

At this stage, students should be able to manage to select, research, reason, and make decisions about controversial topics generated throughout the course. These ideas were generated from careful readings, reflective writings, and group discussions. In addition, the different CTs assisted students in re-thinking many of their assumptions about social and cultural topics. During this phase, students were prepared to enter the final stage of this project, which integrated cooperation and controversy. According to Johnson, Johnson and Smith (1991), the interpersonal exchange and intellectual challenge resulting from conflict among ideas and conclusions (i.e. controversy), promotes critical thinking and higher-level reasoning that will prepare students to write a persuasive or argumentative essay. Therefore, students were prepared for the concept of controversy, which existed when one student's ideas, information, conclusions, evidence, theories, and stances were incompatible with those of another in the group, and the two sought to reach an agreement.

Structuring academic controversies, as suggested by the Johnson's was implemented using certain procedures. First, students joined a group of four members: two for and two against an issue. Students were given the choice to select their own controversial topic stemming from their own interest. Then they researched the issue to organize their own information and prepare their positions. They categorized and organized their present information and experiences and arrived at a conclusion. Second, the team actively advocated for their positions. Each pair presented his /her position and reasoning to the opposition, thereby engaging in considerable cognitive rehearsal and elaboration of their position and its rationale. When the other team presented, students' reasoning and conclusions were challenged by the opposing view and they experienced conceptual conflict and uncertainty. Later, students discussed the issue, critically evaluating the opposition and its rationale, defending their positions, and comparing the strengths and weaknesses of each position. As a result of this uncertainty, students experienced "epistemic curiosity" and therefore, they (a) actively searched for more information to support their position, and (b) sought to understand the opposing position and its supporting rationale. Finally, the groups of four reached a consensus. The emphasis during this instructional period was for students to re-conceptualize their positions and synthesize the best information and reasoning from both sides. Finally, students were able to write a clear, well-organized argumentative essay that had a thesis, stance, in-text citation, and proper mechanics.

3.4.3 Course Design

The material was designed, compiled, and implemented by the researcher in consultation with her colleague. The material compiled to design thematic modules used different sources such as *Paragraphs and Essays: with integrated readings* for Brandon, L. & Brandon. K (2010); *The professor's Guide to Integrating Writing, Critical Thinking, and Active Learning in the Classroom: Engaging Ideas* for Bean, (2001); *Guidelines – a Cross-Cultural reading /Writing Text* for Spack (2007); *Read, Reason , Write: An Argument Text Reader for* Seyler, (2011) .

In the initial stage, the procedure adopted by the researcher was basically setting objectives, selecting content, planning learning strategies, and assessment. The designed modules sought to investigate the pedagogical implications of employing cooperative learning in developing writing using critical thinking strategies as a tool. The researcher investigated different sources about curriculum development before compiling her curriculum such as the Taylor Model and the critical pedagogy model. The structural framework for designing this material took into consideration the Tylor's Model[20], which the researcher believes is simple and adaptable to different educational goals and experiences. The design of the Taylor model is based on the nature and structure of knowledge, the needs of the society, and the needs of the learner[21]. In addition, Freire's critical Pedagogy is also considered in its philosophical approach for the selection of the five CTs.

The main educational goal of this study which revolves around teaching essay writing is to infuse five critical thinking strategies .This writing process is one in which students can develop and support their beliefs and evaluate the strength of arguments made by others in real-life situations within a cooperative learning environment. These processes also include practice in inductive and deductive reasoning, presentation of arguments in oral and written form, and analysis of the way language can influence thought. (See Appendix Nine for cooperative learning lesson plan).

[20] The Taylor model is a relatively rational and simple model that provides four steps for approaching the curriculum. This model was designed by Dr. Roger Taylor.

[21] There are four fundamental questions in developing the Taylor curriculum: (1) what educational purposes should the school seeks to attain? (2) What educational experiences can be provided that are likely to attain these purposes?(3) How can these educational experiences be effectively organized? (4) How can we determine whether and to what extent these purposes are attained? (Madeus & Stufflebeam (1989).

3.4.3.1 Content

With regards to the content, the ENGC 231 compiled course syllabus (see appendix 10 for compiled course syllabus) presents the sequence of the thematic topics, concepts and skills, and also provides a time-table indicating how the syllabus is covered in the different classes for both groups. The researcher and her colleague met with their students for three hours per week, every Tuesday and Thursday from 8:00 to 9:30. The material selected for the course was both knowledge-centered and community-centered. That is, the selected themes should target a deep understanding of subject matter and internalization for the purpose of encouraging the students to write about issues that relate to their own experiences. For example, based on the students' needs, emphasis was given to readings that develop understanding of other disciplines, especially social sciences and arts. There was also a concern for meta-cognition. The researcher wanted students to see the whole and not the parts. Therefore, using Ausubel's concept map, the researcher provided students with a "class trip poster".

The underlying premises and choice of ideas addressed in the content were also based on the philosophy suggested by Freire, which stresses the need to address social issues to generate social consciousness among the students. As such, dialogic, interaction, and development of the thinking process is necessary for them to internalize the writing process; these three important notions lie at the heart of critical thinking and pedagogy.

The content is selected and agreed upon by the researcher and her colleague based on the needs of the students. Therefore, two thematic ideas emerged from initial discussions with students: education, family values, and gender relations as main topics with interconnections between ideas and other sub-topics, such as traditional education, progressive education, standardized tests, violence including verbal, domestic violence, violence in schools, divorce, traditional marriage, early marriage, honor killing, women and media, and working mothers. The main purpose was to help students form an academic voice and perspective while writing. Therefore, the readings were selected from a wide range of literary and non-literary genres that are thematically linked to readings from different cultures so that students could relate texts to other texts, texts to the world, and texts to their own lives. For example, readings included academic and non-academic texts and topics that students could react to with personal experience and could also reflect upon from a more academic viewpoint. Attention was given in the classroom environment to reflective practice using the position papers, initial knowledge, skills, attitudes, and beliefs of the learners. Both the experimental and control

groups were exposed to the same content, and used the same five critical thinking strategies. But the two groups were exposed to two different methods of teaching: a non-cooperative setting for the control group and a cooperative setting for the experimental group.

3.4.3.2 Syllabus Implementation

Both instructors agreed that the main intended learning outcome in this course is to enable students to write clearly and skillfully, and become self-monitors, inquisitive, objective, and open-minded. They coordinated together to implement the syllabus. The course outline consisted of sixteen weeks, two classes per week. Each class lasted for one hour and twenty minutes. The five CTs are divided and implemented over the weeks (See Table 5 in Chapter Three, p.73).

To illustrate, both the researcher and her colleague structured four main writing goals into the course. One goal is to help students learn about the demands of writing for different situations and how to adapt information and arguments for varying audiences. A second primary goal is to enhance the ability of students to write with appropriate style and register. A third goal is to help students learn to adapt organization strategies and select appropriate forms of evidence while writing. A fourth goal was to enhance their planning, drafting, and revising skills. Further, thorough analysis and feedback was given to both sections of students throughout all stages of the writing process.

3.4.4 Teaching Methodology

3.4.4.1 Teaching Methodology for the Control Group

In the control group, the instructor provided direct instruction to the students using a conventional method in a non-cooperative setting. She emphasized basic skills in teaching the reading strategies by providing students with different scaffolds such as the T-chart and other graphic organizers. During this process, the instructor infused the second strategy (PMI) into the course by giving a presentation and then modeling this strategy for students to work with alone. Different writing prompts and in-class writing tasks were provided to students. Further, they were required to write position papers either in class or at home.

To ensure that the control group was taught the Five CTs in a non-cooperative setting, the researcher attended a class with her colleague. The researcher observed how the instructor strictly adhered to the reading passages that she provided to her students. The instructor disseminated information in the writing class while students were practicing their tasks

individually as recipients of feedback from the teacher only. The instructor was directive in providing instruction and students worked primarily alone or with the teacher. She modeled every CT on the blackboard, which in turn generated many classroom discussions that involved the whole class.

With both the cooperative and non-cooperative sections working at the same pace, the rest of the CTs were introduced for the purpose of writing two argumentative essays in preparation for the general exam that students would sit for at the end of the course. The instructors administered the final essay test at the end of April, 2012 using the rubric agreed upon in the department.

3.4.4.2 Teaching Methodology for the Experimental Group

The researcher who taught the experimental group created a constructivist classroom in which learning is constructed, active, reflective, collaborative, inquiry based, and evolving. In the classroom, the constructivist view of learning points towards of a number of teaching practices including inquiry learning as part of discovery learning, and project-based learning. The researcher executed both practices by helping students inquire and discover on their own using formal and informal groups. Further, she gave instructions and guided them to structure a project-based learning environment using structured controversy. To illustrate, students in the second and third CT discovered meanings on their own as they became active learners developing their skills. Also, students were engaged in groups in specific learning processes that include creating questions on their own using Socratic questioning, researching for supporting evidence to answer the questions of other members, explaining evidence, connecting new knowledge with prior knowledge, and finally creating their own stance, and writing clearly.

And in order to prioritize positive goal interdependence as the main aspect in cooperative learning, the researcher devoted the first eight weeks of class to creating a rich classroom environment. The main objective is for the students to enjoy writing, discover the pattern of how a paragraph moves to an essay, learn for understanding, and practice working within a formal cooperative learning setting. The role of the researcher, in the primary stages of the study, is to guide dialogue and help students construct their own knowledge about how to write. Her role is rooted in negotiation. In later stages, learning writing becomes an interactive, goal-directed, multilayered task. The five CTs pave the way for interaction among groups and with the teacher. The writing process is seen as dynamic and changing.

Later, the role of the researcher is reduced to being a facilitator, as students are working on their projects, and writing on their own. Their task at this point is to focus on their quality of thought, presentation, and language.

To illustrate, the researcher executed the use of cooperative learning in teaching writing activities by incorporating different writing tasks such as peer editing. This is an example of how cooperative learning is used in essay writing.

- **Task:** write an essay
- **Cooperative work:** all group members must verify that each member's essay is clear and well-written, according to a rubric given by the researcher. One of the scores for the essay will be the total number of errors made by the pair. An individual score on the quality of the essay is also given.

- **Procedure:**

1. The researcher assigns students to pairs with at least one good reader in each pair. The task of writing individual essays is given.
2. Student A describes to Student B what he or she is planning to write about. Student B listens carefully, probes with a set of questions, and outlines Student A's essay. The written outline is given to student A.
3. This procedure is reversed with Student B describing what he or she is going to write and Student A listening and completing the outline of Student B's essay, which is given to student B.
4. The students research individually the material they need to write their essays, and then they review the material together.
5. The two students work together to co-write the first paragraph of each essay to ensure that they both have a clear start on their essays.
6. The students write their essays individually.
7. When completed, the students proofread each other's essays, making corrections in capitalization, punctuation, spelling, language usage, topic sentence usage, and other aspects of writing specified by the teacher. Suggestions for revision are also encouraged.
8. The students revise their essays, making all the suggested revisions.
9. The two students then reread each other's essays and sign their names (indicating that they guarantee no errors in the essay).

Finally, while students work, the researcher monitors pairs, and intervenes where appropriate to help them master clear writing and cooperation.

3.4.5 Tools Validity and Reliability

3.4.5.1 Essay Rubric Validity

The Department's English language *Essay Selection Rubric* that is used for student level determination (See Table 6) was given to 26 faculty members at the Department of languages and Translation. Some of them thought that it was necessary to incorporate more items targeting the structure of the essay and mechanics. Following their recommendations, the researcher incorporated their comments into the design of the rubric to include: thesis, structure of the essay, use of evidence, in-text citation, logic and argumentation, and mechanics. They also commented on the scale of the rubric and therefore it was modified according to its weight in the grade distribution for the 231 course to be twenty points out of the overall average.

Another rubric called *The Clear Writing Evaluation Rubric* was given to nine referees for review and assessment. This rubric is established on the basis of Paul Diederich's "seven traits of clear writing" (Meyer, Sebranek, & RYs, 2011, p.4). The purpose of the *Clear Writing Evaluation Rubric* is to check the development of clarity in essay writing. Two of these referees have PhD degrees, while the other seven have MA degrees in Teaching English as a Foreign Language (TEFL), applied linguistics, curriculum development, creative writing, and education. These referees earned their certificates from various universities in the US, England, and Canada.

3.4.5.2 Essay Rubric Reliability

To measure its reliability, the *Department's English language Essay Selection Rubric* that the researcher and her colleague used for student level determination is adopted and used for scoring the final essay exam by all department members who taught the thirty sections of the ENGC 231 students who were registered for the second semester of the scholastic year 2011-2012 at Birzeit University. Further, the reliability of the *Clear Writing Scoring Rubric* to trace clarity in writing was given measured by giving it to nine referees for evaluation.

3.5 Data Analysis

This mixed research uses a combination of qualitative and quantitative tools to interpret data and analyze findings in terms of

- The influence of the five critical thinking strategies using Facione and Facione's HCTSR (1994).
- A qualitative analysis of thirty six essays gathered for three student levels in both sections to trace development in clarity in writing using the *Clear Writing Scoring Rubric* as a qualitative tool, and to trace signs of critical thinking using HCTSR.
- A quantitative T-test to compare the results between the pre, midterm, and final essays for the two groups during the three intervals.
- An attitude questionnaire administered to the experimental group only to study their attitudes towards cooperative learning.

Chapter Four
Data Analysis and Results

4.1 Introduction

As stated earlier, the study investigates the teaching of essay writing to upper-intermediate Palestinian students learning English as a second/foreign language in a cooperative learning setting at Birzeit University in Palestine. Five critical thinking strategies (CTs) are employed as the basis for developing and implementing the teaching activities used throughout the study period. Explored as well are pedagogical implications and student attitudes towards cooperative learning.

Consequently, this study aims to answer the following four questions:

1. What is the role of critical thinking in L2 English essay writing for students?
2. What strategies contribute to developing students' critical thinking ability as they are engaged in essay writing?
3. How can cooperative learning facilitate the use of critical thinking in essay writing at the process and product levels?
4. What are students' attitudes towards cooperative learning in essay writing?

Qualitatively, an in-depth analysis of student essays is carried out using a qualitative rubric as a tool to trace the development of clear writing and critical thinking. Analysis of clear writing is based on the *Clear Writing Scoring Rubric* (See Table 7, Chapter Three, p.87) while analysis for critical thinking relies on the *HCTSR* by Facione and Facione (1994) (See Chapter Three, p.90). Quantitatively, student essays are analyzed using a T-test to compare essay results. Further, data gathered by the attitude questionnaire is analyzed using descriptive statistics, means and standard deviation.

4.2 Student Essays

A purposeful sample of thirty-six essays is collected from both the control and experimental groups at three different intervals during the study period: the second, the eighth, and the fourteenth weeks of the second semester in the 2011/2012. The essays represent the students' writings in the pre-study period (pre), the mid-study period (midterm), and the end-study period (final). The pre-essay is conducted in the second week of the semester, the midterm essay in the eighth week after implementing the first two CTs, and the final at the end of the fourteenth week after the completion of the five CTs.

Six sets of essays are selected from both groups as representative samples of three levels of student writing: beginner, intermediate, and advanced. Each set contains six samples per group for a total of thirty-six essays for the two groups (control and experimental). Level determination is based on the scoring rubric established in reference to Diederich's seven traits of clear writing and approved by the Department of Languages and Translation (See Table 6, Chapter Three, pp.84-85). These essays are analyzed qualitatively using the *Clear Writing Evaluation Rubric* as a qualitative tool (See Table 7, Chapter Three, p.87). In addition, the essays are evaluated for evidence of critical thinking using the *Holistic Critical Thinking Scoring Rubric* by Facione and Facione (1994) (See Chapter Three, p.90). Further, these essays are also analyzed quantitatively using a T-test to measure the students' performance before the implementation of the five CTs (pre-essays), after the implementation of the first two CTs (midterm essays), and after the completion of the five CTs (final essays).

4.2.1 Essay Analysis in Terms of Clear Writing

As indicated earlier, the main purpose of the analysis is to trace evidence of clarity in writing.

4.2.1.1 Results of Pre-essays

Twelve pre-essays are gathered and analyzed qualitatively for six students from the control and experimental groups to trace clarity in writing for three student levels (beginner, intermediate, advanced). The results are presented in Table 16.

Table 16

Analysis of Pre-essays for Clear Writing

Pre-essay	**Control Group**	**Experimental Group**
Beginner	Seriously limited (1) or not clear at all	Seriously limited (1) or not clear at all
Intermediate	Somewhat limited (2) or not clear	Somewhat limited (2) or not clear
Advanced	Somewhat limited (2) or not clear	Somewhat limited (2) or not clear

Numbers (1) and (2) refer to the rubric.

Table 16 shows that learners from all levels of the control group wrote essays that were unclear. Of the six essays, two essays for the beginner-level learners were scored as seriously limited essays (1), i.e., not clear at all. Four essays for the advanced and the intermediate level learners were scored as somewhat limited essays (2), i.e., unclear. The

same table further shows similar performance for the experimental group essays. The pre-essay results show that both groups participating in the study started at the same level. From both groups, four essays were marked as seriously limited (1), and eight essays were marked as somewhat limited (2). Both groups wrote unclear essays in the early stages of the study before implementing the five critical thinking strategies in a cooperative environment for the experimental group, and in a non-cooperative environment for the control group.

Further, quantitative findings for the pre-essays for the control and the experimental groups are illustrated in Table 17.

Table 17

Independent Sample T-test for Pre-essays

Pre-essay	**Mean**			**T**	**Df.**	**Sig. α= 0.05**
	Control	**Experimental**	**Mean Difference**			
	9.8	9.6	-0.161	-0.311	49	0.756

Table 17 shows that there is no difference between the control and experimental groups in their performance on the pre-essays before they are exposed to the 5 CTs. This indicates that the level of the students is nearly the same before beginning the implementation of the teaching strategies. For example, the average of the control group in the pre-essay is 9.8 degrees from 20 degrees while the average of the experimental group is 9.6 degree from 20 with a mean difference of -0.161, which is not statistically significant as $p < \alpha = 0.05$. Also, the result of the T-test (-0.311) shows that statistically there is no significant difference, as $p < \alpha = 0.05$. To conclude, these results reveal that both groups are homogenous despite the fact that they were randomly enrolled into the different ENGC 231 classes.

4.2.1.2 Midterm Essays

Twelve midterm essays are gathered and analyzed for six students from the control and six students groups from the experimental groups to trace clarity of their writing for the three selected levels. The results are presented in Table 18.

Table 18

Analysis of Midterm Essays for Clear Writing

Midterm Essays	**Control Group**	**Experimental Group**
Beginner	Somewhat limited (2) or not clear	Average (3) or to some extent clear
Intermediate	Average (3) or to some extent clear	Somewhat effective (4) or clear
Advanced	Average (3) or to some extent clear	Somewhat effective (4) or clear

Table 18 shows that learners from all three levels of the control group wrote essays that were either unclear or average, i.e. to some extent after being exposed to the two CTs (Instructional Scaffolding and PMI) in a non-cooperative setting. The results show that two essays for the beginner level learners continued to be unclear and somewhat limited during the second interval (week 8) after the implementation of the two CTs. However, four midterm essays for both the advanced and intermediate level students progressed to writing essays that were somewhat clear.

Table 18 also shows that learners from the experimental group from the three selected levels wrote clear essays after the implementation of the first two CTs (Scaffolding and PMI) in a cooperative learning environment. For example, the beginner level learners produced two average essays (3) that are to some extent clear, while the intermediate and advanced level learners produced four clear midterm essays that are somewhat effective (4).

Quantitatively**,** the midterm essays are analyzed to compare results before and after the implementation of the first two CTs (Instructional Scaffolding and PMI). Quantitative findings of the midterm essays for the control and experimental groups are illustrated in Table 19.

Table 19

Independent Sample T-test for the Midterm Essays

Midterm Essays	**Mean**			**T**	**Df.**	**Sig. α= 0.05**
	Control	**Experimental**	**Mean Difference**			
	13.6	14.7	1.140	2.835	49	0.007

Table 19 shows that the mean average of the midterm essays for the control group learners is 13.6, while the mean average for the midterm essays for the experimental group learners is 14.7 degree with a difference of 1.140 degree. This difference is statistically significant as ($p < \alpha = 0.05$) for the benefit of the experimental group as they scored slightly higher.

A comparison between the pre -and midterm essay is illustrated in Table 20.

Table 20

Comparison of the T-test Results for the Pre and Midterm Essays

Comparison of the Pre and Midterm Essay	**Mean**			**T**	**Df.**	**Sig. α= 0.05**
	Control	**Experimental**	**Mean Difference**			
Pre-essay	9.8	9.6	-0.161	-0.311	49	0.756
Midterm Essay	13.6	14.7	1.140	2.835	49	0.007

Table 20 presents a comparison between the pre- and midterm essays for the two groups. When comparing the results of the control group essays in the pre- and midterm essays, one can see that the average increased from 9.8 in the pre-essay to 13.6 in the midterm. However, when comparing the pre- and midterm essays for the experimental group, one can see that the average increased from 9.6 to 14.7 from the pre-essay to the midterm. There is a difference of 1.1 degree between the control and the experimental group. This is also evident in the results of the T-test score, which was (-0.311) for the pre- essay and increased to (2.835) for the midterm. This indicates that the difference is statistically significant as ($p< \alpha= 0.05$) for the benefit of the experimental group.

4.2.1.3 Final Essays

Twelve final essays are gathered from six essays form the control group and experimental group and analyzed to trace evidence of clear writing for the three selected levels. The results are presented in Table 21 below.

Table 21

Analysis of Final Essays for Clear Writing

Final Essays	**Control Group**	**Experimental Group**
Beginner	Average (3) or to some extent clear	Somewhat effective (4) or clear
Intermediate	Average (3) or to some extent clear	Somewhat effective (4) or clear
Advanced	Somewhat effective (4) or clear	Effective (5) or clear and consistent

Findings from Table 21 show that learners from the control group did not progress in writing their final essays after being exposed to the five CTs in a non-cooperative setting.

Four essays for the beginner and intermediate level learners were marked as average (3) same as the midterm essays. Further, the advanced level learners from the control group wrote two essays that were somewhat effective (4) or clear in their final tests.

In addition, results from Table 21 show that learners from all three levels in the experimental group wrote clear essays, which are somewhat effective or (4) effective (5) after the implementation of the five CTs in a cooperative learning environment. For example, two essays for the beginner level learners were marked as clear in the final essay after the completion of the 5 CTs. In addition, two essays for the intermediate level learners were also marked as clear .Finally, two essays for the advanced level learners were marked as clear and effective. Therefore, the six essays for three student levels from the experimental group gradually developed from writing unclear essays to writing essays that are clear and effective.

The final essays are also quantitatively analyzed to compare the results before and after the implementation of the five CTs. The following table, Table 22, presents the results of the control and the experimental group for the final test.

Table 22

Independent Sample T-test for the Final Essays

Final Essays	**Mean**			**T**	**Df.**	**Sig. α= 0.05**
	Control	**Experimental**	**Mean Difference**			
	14.6	15.9	1.323	3.867	49	0.000

Table 22 shows that the mean average of the final essays for the control group learners is 14.6, while the mean average for the final essays for the experimental group learners is 15.9 degrees with a difference of 1.323 degree in favor of the experimental group, which is statistically significant ($p < \alpha = 0.05$). A comparison between the pre- and final essays is illustrated in Table 23.

Table 23

Comparison of the T-test Results for the Pre and Final Essays

Comparison of Pre and Final Essays	Mean			T	Df.	Sig. α= 0.05
	Control	Experimental	Mean Difference			
Pre-essay	9.8	9.6	-0.161	-0.311	49	0.756
Final Essay	14.6	15.9	1.323	3.867	49	0.000

Table 23 presents a comparison of the pre- and final essays from the two study groups. When comparing the results of the control group essays in the pre- and final essays, note that the average increased from 9.8 to 14.6 from the pre-test to the final essay. However, when comparing the pre- and final essays for the experimental group, it is noticed that scores increased from 9.6 to 15.9 for the final essay with a difference of 1.3 degrees higher for the benefit of the experimental group. This is also evident in the results of the T-test, which indicate a significant difference (increase) from (-0.311) to (3.835). This difference is statistically significant ($p < \alpha = 0.05$).

A comparison between the midterm and final essays is illustrated in Table 24.

Table 24

Comparison of T-test Results for the Midterm and Final Essays

Comparison of midterm and final essays	Mean			T	Df.	Sig. α= 0.05
	Control	Experimental	Mean difference			
Midterm Essay	13.604	14.744	1.140	2.835	49	0.007
Final Essay	14.577	15.900	1.323	3.867	49	0.000

Table 24 presents a comparison of the midterm and final essays from the two study groups. When comparing the results of the control group essays in the midterm and final essays, one can see that the average increased from 13.6 to 14.5 from the midterm to the final essay. However, when comparing the results of the midterm and final essays for the experimental group, it is also noticed that the average increased from 14.7 to 15.9 from the midterm to the final essay, with the essays from the experimental group scoring 1.3 degrees

higher. This is also evident in the result of the T-test (3.835), which is also statistically significant ($p < \alpha = 0.05$).

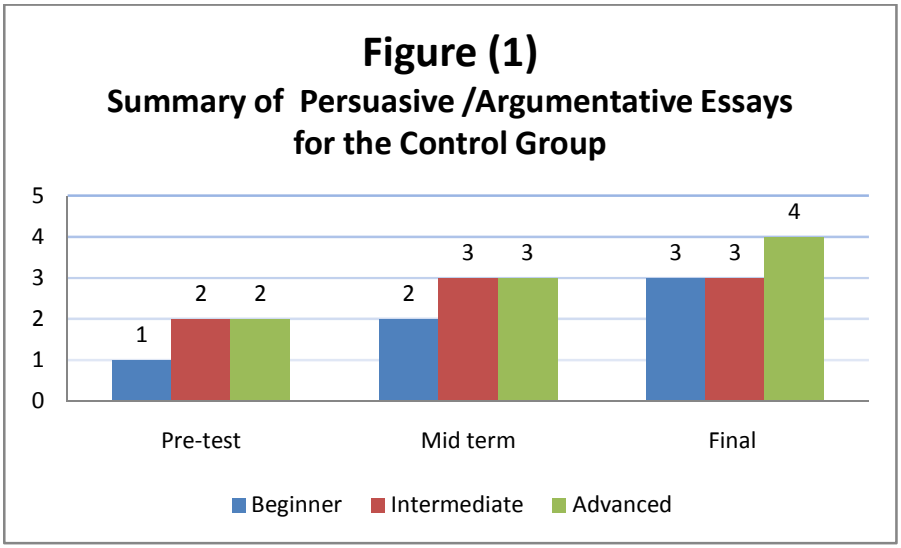
4.2.1.4 Summary of Essay Results for Clear Writing

Table 25 presents a summary of the results of the analysis of clear essay writing for both study groups based on the *Clear Writing Evaluation Rubric*.

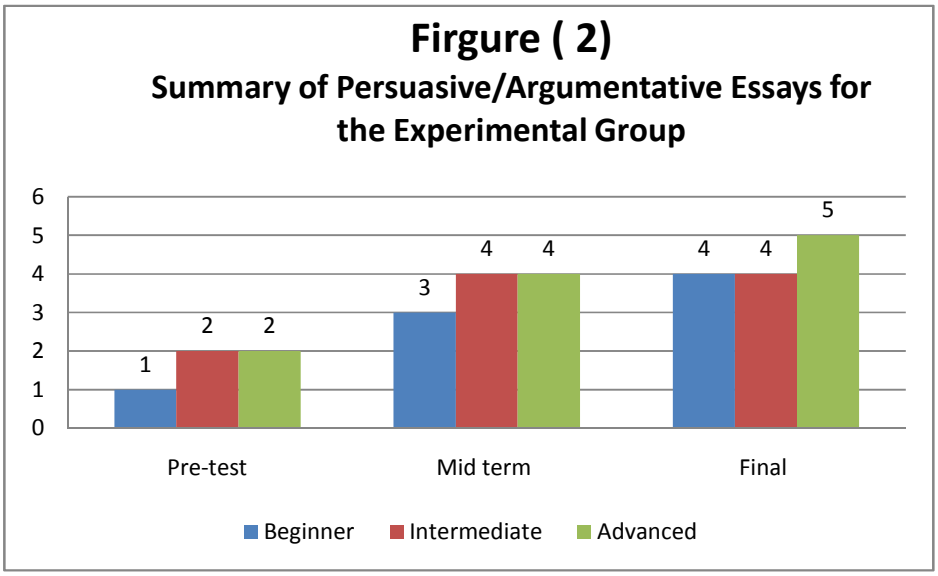
Table 25

Summary of Essay Analysis for Clear Writing

Level	Group	**Pretest**	**Midterm**	**Final**
Beginner	**Control Group**	Seriously limited (1)	Somewhat limited (2)	Average (3)
	Experimental Group	Seriously limited (1)	Average (3)	Somewhat effective (4)
Intermediate	**Control Group**	Somewhat limited (2)	Average (3)	Average (3)
	Experimental Group	Somewhat limited (2)	Somewhat effective (4)	Somewhat effective (4)
Advanced	**Control Group**	Somewhat limited (2)	Average (3)	Somewhat effective (4)
	Experimental Group	Somewhat limited (2)	Somewhat effective (4)	Effective (5)



Results of Figure 1 for the control group essays show that the three student levels moved from writing totally unclear essays to writing essays that are, to some extent, clear. For example, the beginner level students marked a change, especially between the midterm and final essays, as their writing moved from being totally unclear to having some clarity in the final essays. The intermediate level learners showed some progress between the pre- and midterm essays as they moved from somewhat limited essays (2) that are totally unclear to average (3) essays that are to some extent clear. Further, the intermediate levels learners continued to write with some clarity in their final essays after the implementation of the five CTs. In addition, the advanced students developed essays that are clear. They progressed from writing unclear essays in the pre-essays to writing somewhat effective essays for their final paper.



Results of Figure 2 for the experimental group essays show that all levels marked a gradual but noticeable improvement in their three essays throughout the study period. For example, the beginner level learners significantly improved by their second and third essays and reached the level of the intermediate group. As for the intermediate level, they moved from writing somewhat limited essays (2) to somewhat effective essays (4). The advanced level also progressed considerably as they developed in their writing from being unclear (2) to somewhat effective (4) to writing effective and consistent essays (5).

Comparing between the results in Figure 1 and 2, it is evident that the experimental group wrote noticeably clearer essays than the control group.

4.2.1.5 Summary of Essay Results for Quantitative T-Test Analysis

Table 26 below presents a summary of the independent T-test results for students' essays before the implementation of the five CTs (pre-essay), after the implementation of the first two CTs (midterm essay), and after the completion of the five CTs (final essays).

Table 26

Summary of the T-test Results for Students' Essays

Summary of T-test for Students' Essays	Mean			T	Df.	Sig.
	Control	Experimental	Mean Difference			
Pre-essay	9.758	9.596	-0.161	-0.311	49	0.756
Midterm Essay	13.604	14.744	1.140	2.835	49	0.007
Final Essay	14.577	15.900	1.323	3.867	49	0.000

Comparing the T-test results in Table 26 above, it is evident that the experimental group performed higher than the control group. The mean difference between the scores of the two groups on the pre-essay is (-0.311). By the next essay, the difference had gradually increased to (2.835) for the midterm. By the final exam, it has progressed to (3.867). These noticeable differences mark gains for the experimental group, which outperformed the control group.

Further, these differences are also confirmed in Table 27, which presents a summary of the statistical results for students' essays at the three different levels for both the experimental and control groups.

Table 27

Summary of the Statistical Results for Student Essays

Statistics	Control			Experimental		
	Pre-essay	Midterm Essay	Final Essay	Pre-essay	Midterm Essay	Final Essay
N	26	26	26	25	25	25
Mean	9.8	13.6	14.6	9.6	14.7	15.9
Median	10.0	14.0	14.8	10.0	15.0	16.0
Std. Deviation	1.8	1.8	1.5	1.9	.9	.8
Minimum	6.0	8.0	12.0	5.0	12.4	15.0
Maximum	13.0	16.0	17.0	12.0	16.2	17.0
Range	7.0	8.0	5.0	7.0	4.0	2.0

A careful examination of the mean average and the standard deviation in Table 27 shows that the control group learners' scores did change over time when comparing students' essays from the first essay to the final. For example, the mean average for the essays moved

from 9.8 for the pre-essay to 13.6 for the midterm to 14.6 for the final essays. The standard deviation started with 1.8 in the pre-, and continued to be 1.8 for the midterm and then slightly decreased to 1.5 for the final essays. Further, the range also slightly decreased from 7.0, then increased to 8.0, and finally decreased to 5.0.

However, statistical results for students' essays for the experimental group indicate a more significant change when comparing students' essays throughout the semester. For example, the mean average for the essays moved from 9.8 for the pre-essay (the same result as the control group), to 14.7 for the midterm, to 15.9 for the final essays. The standard deviation significantly decreased from 1.9 to .9 to .8, and the range also decreased from 7.0 to 4.0 to 2.0, which indicates that the individual differences among students in the experimental group significantly decreased too.

4.2.2 Results of Essay Analysis for Critical Thinking

Thirty-six essays are gathered and analyzed to trace evidence of critical thinking using the *HCTSR* by Facione and Facione (1994) during the study period. The essays are analyzed before the implementation of the five CTs, after the implementation of the first two CTs, and after the completion of the five CT"s. Both the researcher and her colleague used inter-rater reliability to correct the thirty-six essays using the *HCTSR* by Facione and Facione (1994). Based on this rubric, students who receive a score of 1 to 2 are weak (beginners), students who receive a score of three are acceptable (intermediate), and students who receive a score of four are strong (advanced).

4.2.2.1 Before the Implementation of the Five CTs

Table 28 presents the results of the pre-essays during the first interval (week 2) and before the implementation of the five critical thinking strategies.

Table 28

Participants' Critical thinking Level in Pre-essays

Pre-essay	**Control Group**	**Experimental Group**
Weak (1-2) **Beginner Level**	6	6
Acceptable (3) **Intermediate Level**	0	0
Strong (4) **Advanced Level**	0	0

*The HCTSR has a four point scale which represents three levels: students who receive a score of 1 to 2 are weak (beginners), students who receive a score of three are acceptable (intermediate), and students who receive a score of four are strong (advanced).

Results from Table 28 show that the six pre-essays for the control group did not show any signs of critical thinking based on the *HCTSR,* as students scored between one and two (weak or unacceptable) on their essays. Therefore, the six student essays for the control group are categorized as weak (beginner). Also, results from Table 28 indicate that the six pre-essays for the experimental group scored the same, showing a similar lack of critical thinking.

4.2.2.2 After the Implementation of the First Two CTs

Table 29 presents the results of the midterm essays after the implementation of the first two CTs (PMI and Instructional Scaffolding) during the second interval (week 8).

Table 29

Participants' Critical thinking Level in the Midterm Essays

Midterm Essay	Control Group	Experimental Group
Weak (1-2) Beginner level	2	1
Acceptable (3) Intermediate level	4	4
Strong (4) Advanced level	0	1

Results from (Table 29) for the midterm essays for the control group show that two of the six essays are weak (beginner), and that four essays scored a three and are acceptable (intermediate). In addition, results from (Table 29) for the midterm essays for the experimental group show that one of the six essays is marked as weak (beginner), four essays scored a three and are marked as acceptable (intermediate), and one essay scored a four and is marked as strong (advanced) totaling to six essays.

4.2.2.3 After the Completion of the Five CTs

Table 30 presents the results of the final essays after the implementation of the five CTs during the third interval (week 14).

Table 30

Participants' Critical Thinking Level in the Final Essays

Final Essay	Control Group	Experimental Group
Weak (1-2) Beginner Level	0	0
Acceptable (3) Intermediate level	6	2
Strong (4) Advanced Level	0	4

Results from (Table 30) for the final essays for the control group show that the six essays scored a three and are marked as acceptable (intermediate). Further, results from Table 30 for the final essays for the experimental group show that two essays scored a three and are marked as acceptable (intermediate) and four essays scored a four and are marked as strong (advanced)**.**

4.2.2.4 Summary of Results of Critical Thinking

Table 31 presents a summary of the results of students' levels after the analysis of critical thinking based on the HCTRS by Facione and Facione (1994) for both groups.

Table 31

Summary of the Results of Analysis of Critical Thinking

Results of the Influence of the Five CTs	**Control Group**	**Experimental Group**	**Total for both groups**
Weak (1-2) Beginner Level	8	7	15
Acceptable (3) Intermediate level	10	6	16
Strong (4) Advanced Level	0	5	5
	18 essays	**18 essays**	**36 essays**

The results of the analysis of critical thinking for the control group essays show that 8 essays are scored as weak or unacceptable (beginner) and 10 essays are scored as acceptable (intermediate) totaling 18 essays that were categorized as either weak or intermediate in terms of the evidence of critical thinking elements in their writing. However, results of the analysis of critical thinking for the experimental group essays show that, out of 18 essays, seven essays are scored as weak (beginner), six essays are scored as acceptable (intermediate) and five are scored as strong (advanced) totaling to 18 essays.

When comparing the results of the two groups, it is noticeable that both groups are similar in their results for the pre-essay which showed an absence of the signs of critical thinking. However, while the control group had more intermediate level learners than the experimental group, the experimental group learners marked a significant change and produced five essays that are considered advanced, unlike the control group learners. In both groups, there are a total of 15 weak essays that did not show any signs of critical thinking, 16 essays that are marked as intermediate. Further, only five essays are marked as advanced and

had clear evidence of critical thinking and they are only from the experimental group. This means that the experimental group essays showed noticeable signs of increased critical thinking.

4.3 Questionnaire Results

To investigate attitudes of the students in the experimental group towards the cooperative learning environment to which they are exposed, the researcher adopted David and Johnson's (1983) questionnaire "Classroom Life Instrument," which is a five-point Likert-type scale (See Appendix Eight of the attitude questionnaire) . The questionnaire is administered by the researcher to the experimental group in its original form. The questionnaire results are analyzed quantitatively using statistical analysis. Descriptive statistics (means, reverse coding and standard deviations) are used to analyze learners' responses to the questionnaire.

The researcher analyzed thirty-eight (38) items out of the fifty-nine (59) original items on the questionnaire in order to examine eight of the twelve factors that the questionnaire addresses. Students' responses to the positive items are coded using the following scale: 1=completely false, 2=false much of the time, 3=sometimes true and sometimes false, 4=true most of the time, and 5=completely true. With regards to the scale of the questionnaire, the researcher assumes that if the mean is more than three, then learners have a positive attitude towards using cooperative learning. If the mean of the responses is less than three, that means that students have a negative attitude towards using cooperative learning. This assumption is based on the fact that the Likert scale ranges from one, which is completely false, to five, which is completely true and positive.

Tables 32, 33, 34, 35, 36, 37, 38 and 39 present the results of the 38 items analyzed in the questionnaire, which examines the eight factors selected to investigate learners' attitudes towards cooperation.

Table 32

1. Learners' Attitudes Towards Teacher Academic Support

Item number		Mean	SD	N
Q22	My teacher cares about how much I learn	4.9	0.4	24
Q28	My teacher likes to see my work	4.7	0.6	24
Q38	My teacher wants me to do my best in schoolwork	4.8	0.4	24

Table 32 presents the results of learners' attitudes towards cooperation for **the first factor**, **Teacher Academic Support.** This table shows that learners have a very positive attitude towards teacher academic support in a cooperative environment (above 4.5). The means for questions 22 & 38 are the highest, 4.9 and 4.8.

Table 33

2. *Learners' Attitudes Towards Teacher Personal Support*

Item Number		**Mean**	**SD**	**N**
Q13	My teacher really cares about me	4.7	0.6	24
Q15	My teacher thinks it is important to be my friend	4.6	0.5	24
Q40	My teacher likes me as he/she likes other students	4.2	1.0	24
Q43	My teacher cares about my feelings	4.6	0 .6	24

Table 33 presents the results of learners' attitudes towards cooperation for the **second factor, Teacher Personal Support.** This table shows that learners' attitudes towards teacher personal support in a cooperative setting are positive (above 4). The mean of item thirteen (4.67) is the highest while the mean of question 40 is the lowest (4.2).

Table 34

3. *Learners' Attitudes Towards Student Academic Support*

Item number		**Mean**	**SD**	**N**
Q1	Other students in this class want me to do my best in schoolwork	3.4	1.0	24
Q5	In this class other students like to help me learn	3.5	0.8	24
Q17	In this class, other students care about how much I learn	3.0	0.9	24
Q25	Other students in this class want me to come to class today	3.2	1.0	24

Table 34 presents the results of learners' attitudes towards cooperation for the **third factor, Student Academic Support.** This table shows that learners' attitudes towards student academic support in a cooperative setting are positive (above 3). The means of questions one and five are the highest, 3.54 & 3.42, while the means for questions 17 and 25 are lower than the rest, 3.2 and 3.

Table 35

4. *Learners' Attitudes Towards Student Personal Support*

Item number		Mean	SD	N
Q7	Other students in this class think it is important to be my friend	3.3	0.9	24
Q20	In this class, other students like me the way I am	3.7	0.9	24
Q29	Other students in this class care about my feelings	3.7	0.9	24
Q31	Other students in this class like me as much as they like others	3.7	0.8	24
Q35	In this class, other students really care about me	3.4	0.8	24

Table 35 presents learners' attitudes towards cooperation for the **fourth factor, Student Personal Support**. This table reveals that learners' means on all of the questions (7, 20, 29, 31, and 35) are above three. Therefore, students believed they had established social and healthy relationships with their peers. The highest mean is 3.7 as illustrated in questions 29 and 31 while the lowest mean is 3.4 as illustrated in question 35.

Table 36

5. *Learners' Attitudes Towards Goal Interdependence*

Item number		Mean	SD	N
Q8	When we work together in small groups, we try to make sure that everyone in the group learns the assigned material	4.5	0.7	24
Q14	When we work together in groups, our job is not done until everyone in the group has completed the assignment	4.2	0.7	24
Q21	When we work together in small groups, we all receive the same grade	3.9	1.1	24
Q27	When we work together in small groups, our grade depends on how much all members learn	4.1	0.8	24
Q34	When we work together in small groups, I have to make sure that the other members learn if I want to do well on the assignment	4.2	0.7	24

Table 36 presents the results of learners' attitudes towards cooperation for the **fifth factor**, **Goal Interdependence** as illustrated in questions (8, 14, 21, 27, and 34). Results in this table reveal that learners had a positive attitude towards goal interdependence. The means

of all the items are above four. The highest mean is 4.5 for question eight while the lowest mean is 3.9 for question twenty-one.

Table 37

6. *Learners' Attitudes Towards Resource Interdependence*

Item number		Mean	SD	N
Q 39	When we work together in small groups, we cannot complete an assignment unless everyone contributes	4.00	1.103	24
Q47	When we work together in small groups, the teacher divides up the material so that everyone has to share	4.2	.637	24
Q50	When we work together in small groups, we have to share materials in order to complete the assignment	4.5	.588	24
Q52	When we work together in small groups, everyone's ideas are needed if we are going to be successful	4.6	0.6	24
Q56	When we work together in small groups, I have to find out what everyone else knows if I am going to be able to do the assignment	4.0	0.7	24

Table 37 presents learners' attitudes towards cooperation for the **sixth factor, Resource Interdependence.** This table indicates a very positive attitude towards resource interdependence in a cooperative setting, since the means are above four. The highest mean is 4.6, as illustrated in question 52, while the lowest mean is 4, as illustrated in question 38.

Table 38

7. Learners' Attitudes Towards Cooperation

Item number		**Mean**	**SD**	**N**
Q51	In this class, I like to share my ideas and materials with other students	4.3	0.6	24
Q53	In this class, I can learn important things from other students	4.2	0.9	24
Q54	In the class, I like to help other students learn	4.29	0.6	24
Q55	In this class, I try to share my ideas and materials with other students when I think it will help me	4.75	0.4	24
Q57	In this class, it is a good idea for students to help each other learn	4.4	0.8	24
Q58	In this class, I like to cooperate with other students	4.3	0.9	24
Q59	In this class, students learn a lot of important things from each other	4.3	0.7	24

Table 38 presents learners' attitudes towards cooperation in the **seventh factor, Cooperation.** This table indicates that the means and standard deviations for the seven questions 51, 53, 54, 55, 57, 58, and 59 are above four and, therefore, are positive. In addition, the highest mean is 4.9 as illustrated in question 55 while the lowest mean is 4.2 as illustrated in question 52.

Table 39

8. *Learners' Attitude Towards Fairness in Grading*

Item Number		**Mean**	**SD**	**N**
Q 16	Everyone in this class has an equal chance to be successful if they do their best	4.54	.779	24
Q32	If a student works hard, he/she can definitely succeed in this class	4.75	.442	24
Q42	Students in this class get the scores they deserve, no more no less	4.2	0.9	24
Q45	I deserve the scores I get in this class	4.2	0.8	24
Q49	Sometimes I think the scoring system in this class is not fair	3.4	0.6	24

Finally, Table 39 presents the results of learners' attitudes towards **cooperation in the eighth factor, Fairness in Grading** within groups**.** Results from Table 39 show that learners' attitudes towards fairness in grading are positive. The means and standard deviations of items 16, 32, 42, and 45 are above four while the lowest mean is (3.4), as illustrated in question forty-nine.

Table 40

Summary of the Means and Standard Deviations for the Eight Factors

No.	**Dimensions (from 100)**	N	Mean	Std. Deviation
	Index100	24	80.2	6.5
1	Teacher Academic Support	24	96.7	5.2
2	Teacher Personal Support	24	90.2	7.3
3	Student Academic Support	24	66.5	12.4
4	Student Personal Support	24	71.0	12.5
5	Goal Interdependence	24	83.5	9.2
6	Resource Interdependence	24	85.3	9.2
7	Cooperation	24	87.4	9.6
8	Fairness of Grading	24	84.5	9.2

Finally, Table 40 presents a summary of the eight factors used to examine learners' attitudes towards cooperative learning. It indicates that the first and the second factors (teacher academic support and teacher personal support) are the highest. Whereas, factor three, which deals with student academic support, and factor four, which deals with student personal support, are the lowest.

Chapter Five

Discussion, Findings, Conclusion and Recommendations for Further Research

5.1 Introduction

This chapter discusses the findings, implications, and conclusions of the study results presented in chapter four. It further makes recommendations for future research on both critical thinking and cooperative learning. The data for the study is gathered from student essays that are analyzed both qualitatively and quantitatively in addition to an attitude questionnaire about cooperative learning. Answers to pertinent research questions have been highlighted and relations to concepts surveyed in the literature review have been pointed out.

5.2 Discussion of Student Essay Results

Analyzing student essays is an important indicator of students' progression in both their writing process and their finished products. Qualitatively, the researcher analyzed thirty-six essays for both the control and experimental groups to tackle the clarity of the students' essay writing, and their use of critical thinking. The same essays were analyzed quantitatively as the researcher compared the pre-, midterm, and final essay results for both groups using a T-test and descriptive statistics such as means and standard deviations.

5.2.1 Discussion of Pre-essays

Twelve pre-essays were examined and analyzed to trace the development of clear writing, and the influence of critical thinking. Further, the essays were assessed using a T-test to compare the results. Consequently, it was possible to indicate the following:

- **Clear Writing:**

  Reviewing the essays (Tables 16 and 25, pp.114 and 120) reveals that in the early stages of the study, the students in both the control and experimental groups wrote essays that lacked clarity. The three levels of both groups started the study with a similar score and, therefore, wrote unclear essays. Both groups had the same results before the implementation of the cooperative learning paradigm.

- **T-Test Analysis**

A thorough analysis of the T-test results for pre-essays (Tables 17 and 25, pp.115 and 120) indicates that both groups participating in this study were the same in their level of performance. For example, the mean for the control group is 9.8 while the mean for the experimental group is 9.6, and the T-test result is (-.311) which means that there is no statistically significant difference at the level of $\alpha = 0.05$. This finding shows that both groups were homogeneous in the early stages of the study and before the implementation of the cooperative learning paradigm; they started as novice writers despite the fact that they were enrolled in the ENGC 231 course, a third university requirement in English.

- **The Impact of Critical Thinking:**

Findings from (Table 28, p.124) reveal that students from both groups did not demonstrate any signs of critical thinking in their pre-essays. Their scores show that their critical thinking level was weak (unacceptable). Based on HCTRS, this means that students failed to identify strong and relevant counter-arguments, and ignored or superficially evaluated alternative points of view. An example from one essay from the control group is: "I *think that students as machines and that is why university will not help us."* Another example from an essay from the experimental group is*: "according to me, I think that the system of university teaching is better than the school because you have to did that to learn and study."* In these two essays, there were no traces of strong and relevant counter-arguments, their views were based on preconceived notions, and did not present alternative points of view.

To summarize, by comparing the pre-essay results for both groups, it is evident that learners from the control and experimental groups wrote essays that were not clear, and had no signs of critical thinking. This may indicate that both the control and experimental groups were not exposed to any critical thinking strategies prior to implementing the five critical thinking strategies. This may also indicate that students did not practice writing as a process of exploration in previous courses such as ENGC 141 and that the teaching methods used in these courses were possibly more teacher-centered and addressed writing as product.

5.2.2 Discussion of the Midterm Essay Results

A second batch of twelve midterm essays was examined and analyzed to trace the development of clear writing, and the students' capacity for critical thinking. Again, a T-test analysis was conducted to compare results. Consequently, the following points have emerged:

- **Clear Writing**

Reviewing (Tables 18 and 25, pp.115 and 120) shows that learners from the control group wrote average essays, i.e., to some extent clear. An example from one essay from the control group is: "*Progressive education maybe the type of education that students nowadays will constrate more in their studies than traditional education*". While learners from the experimental group wrote clear essays, for example: "*The third reason is that the activities in modern education is often open-minded that makes students open their minds and don't stop thinking"*. This example shows that the student from the experimental group has developed a point of view on the controversial topic about traditional vs. progressive education with a clear focus. Henceforth, essay scores from the experimental group indicate that introducing the first two CTs (Instructional scaffolding and PMI) using cooperative learning as a paradigm played a significant role in facilitating both critical thinking skills and clear writing (weeks 1-8).

To illustrate, while analyzing the midterm essays for the beginner level students for both groups, results reveal that the beginners from the experimental group progressed more than the beginners from the control group. They showed significant gains as their essays moved from seriously limited pre-essays that were not clear at all to average midterm essays that were to some extent clear. However, the midterm essays for the beginner level learners from the control group continued to be somewhat limited and unclear. This confirms that cooperative learning leads to growth in writing. (See Appendix 11 for samples of student essays). They were able to enhance their poor writing and thinking skills by cooperating with their peers. This finding is consistent with Brown's idea (2003) when he states that there is a need to shift from a teacher-centered approach to a learner-centered approach that places all learners under the microscope with specific emphasis on low-performance learners.

However, the significant improvement in both thinking and writing for the beginner level students from the experimental group is not consistent with what Bereiter and Scardamalia (1987) suggest about novice writers. According to them, novice writers use a greatly simplified version of the idea generation process. The researcher thinks that this point held true for the low-performance learners from the control group who didn't cooperate with their peers to challenge their thought processes because they were only exposed to the conventional method of teaching essay writing. Yet, the findings were different for the experimental group who demonstrated growth in writing after being exposed to a cooperative environment.

This implies that participatory dialogue in a cooperative setting enhances writing skills in the early stages of writing. This is in accordance with studies from Bean (2001) and Johnson and Johnson (1994). Further, these results also reveal the important role of the first two critical thinking strategies (Instructional scaffolding and PMI), which pushed the low-level achievers from the experimental group to think in a challenging environment that required cooperation, unlike the control group learners who were exposed to the same two CTs without gaining the same advantage.

Likewise, the midterm essays for learners from the intermediate level in the experimental group also showed a significant change as they moved from writing somewhat limited (2) pre-essays to writing somewhat effective (4) midterm essays. An example from one essay from the midterm for the experimental group: "*Progressive education emphasis the individual needs and capacities of each one …In practice, genuine education is about eliciting knowledge and getting out what is deep"*. The experimental group essays were somewhat effective and clear, as they offered effective points of view with clear focus and organization, a convincing tone, and a focus on appropriate use of vocabulary due to classroom interactions and dialogue with other peers. However, the second batch of essays for the intermediate level learners from the control group were only to some extent clear as they moved from writing somewhat limited essays (2) to writing average essays (3) (See Appendix 11 for samples of student essays). Therefore, learners from the control group continued to write essays with limited clarity, while the intermediate level learners from the experimental group wrote somewhat clear essays. This is most likely due to the absence of cooperative learning in the control environment.

Similarly, advanced learners from the experimental group progressed from writing somewhat limited pre-essays (2) to writing somewhat effective midterm essays (4). Further, the two levels (intermediate & advanced) from the experimental group had similar results (clear essays) which mean that students from the intermediate levels benefited from group interaction while writing in heterogeneous groups as required in cooperative learning. This finding provides evidence of how less advanced learners can improve simply by interacting with advanced learners. Those learners were more productive while interacting and, therefore, wrote better essays. Advanced learners from the control group did not show a significant change as their midterm essays continued to be average or to some extent clear (3). This is the case despite the fact that they were exposed to critical thinking strategies. It should be pointed out that that happened in a situation where teaching took place in a conventional

methodology. This implies that the development of critical thinking skills requires cooperative learning.

The performance of the experimental group during the midterm essays revealed growth in their writing due to their participation in a cooperative learning environment. This implies that the factor that mostly contributed to the development of their essays was the social and cultural dimensions that resulted from group interactions in a cooperative setting. This context presented writing as a social activity. This is in accordance with Flower and Hayes (1981) who argued in their criticism of the Bereiter and Scardamalia writing model (1987) that it ignores the social factors, and therefore, they consider the social element to be a hallmark of teaching writing. Also, using the critical pedagogy approach to critical thinking and topical themes that reflect real-life examples allowed learners to internalize, think and write better. This is in line with Freire, (1994), Burbules and Berk (1999), and Shor, (1997) who argue that students who are engaged in the critical pedagogy approach can use the skills of reason and logic to see the real world as is and act accordingly. Further, the second batch of essays, which demonstrated the students' progress in thinking clearly also supports Bailin's (2002) and Lewis and Smith's (1993) view that critical thinking is an act of forming judgment of a particular thinking quality to seek accuracy and clarity . Students' writing in the midterm essay was marked as clear because students were able to develop a point of view that was focused, supported by relevant examples, organized, well-structured, had a convincing tone, and demonstrated clear ideas (See Appendix 11 for samples of student essays).

However, the conventional method of teaching writing to the control group did not lead to similar growth in writing (See Table 18 and Figure 1 in Chapter Four, pp.115 and 121). This is due to lack of the social and cultural tools, as Vygotsky calls them, which existed in the experimental classroom environment. For example, learners from the control group composed their writing individually as expected in a conventional class. Thus, there was only a slight development, as their writing progressed from being unclear to becoming to some extent clear, which was due to exposure to the first two CTs. However, critical thinking in a conventional setting did not lead to growth in writing, as shown by the performance of the control group learners. One may conclude that the existence of instructional scaffolding and PMI was not enough to aid the beginner level learners in writing because they continued to write somewhat limited essays.

To summarize, by comparing the performance of students' midterm essays, it is evident that cooperative learning leads to growth in writing, as it generates critical thinking. Further, it is also evident that critical thinking strategies must be used in a cooperative

learning setting in order to help students develop their writing. Critical thinking impacts writing if used in a cooperative learning environment.

- **T-Test Analysis**

Results from the T-test analysis show that both groups began to write more clearly. A thorough analysis of the T-test results (2.8) for the midterm essays indicates that both groups progressed in the midterm essays (See Tables 19 and 20, pp. 116 and 117). However, the experimental group learners outperformed the control group learners, as they progressed significantly. To illustrate, the mean for the control group changed from 9.8 in the pre-essays to 13.6, while the mean for the experimental group changed from 9.6 to 14.7 with a mean difference of 1.14, which is statically significant at the level of $\alpha = 0.05$. This finding provides evidence that cooperative learning is needed for students to develop in writing.

- **The Impact of Critical Thinking:**

Reviewing (Table 29, p.125) regarding the influence of critical thinking on the midterm essays after the implementation of the first two CTs, it is evident that students from both groups began to demonstrate signs of critical thinking. This was noticeable in their writing. Of the twelve essays examined, three were considered weak, eight intermediate (acceptable), and one from the experimental group was considered advanced (strong). This implies that critical thinking was noticeable in nine essays for both groups but with a higher level in one essay from the experimental group learners.

Based on the HCTRS rubric by Facione and Facione (1994), the three essays that were considered weak showed that learners did not justify results, ignored or superficially evaluated alternative points and exhibited close-mindedness. For example, this quote is taken from one essay that was scored as weak: "*you can't success in life when you do not have any morals...morals are very important in our life...*" The learner in this essay does not justify his /her claim; he/she is presenting a view based on preconceived notions.

Further, eight essays for both groups show acceptable signs of critical thinking. For example, students in this category (intermediate) were able to do most of the following: accurately interpret evidence, identify relevant arguments, offer analyses and evaluations of obvious points of view, justify some results, and fair-mindedly use evidence and reasons. An example of a quote of an intermediate essay from the control group is: *"Traditional education does not emphasize problem solving or critical thinking. For example, there are no projects in which students share information with others and benifit from their knowledge & experiments."*

Another example of a quote from an intermediate essay for the experimental group shows how the student interprets and offers analysis of obvious alternative points of view:

> *One view sees it as the transmission of the accumulated knowledge of a society. Instead, education must focused on the care of human nature and their immortal souls. Not too long ago , progressive education offered no competition to traditional education competes with traditional education on every level. Progressive education emphasis the individual needs and capacities …has a goal of fulfilling the individual needs…is flexible,,to produce a well-rounded cultured gentlemens and ladies…*

The last essay, one from the experimental group, demonstrated signs of strong critical thinking skills. This means that the essay reveals consistency and accuracy in interpreting evidence, ability to identify salient arguments (pro and con), and ability to thoughtfully analyze and evaluate major alternative points of view. For example, after the student gave an introduction about people who are in favor of traditional teaching, she started introducing her counter-argument by stating that:

> *I strongly believe that in order to keep the dreams in our minds, we should change traditional education into modern progressive education that liberates our minds and let them fly.. my first point against traditional is that it stuffs information in the student's mind…I strongly argue any one that say over years in school our mind didn't stop thinking and make us afraid of anything that memorize because that is what we used to…*

Later, the student provided examples from readings, in-text citations, and evidence from her own experiences with standardized exams. She states in paragraph two: *"Traditional education makes us memorize what great people do, but what if we can be great too!"* (See Appendix 11 for samples of student essays).

These findings provide evidence that the first two CTs (Instructional scaffolding and PMI) had an influence on students' writing in the mid-study period, and that, critical thinking is a learned skill that can be used by all levels of learners (low, intermediate, and high achievers) since both groups gained from the infusion of the CT strategies during the pre-writing stage.

This leads to the following general findings about the influence of the first two CTs (Instructional scaffolding and PMI) on students' writing:

Table 41

Influence of Instructional scaffolding and PMI Strategies on Writing Skills for the Midterm Essays

Midterm Essays	**Beginner**		**Intermediate**		**Advanced**	
	Control	**Experimental**	**Control**	**Experimental**	**Control**	**Experimental**
Instructional Scaffolding	**Pre-writing stage** Modeling Graphic organizers Clustering and brainstorming	**Pre-writing** stage Modeling Graphic organizers Clustering and brainstorming	**Pre-writing** Modeling Graphic organizers Clustering and brainstorming	**Pre-writing** Modeling Graphic organizers Clustering and brainstorming	**Pre-writing Modeling** Graphic organizers Clustering and brainstorming	**Pre-writing** Modeling Graphic organizers Clustering and brainstorming
PMI	Outlining	Planning	Outlining	Planning	Outlining	Planning

Table (41) presents the writing skills that are influenced by the first two CTs (Instructional scaffolding and PMI) during the mid-study period. These CT strategies influenced the students' pre-writing and planning for their essays. Introducing direct instruction in writing using instructional scaffolding (modeling, clustering, brainstorming, use of graphic organizers), and the infusion of PMI revived the process of planning for the experimental group and outlining for the control group. (This finding demonstrates one of Graham's (2006) principles. He expressed the need to teach writing strategies, skills and knowledge that enhance writing development. Modeling is a key factor in the success of this principle. This, in turn, asserts the importance of focusing on the pre-writing phase of the writing process. The findings that resulted from the analysis of critical thinking correspond with many studies such as Kellog, (1990); Rohman (1965), and Torrence, Thomas and Robinson (1994) that assert that pre-writing must be given careful attention.

It is worth noting that the effectiveness of the students' writing differed between the two groups. The control group learners planned on their own in an expository manner, as expected from conventional teaching methods, while the experimental group learners planned cooperatively. For example, the merging of PMI in a cooperative setting pushed students into the actual composing process as they were discussing together and shared their thoughts. For example, they drew conclusions, and analyzed and interpreted readings, all of which are core skills in critical thinking according to the Delphi report (Facione, 1999). Therefore, they gained more confidence in utilizing planning as a necessary component of writing because it is a channel for "taming their thoughts" and expressions first cooperatively and then individually. This means that students in the experimental group used writing not only as a

means of explaining what they know, but also as a means of exploring and developing their ideas. This finding is in line with (Bereiter & Scardamalia 1987; Torrance, Thomas & Robinson, 1994; Myles, 2002; and Kellogg, 1990) about how experienced writers become masterful "planners." This finding indicates that learners from the experimental group are gradually developing into experienced writers as they transform their thinking process while learning "how to think" (Lunenburg, 2011). This is also evident in the one essay that was marked as strong with regards to critical thinking.

Additionally, results from essays also indicate that critical thinking, which is a higher thinking skill, can be addressed in the class during the early stages of writing. This finding is in also accordance with Graham (2006) who stresses the importance of teaching writing directly and not as separate components. This is also in line with what Smith and Lewis (1993) discussed about the value of addressing higher thinking levels in the class, including attention and deliberate consideration of ideas. They conclude that over the last two decades, teaching has focused on more specialized and personalized topics, which inspire greater insight, problem solving, visual imagery and metaphors, and schemata (Lewis & Smith, 1993). Additionally, results from the advanced essay that demonstrated strong signs of critical thinking for the experimental group may indicate that the assimilation of the first two CTs can possibly have more impact in a cooperative learning environment than in a conventional classroom.

5.2.3 Discussion of the Final Essay Results

A third batch of twelve final essays was examined and analyzed to trace the development of clear writing and the students' level in critical thinking, along with completing a quantitative analysis to compare essay results. Consequently, it was possible to infer the following:

- **Clear Writing**

Reviewing (Tables 21 and 25, pp. 117 and 120) reveals that learners from the experimental group significantly outperformed learners from the control group. They wrote essays that were clear, effective, and consistent, while the control group learners continued to write essays that were clear to some extent, except for the advanced level learners who wrote clear essays.

Evidence derived from essay results for clear writing indicates that all learners from the experimental group demonstrated noticeable improvement and consistency in employing strategies using mutual cooperation to produce clear essays. Beginner level learners, for example, progressed from writing seriously limited essays (1) in the pre-essay to writing average (3) essays in the midterm essay and to somewhat effective essays (4) in their final essays. This means that by the end of the study period, the writing of the beginner level learners has become clear and effective. Another example is the intermediate level learners who continued to be consistent in writing somewhat effective essays (4) for their final essays. This means that the intermediate level learners continued to employ writing skills that they acquired through group processing. Toward the end of the study period, learners at this level focused on the revision process while practicing the problem-posing CT. Further, the advanced level learners became not only somewhat effective (4), but also effective and competent (5) in producing understandable and clear essays that demonstrated strong evidence of critical thinking. An example from one essay is:

> *The third and most important reason that make my stance against strict parenting stronger is that the children won't be able to deal with life. Some people claim that this style cultivates self-confidence in the children personality. But I refute it because children do every thing their parents want to avoid the punishment..They will not learn to take independent decisions when parents are not around*

In this example, the student identifies the argument (pro and con), and thoughtfully analyzes alternative points of view. One may infer that gains in these essays are due to the students' exposure and use of cooperative learning.

However, learners from the beginner level from the control group did not match the beginner level learners from the experimental group in their final essays, which may indicate that they needed a richer environment in order to develop as potential writers. For example, they slightly progressed from writing essays that were not clear in the midterm (2) to writing essays that were to some extent clear (3). This finding indicates that the beginner level learners, despite the use of the five CTs, had slightly progressed by the end of the study period. This lack of clarity was due to the fact that students were unable to work cooperatively, or exchange knowledge with their peers. Therefore, the slight progress can be attributed to the use of the five CTs. However, they proved to be not enough. It is apparent from the results that there was a missing piece to the process, which is the interaction that

existed in the cooperative learning environment. This may also indicate that lack of cooperative learning deprived the control group learners from sharing their thoughts and reasoning verbally. Therefore, there was no transfer of knowledge from one context to another while planning and writing. Clearly, they were unable to share their thoughts and discuss them with other students, which hindered them from practicing critical thinking and clear writing. One example is that the control group learners used the mechanical step-by-step outline as expected from conventional teaching methods to prepare essays for the writing task because they worked alone, which might have hindered their writing and thinking.

Likewise, in the final essay, learners from the intermediate level from the experimental group significantly improved and continued writing essays that were somewhat effective and clear. This proves that cooperative learning facilitates somewhat effective writing skills during planning and revision, including organization and presentation of ideas, revision, and language usage due to classroom interactions that cultivate critical thinking and clear writing. The degree of improved clarity in their third essays was significant, as they wrote clear essays.

However, students from the intermediate level in the control group showed little progress, as they produced average writing by the end of the study period, i.e., to some extent clear (3). This could have been the result of having to work on their own and, thus, were unable to share their thoughts with others or their peers. It was also possible that they were unable to transfer knowledge from one context to another during planning and writing, and were unable to improve the clarity of their thoughts. Therefore, they might have approached each strategy as a separate component, as would be expected in conventional teaching methods.

Finally, learners from the advanced level in the experimental group progressed very significantly, especially by the point they were writing their final essays which were clear and effective. They moved from being somewhat effective (4) to being effective (5). This result is not in accordance with what Cohen (1994) referred to in studies, which suggest that the level of productivity decreases for the advanced learners when they are working in groups, as they are affected by unskilled learners. The reason for this progress is the use of the challenging cooperative learning environment within structured controversy, which was enhanced by critical thinking strategies (Problem-posing & Hegelian dialectic). This combination played a crucial role in improving the level of clarity in writing due to the focused nature of tasks that channeled critical thinking.

Further, the advanced level learners who worked in heterogeneous groups, as required in informal cooperative learning and structured controversy, focused on the planning stage of

writing. Planning is a skill that they have learned during the composing of their midterm essays. They planned their essays before writing. Therefore, they were the "doers" who planned very effectively before writing. For this group, planning during formal and informal cooperative sessions and later in structured controversy meant challenging their thinking before writing and revising because the nature of planning became exploratory rather than expository. Therefore, for this level, planning was the most effective stage of writing, as it was for the beginner level students who opted to benefit from their peers during the planning stage. Both levels resorted to the strategy of think-then-write, which confirms what Torrance, Thomas and Robinson (1994) claimed about the relationship between thinking and planning. It is also in accordance with Graham (2006) who states that the writing environment has to maximize the students' success by putting into place activities designed to help their writing flourish. This is exactly what happened in the experimental writing class.

In addition, touching on the social and cultural dimensions served to maximize the opportunities for the advanced level students in both thinking and writing. One reason may be that their participatory dialogues while working in groups aided learners in synthesizing different academic and non-academic genres, and reflecting on personal experiences and relevant issues which, in turn, promoted the use of counter-arguments in their essays. Creating such a dynamic and collaborative environment like this lies at the heart of the philosophy of critical pedagogy. The learners were able to formulate a clear and convincing tone with a focused perspective, as manifested in their clear writing. Their progress in writing culminated in their final essays because they regulated their own writing while working in groups by sharing information in groups. Thus, with regards to revision, the advanced level students did less revision they had relied so heavily on the planning they had done as they were teaching other students in their groups. This finding does not fit with what Torrance, Thomas, & Robinson (1994) found about the fact that all students need to draft their essays. The researcher finds this reasonable because learners replaced the skill of writing a draft with planning aided by their use of graphic organizers.

Finally, the advanced level learners from the control group progressed only in the third essay because they only benefited from the critical thinking strategies in the early stages of the study. Results indicate that the advanced-level students in the control group outperformed the other two levels (beginners and intermediate) from the same group. One interpretation is that these students were competent & proficient in language and also they employed some of the critical thinking strategies in their writing. This is evident in the third essays, which were clear, yet not as effective as the advanced-level essays from the experimental group. They

were unable to explore their ideas through dialogue with their peers. Their writing was only based on the readings given to them and on their own judgments, instead of group discussions. Kuhn (1991) considers the skill of argument an essential component in the process of thinking critically, and learners from the control group were unable to interact with their peers. The teacher explained to them what they read and what they were asked to write. Therefore, writing continues to be a difficult process for those students. These results also reveal that critical thinking as a skill can't function in isolation from classroom interactions and group processing. The use of CTs were the only factors that contributed to this group's improved writing, yet it was not enough to reach an effective level of clarity. This was possibly due to the lack of cooperative learning which is a necessary component in the success of writing.

- **T-test analysis:**

A thorough analysis of the T-test results for the final essays (Tables 22, 25 & 27, pp.118, 120, and 123) indicates that the experimental group learners significantly improved, as the experimental group's score was 1.3 points higher than the control group's scores. By comparing the results, the T-test difference for the final essays was 3.8, which is statistically significant at the level of $\alpha = 0.05$ for the benefit of the experimental group because of the role of cooperative learning. Further, when comparing the mean and range for both groups (Table 27, p. 123), it is evident that the standard deviation for the control group slightly decreased during the final study period from 1.8 in the pre-essay to 1.8 in the midterm to 1.5 for the final essays, whereas, the standard deviation for the experimental group heavily decreased from 1.9 in the pre-essay to 0.9 in the midterm to 0.8 in the final, marking a slight decrease between the midterm and the final essays. This finding indicates that cooperative learning minimized the differences among learners. This may also indicate that learners gained social, communicative, and cooperative skills while working in groups. Moreover, the statistical results of the range slightly increased among the control group learners from 7.0 to 8.0 and then decreased to 5.0, which may indicate that individual differences to some extent decreased as a result of assimilating CT strategies in a conventional setting. However, the range for the experimental group significantly decreased from 7.0 to 4.0 to 2.0, which proves that the individual differences among groups were drastically minimized. This is in line with Graham (2006) who asserts the need to facilitate writing development through peer interactions. Peers can help in planning, revising, and editing and they can reinforce the mastery of skills and

strategies taught by the teacher. This finding supports previous findings in the clear writing section that demonstrate that cooperative learning minimizes differences among learners, which, in turn, helped learners write with clarity.

- **The Impact of Critical Thinking**

Results in (Table 30, p. 125) regarding the influence of critical thinking on the twelve essays for both groups indicate that six essays from the control group and two from the experimental group were considered intermediate (acceptable), whereas four essays were considered advanced (strong) from the experimental group. These results also reveal that there were no weak essays during this final stage of the study. This means that all learners benefited from the infusion of the five CTs. However, the effectiveness of the students' writing critically was considerably different among the two groups for the benefit of the experimental group.

Of the six essays for the experimental group, four essays were classified as advanced (strong) and two as intermediate (acceptable), which means that critical thinking was very noticeable in their writing. This indicates the students' ability to consistently and accurately interpret evidence, identify salient arguments, thoughtfully analyze and evaluate major alternative points of view (See Appendix 12 for samples of student essays). These skills are in accordance with what Paul and Elder (2006) identified regarding the qualities that are typical of critical thought. Further, the two essays that were classified as intermediate among the experimental group learners indicate that critical thinking was demonstrated in their essay writing, as the students were able to interpret, identify, and offer analyses and evaluations of obvious points of view most of the time. However, results from (Table 30, p. 125) indicate that all six essays for the control group were classified as intermediate. This means that critical thinking for those students did not progress beyond the midterm level. Learners from the control group were unable to further upgrade their critical thinking and the results indicate that they continued to write in a static manner due to the absence of cooperative learning.

Findings from essay results for the experimental group indicate that the cooperative learning environment led to increased critical thinking, which, in turn, led to better writing. The learning environment has a major role in promoting critical thinking during the process of writing. This may indicate the following (Table 42 below) about the influence of the last three CTs (Socratic questioning, Problem-posing, and Hegelian dialectic) that were implemented in the final stage of the study period.

Table 42

Influence of Socratic questioning, Problem-posing, and Hegelian dialectic Strategies on Writing Skills for the Final Essays

	Control	**Experimental**	**Control**	**Experimental**	**Control**	**Experimental**
Socratic questioning	Drafting the essay	Planning Questioning Self-regulation Re-writing	Drafting the essay	Questioning Self-regulation Re-writing	Drafting the essay	Planning Questioning Self-regulation Re-writing
Problem-posing	Revision & editing	Planning & Peer revision and editing	Revision & editing	Planning Peer Revision & editing	Revision & editing	Planning Peer Revision and editing
Hegelian dialectic	Revision & editing	Synthesis	Revision & editing	Synthesis	Revision & editing	Logic and argumentation counter-arguments /refutation

As the above table shows, the writing skills for the control group were mainly drafting and revision, whereas they were planning, peer revision, and synthesis for the experimental group.

Looking at the Socratic questioning, this strategy was meant to aid learners when drafting their essays. However, scores for the six essays for the control group show that their critical thinking level was acceptable same as the midterm essay. This may indicate that the discussion among the control group learners while implementing the Socratic questioning is lead by the teacher.

However, the four essays from the experimental group learners demonstrated strong signs of critical thinking because they were introduced to the Socratic questioning strategy in a cooperative setting. The learners took ownership of their own work and regulated their own learning while working in small groups. This strategy aided learners in planning by teaching them to generate effective questions and creating a rich opportunity for them to develop dialogue as a key element in understanding readings for the purpose of writing critically and clearly. With Socratic questioning, they were able to raise vital questions and, for the first time, learners were able to create their own tone or writing voice by sharing their own ideas and building knowledge based on prior information through cooperation. This critical voice or "insight" as Harmer (2004) calls it, was manifested in their writing and is evident in the analysis of their critical thinking level. Further, this is in line with what Copeland (2005)

believes about the use of Socratic strategy as a driving engine to initiate a form of dialogic that is self-conscious exploratory process.

Clearly, the nature of the process of questioning differed between the two groups, which, in turn, affected their writing performance. Cooperative learning promoted classroom discussions to generate probing questions, similar to what Paul and Elder (2006) assert about the types of questions that help learners "identify' parts of their thinking to find reason. Learners in the experimental group were consistently able to interpret, identify, examine, and assess claims and evidence to create their own stance, and this thinking was evident in their persuasive/argumentative essays. One example from an essay is: "As *for me, I am without doubt against the authoritarian parenting because of three reasons…creates many problems in their personality, it is based on fear, it makes children depend on their parents"*. The student in this essay makes a stance and thoughtfully analyzes the issue using logical points. This finding is also in accordance with the philosophical dimension addressed in the literature review (Socrates, Plato, Aristotle, Dewey, 1909; Copeland, 2005) about the Socratic methodology where it was argued that questioning is an effective and productive tool for teaching. In addition, this is consistent with what Cohen (1994), and Johnson and Johnson (1989) mentioned about the kinds of discourse that learners use in small groups and the impact they have on the learning process.

Further, with the experimental group, the culmination of "dialogicity" in cooperative groups helped students synthesize their thoughts after being exposed to the Socratic questioning. They were then introduced to the strategies of problem-posing and the Hegelian dialectic. These three strategies offered learners from the experimental group control over the learning process, consistency, and self-regulation over their writing process. It is worth noting that when learners demonstrated mastery of synthesis, according to Blooms' taxonomy (See Table 4, p. 28), the learners had transferred their knowledge from factual knowledge to procedural and meta-cognitive knowledge. They were able to analyze, evaluate, and use counter-arguments and refutation as critical thinking skills to create their own line of reasoning while composing their persuasive/argumentative essays. Consequently, this resulted in having four strong essays that demonstrated elements of critical thinking. Further, they used peer feedback for revision and editing which greatly improved their essays, as the results indicate. However, learners from the control group continued to depend on their teacher as the main source of information and feedback, due to the nature of the conventional classroom setting.

By comparing findings from the analysis of critical thinking, it is evident that the combination of Socratic questioning, problem-posing, and the Hegelian dialectic in a cooperative learning setting cultivated both students' growth in writing and their ownership of the classroom discussions. This is a necessary step on the path toward self-regulation, as the role of the teacher is minimized and the classroom becomes learner-centered. The teacher's role shifted from being the source of information, to a facilitator who guided their discussion while working in groups to implement the strategies. This may indicate that the role of the teachers in both groups also differed due to the classroom environment. It may indicate that the role of the researcher who taught the experimental group transformed to being a guide, facilitator, and mentor among cooperative groups rather than a controller, while the teacher of the control group continued to be the main source of information. This is in line with how Johnson, Johnson, and Smith (1991) described the role of the instructor as "being a guide on the side" (p. 4) in a cooperative setting. This participatory role of the researcher as a constructivist teacher is supported by Johnson, Johnson, and Smith (1991); Graffam, (2003); and Blyth (1997).

Consequently, analysis of the evidence of critical thinking demonstrated by the final essays indicates that learners from the experimental group gained more writing skills and developed one of the main characteristics of critical thinking, which is good thinking: a habit of analysis that is nurtured in a cooperative learning environment and was very noticeable in the critical thinking analysis of essays. This makes sense because, while working cooperatively, the learners took time to plan together and think about their claims after listening to each other instead of just reacting. Further, they "tamed their thoughts" and reformed their language by resorting to peer feedback for revision and editing while employing the strategies. This is in line with Johnson, Johnson, and Smith (1991) who believe that peer feedback increases performance. They consider peer feedback as an opportunity to shape students' attitudes towards writing in a formative manner, which, in turn, can upgrade the quality of their writing as well as increasing their motivation.

To conclude, of the eighteen essays for the control group, eight were considered weak (unacceptable), ten essays were considered intermediate (acceptable) and demonstrated some signs of critical thinking during the midterm and final exams. However, of the eighteen essays for the experimental group, seven were considered weak (unacceptable), six essays were considered intermediate (acceptable), and five essays were considered strong. These results show that the experimental group learners produced five strong essays (one midterm essay

and four final essays), and therefore, outperformed the control group learners. Clearly, critical thinking can promote writing and can thrive and grow in a cooperative setting.

5.3 Discussion of Questionnaire Results:

An attitude questionnaire was administered to the experimental group only for the purpose of knowing their attitudes towards using cooperative learning. By reviewing (Tables 32-40, pp.127-131) it is evident that students had a very positive attitude (the mean is more than three for all of the eight factors) towards cooperative learning as a paradigm for teaching writing.

These results show that learners enjoyed several aspects of the class while sharing and managing their tasks cooperatively. First of all, they enjoyed the idea of having a shared learning goal for each group. They became good listeners and appreciated each other, helped each other, and cared about each other, regardless of their language competencies. They also learned how to manage tasks efficiently. These inferences were evident in the fifth factor (Table 36, p.129) in item 8 which shows that when the students worked together, they tried to make sure that everyone in the group learned. This in turn emphasizes positive interdependence where team members were obliged to rely on one another as a key element of cooperative learning. Further, items 14 and 34 from the same table support these findings too. Learners felt conscientious towards their duties and rights within each group. Support of this finding is evident in the fifth factor, goal interdependence (Table 36 in Chapter Four, p.129), how necessary students felt it was for all members to learn. They acquired many social skills, coordinated their efforts, and learned and used skills and strategies in cooperative groups as they taught each other how to master the skills (Graham, 2006). Moreover, students utilized strategies more effectively due to group processing, which is an essential component of cooperative learning. In group processing, students effectively reflected on the process of how well they achieved their goals using classroom discussions.

Furthermore, the researcher was able to identify two significant findings, which reveal positive attitudes towards cooperation. The first is the need to address all five elements of cooperative learning (positive interdependence, individual accountability, face-to face interaction, appropriate use of collaborative skills, and group processing) for this process to succeed effectively. Positive responses to the eight factors support this finding.

The second finding is that, through cooperation, learners were able to acquire and exhibit universal values such as equity, tolerance, and respect. These values were evident in

factor three about student academic support (Table 34, p.128), items five and twenty-five about how other students cared about each other while learning. This is also evident in items 29, 31, and 35 in (Table 35 , p.129) about how much the students felt individually accountable for doing their share of the work for the sake of others and in order to master all of the materials to be learned, which, in turn, emphasizes another key element in cooperative learning, individual accountability. This is due to their exposure to different CTs that changed their dispositions about social topics, cultivated good thinking, produced clear writing, and enriched participatory dialogue.

A thorough analysis of the eight factors addressed in the questions may lead to the following inferences:

First, the results of the first factor, Teacher Academic Support, that are illustrated in chapter four (Table 32, p. 127) indicate that students have a positive attitude towards how their teacher supports their learning**.** For example, item number (22) in Table (32) about how the teacher cares about how much they learn reveals a very high result, 4.9 out of 5. This indicates that the teacher was reaching out to the students to meet their academic needs as she modeled good reading and writing practices that they benefited from. This also reflects the importance of the exchangeable role of the teacher who acted as a facilitator to create a clear, well-structured academic setting within a cooperative learning environment. Also, it stresses the importance of giving direct instructions in teaching writing strategies and skills in a cooperative setting, which is a necessary component for teaching writing. These good practices helped students to accomplish their academic goals set at each stage of the writing process.

With regards to the second factor, Teacher Personal Support, which is illustrated in (Table 33, p. 128) students, had a positive attitude. This finding reflects that students were motivated because the researcher offered motivational strategies such as modeling and cooperative and team building activities. Therefore, the writing they produced came directly from their experience, which, in turn, helped them transfer their own ideas and thoughts to others after they personally translated them to optimize their thinking and learning in each stage of cooperative learning. For example, (Table 33, p. 128) shows that when the students were asked how much their teacher cares about their feelings and attitudes towards writing, they responded very positively, with a mean of 4.6. This is also evident in items 13, 15, 40, and 43 (Table 33, p128) about the relationship between the teacher and her students. This may indicate that having a healthy relationship between the teacher and her students can facilitate the process of teaching, especially in the case of writing. This makes sense because writing is

challenging, and therefore, they need to change their attitude towards writing in order to continue in this process. This change in attitude requires careful attention. Indeed, careful structuring of a cooperative learning environment helped the students to be more productive during their writing tasks.

The positive and supportive role provided by the teacher directly reflects students' readiness to take part in cooperative learning and to accept failures. Fortunately, the nature of cooperative learning set the grounds for an effective interaction between the teacher and students on the social and cognitive levels. Results from these two factors about teacher's academic and personal support show that the researcher taught students how to self-regulate their learning and writing strategies, therefore enhancing both knowledge and motivation. Accordingly, one may infer that the teacher's role in the first stages of formal cooperative learning was to teach the students to assign roles and make decisions, and that this created readiness and extrinsic motivation among students to work without fear in a cooperative setting. This also emphasizes the efficiency of group processing, which is another key element in cooperative learning. Later, and as they self-regulate their own learning and grow in competence cognitively, their intrinsic motivation towards writing grows; while the role of the teacher shrinks to the point that he or she becomes a "guide on the side" (Johnson, Johnson, & Smith 1991).

As for the third and fourth factors, which are illustrated in (Tables 34 and 35, pp. 128 and 129), results indicate that students also have a positive attitude towards Student Academic Support and Student Personal Support. Interpreting the results of both Tables, it is clear that students not only acquired academic strategies but also acquired social and human values, like respect, good listening, and tolerance.

With regards to student academic support, learners are accepting of other members in the group and they are willing to listen, change, and deal with constructive feedback. This is evident in Table (34) which indicates a high mean (3.5) in item number five. This item discusses how much learners help each other in learning. Findings assert that academic and real learning was taking place in small groups and between group members with different learning needs (Johnson, Johnson, & Smith, 1991). This reflects the successful interaction among students who were able to connect with each other on the cognitive and social levels because they had one worksheet to work with. This is in line with what Johnson and Johnson (1990), and Cohen (1994) mentioned about positive interdependence. Learners are supporting each other instead of competing with each other, as they can "perceive that they can achieve

their goal if and only if the other individuals with whom they are cooperatively linked also achieve their goals" (Cohen, 1994, p.12).

This is also reflected in Table (35) about how learners view student personal support of each other. The highest score, 3.7, was in answer to question 31, which measured the level to which other learners cared about each other's feelings and how much they liked each other. This also asserts the success of positive interdependence, as team members were obliged to rely on one another to achieve their common goal. Such behavior requires both social and academic support on behalf of each member.

Further, a feeling of individual accountability is needed for the success of student personal support (factor four) as each member in the group is held accountable for doing their share of the work and for mastery of all of the material to be learned. The type of relationship needed for the success of cooperation is reciprocal and sequential. Table (35) reveals that the nature of the relationship between students was positive. For example, item number 20, which asked whether other students like me the way I am, had a mean score of 3.7. However, Slavin (1983) argued in a best evidence synthesis that cooperative learning is only effective when group rewards and individual accountability are present. The results of this study do not support Slavin's point because for cooperative learning to succeed, there must be integration between all five elements of cooperative learning. This variability in the findings suggests that the advantages obtained can actually be obtained only under certain conditions.

With regards to the fifth factor (Table 36, p.129), the results reveal positive attitudes towards goal interdependence, which is a core element of cooperative learning. For example, the highest mean, 4.5, goes to item eight. This item reflects that when learners function in groups, they try to make sure that everyone in the group learns their tasks. Therefore, cooperative learning was successful in helping learners move from a competitive atmosphere to cooperative context but only under the certain conditions that existed during this study. According to Johnson and Johnson (1989), there is considerable data that indicates that higher achievement, more positive relationships and better psychological adjustment result from cooperative than from competitive or individualistic learning. Further, this also reveals that developing interpersonal skills paves the way for effective writing, as students benefit from the perspective of others, and therefore, become efficient in employing writing strategies despite their differences in ability. That is, the more socially skillful students are, the more their achievement and progress in writing becomes evident. The combination of critical thinking strategies as a tool to enhance writing, and the employment of the three types of

cooperative learning are good ways to encourage good thinking and clear writing as they help to create a community of learners.

As for the sixth factor which is illustrated in (Table 37, p.130) learners' attitudes towards Resource Independence were also positive, as they reflect some features about how learners interact and share information. The highest two means (4.5 and 4.6) in Table 37 indicate that there was equity among the team members when they shared material and listened equally to everyone's ideas. These findings are consistent with Cohen (1994).

These positive signs definitely have an impact on how learners view the notion of Cooperation, which is the seventh factor and shown in Table 38. This table shows that the students were not afraid of failure, and that they liked helping each other. The highest mean (4.75) was for item 55, or how students shared ideas and materials. This is in accordance with the "sink or swim" approach that the Johnsons (1981) use to sustain a team spirit within groups.

Table (39, p. 131) discusses the eighth factor, Fairness in Grading within groups**.** It is evident that learners felt that they deserved the grades they got. They felt that the teacher was not biased in giving grades. One main reason is the success of the "swim or sink together approach" that the Johnsons highlight in their studies. Learners' attitudes were very positive; especially toward item number (32) which has a mean of (4.75).This item reveals how learners relate effort to success. Another important item that had a very high mean (4.5) is item number 16. This item deals with how many members in the class believed that they had an equal opportunity and an equal chance to do his/her best while working in groups. These positive attitudes confirm two findings as they highlight the strong interrelation within the five elements of cooperative learning. The notion of hard work and effort are symbolized as key elements in the success of cooperation because students are treated fairly. Team members are not undermining any students in the group. This finding is very important because it reflects good practices in thinking as a cultural tool. It confirms the theoretical framework of Cohen's (1994) study about the importance of examining student interactions in order to guarantee the effectiveness of working in small groups.

5.4 Discussion of the Study Questions

5.4.1 First Question: What is the role of critical thinking in L2 English essay writing for students?

Critical thinking plays a vital and valuable role in L2 English essay writing. It is an effectual skill that promotes good thinking and understanding of the writing processes and works on different levels of thinking, both lower and higher order thinking skills. Data from this study indicates that critical thinking influences writing skills. The role of critical thinking, which led to significant improvement in the students' writing, is to activate good habits in writing as it shapes attitudes and teaches students to make better choices while writing. This finding does not support the assumption that critical thinking is merely a complex skill that addresses higher thinking order skills. Data from essays for the control and experimental groups support this finding since students from all levels marked some kind of development in clear writing and critical thinking. Not only did the critical thinking activities and strategies used in this study create a challenging instructional environment that was conducive to teaching writing, but it also served to dismantle, to a certain extent, the hierarchy of writing as a product-pedagogy. This was evident in the twelve intermediate midterm and final essays for the control group that demonstrated acceptable signs of critical thinking, and considerably clearer writing.

The role of critical thinking is also essential for L2 learners as it triggers the ability to write without fear and enjoy the activities used to promote critical thought. This was evident in the influence of critical thinking on the planning stages of writing essays for both groups. It imposes greater precision in thinking while writing, and helps the writer organize, evaluate, and identify issues of topics and ideas. Further, the role of critical thinking mediates the act of writing and helps readers to become familiar with critical thinking and writing strategies. These strategies are characterized as being reasonable, goal-oriented, self-correcting, and skillful. Moreover, the five critical thinking strategies used in this study have been customized to introduce and address both lower and higher order thinking skills. This is evident in the immersion of the first two CT strategies including instructional scaffolding and PMI which helped all learners to upgrade their writing levels. For the control group, the learners improved somewhat, and the experimental group learners improved significantly.

This indicates that the role of critical thinking in L2 essay writing proved to be more effective in a cooperative environment. Students' understanding, knowledge of the reading materials, application and practice of language skills in a cooperative writing class

significantly improved. The student essays that were analyzed for clear writing and critical thinking, and the T-test results and the attitude questionnaire indicate that the experimental group's performance and achievement in writing was significantly enhanced, and that their attitudes towards writing changed positively due to the successful combination of critical thinking strategies and cooperative learning. This finding indicates that language teachers still need to recognize the integral relationship between critical thinking strategies and learning in a cooperative context. This combination sets a mood that is conducive to teaching and learning, empowers the pre-writing stage of writing, helps to create structured lesson plans and teach in a purposeful manner, and directly teaches social skills to create competent writers.

Another significant influence that critical thinking has on L2 English essay writing is that it mostly creates the opportunity to exchange information and interact with peers using some elements of critical thought to produce clear writing essay. These opportunities increased the quality and ease of interaction, as it provided support and modeled social behavior that was reflected in the students' attitudes toward writing. That is, learners were able to interact socially, explain concepts to each other, and enhance their knowledge of the writing process. For example, they started learning how to listen well and how to respect other points of view that they do not agree with. Therefore, group discussion became a key element preparing to write, which added to the importance of peer relationships, especially in the early stages of cooperation. This is in line with Johnson (1980); Johnson and Johnson, (1989) who discuss the importance of interaction and group processing.

Simply, critical thinking can't stand alone as a skill in a non-cooperative learning setting. Significant growth in writing using critical thinking requires a cooperative learning environment. This finding is consistent with Willingham (2007) who states that critical thinking is not a set of skills that can be used anytime because it is type of thought that needs to be cultivated. Therefore, based on the results in this study, the researcher believes that critical thinking can be very instructive for planning lessons, and dynamic and valuable as a teaching tool in a participatory writing context that involves the application of different cooperative learning activities. This indicates that there is an intrinsic relationship between writing, critical thinking, and cooperative learning. This trio is highly recommended and needed to initiate, manage, and develop the writing process and promote good judgment and reason.

5.4.2 Second Question: What strategies contribute to developing students' critical thinking ability as they are engaged in essay writing?

The five critical thinking strategies highly contribute to developing students' critical thinking ability as they are engaged in writing, particularly if combined with cooperative learning. The essay analysis for both groups asserts this finding. Learners from both groups progressed in thinking while writing. Reviewing (Tables 28, 29, and 30, pp. 124 and 125), of the twenty four essays analyzed for critical thinking for both groups during the mid and final study periods, three essays were considered weak, sixteen essays were considered acceptable, and five essays from the experimental group only were considered strong. This means that critical thinking strategies can influence students' thinking, yet can be of an added value in a cooperative environment.

By comparing the results of students' essay evaluations, it is evident that when used in a cooperative setting, the five CTs shaped the writing of learners from the experimental group, and helped them deal with the complexity of writing essays on the process level. The CT strategies aided in deconstructing the stages of writing into sub-stages, making the process more manageable and purposeful. Further, it shifted the classroom atmosphere from being teacher–centered and complex to being learner-centered, challenging, motivating, and enjoyable. The CTs are also useful "cultural tools" in the sense that they create a lively social context providing the students with interesting topics to think and reflect on based on their own experiences. As such, CT strategies become a catalyst for documenting the writing processes and reflecting on analysis and application. Further, the use of the five CTs employed in a cooperative learning environment promotes a spirit of respect and democracy by giving equal opportunities among learners who work together as shown in factors two (student personal support), and seven (cooperation) from the attitude questionnaire .

Cooperative setting as a rich learning context plays a significant role in structuring and producing effective classroom interactions in each stage of writing process. Furthermore, learners who are exposed to the critical thinking strategies in a cooperative setting experienced probing discussions and productive classroom interactions due to the blend of critical thinking and participatory discussions. This was evident in the five essays that showed strong signs of critical thinking. Effective interaction was a significant factor that contributed to developing writing and critical thinking abilities because it centered on the learner, construction of knowledge and meaning, ongoing formative assessment using re-writing and feedback, and on creating a community of learners. Therefore, interaction might have raised

learners' awareness and promoted self-consciousness in handling writing tasks. Those learners, who worked in a cooperative atmosphere, were not passive receivers but active learners as they were able to construct meaning cooperatively in a rich environment.

Therefore, one may infer that cooperative learning creates and promotes a spirit of democracy and respect that aids in developing elements of reason of both lower and higher order thinking skills. This is evident in the students' positive responses (above 4) when asked about cooperation in the seventh factor from the questionnaire (items 51, 53, 54, 55, 57, 58 and 59). This finding is also in accordance with Lewis and Smith's (1993) ideas about the need to have different types of learning that require different strategies when introducing higher order thinking skills.

Additionally, findings from the essay evaluations reveal that the adaptable nature of the CTs used and its proper infusion into the writing tasks played a significant role in developing writing. The control group results indicated that learners' use of the critical thinking strategies in their writing remained static due to the absence of live discussions in class. Based on data from student essays analyzed for critical thinking, the control group learners did not score any essay that manifested strong signs of critical thinking .In the conventional classroom, learners from the control group were unable to make connections because their attempts at critical thinking were done alone. Therefore, their gains in writing were significantly less than the other group. However, the use of cooperative learning fostered a more effective learning environment in which students used different CTs and made writing a cognitive practice that included planning, revision, and editing. In other words, writing became a form of communication with others and oneself. Further, using CTs in a cooperative setting marked a change in thinking and disposition (such as being fair-minded) that also affected the process of writing clearly and critically. This is due to the exposure to different procedures of cooperative learning that nurtured and developed human values including equity and tolerance.

Clearly, the learners from the experimental group became better writers. The use of the CTs influenced their writing on various levels, including planning and peer revision. The five essays that were marked as strong revealed the learners' levels of analysis, and assessment of arguments; considering a critical text or issue from a variety of perspectives; assembling evidence for support of an argument; and demonstrating openness to different points of view. They were able to write a well-organized and clear persuasive/argumentative essay. These changes were demonstrated in their planning, compositions, and peer revision.

This study asserts that one of the main contributions of cooperative learning is that it maximizes the opportunities to use critical thinking strategies to develop writing. This outcome is the result of the democratic atmosphere of cooperation that learners engaged in despite their individual differences. Additionally, the cooperative setting required a state of doubt about what to do or believe, as well as goals, possibilities, evidence seeking, and evidence use. Baron (1985) considers these factors to be essential characteristics of critical thinking. This indicates that one of the main contributions of critical thinking is that it is adjustable and adaptable and can be used in different learning contexts. Each critical thinking strategy is supported by a school of thought as discussed earlier in Chapter Two. All these elements provided learners with the ability to focus on coherence through careful planning, self-correction through revision, and adapting the CT to serve their writing needs, as they engaged in writing in small groups.

This also reveals that the five different CTs require appropriate timing as to when they are infused into certain stages of cooperative learning (formal, informal, and structured controversy). For example, during the formal cooperative learning stage, the researcher introduced instructional scaffolding and PMI in a purposeful manner to encourage students to write. The infusion of the first two CTs using formal and informal types of cooperative learning maximized the success of these strategies. The nature and use of formal and informal types of cooperation helped to prepare learners for the early stages of pre-writing. Also it created a mood that was conducive to cooperation instead of competition. For example, it encouraged heterogeneous membership, positive interdependence, tasks and relationship, group processing, and shared leadership. This also revealed that the CTs were adaptable, interchangeable, and worked with both the control group and the experimental group, as the results from essays indicate.

However, the last two CTs (Problem-posing and Hegelian dialectic) that were introduced using structured controversy did not benefit the control group learners in the same way that they did with the experimental group learners. The nature of these two CTs demanded the existence of certain social and collaborative skills among learners. Unlike the first three CTs, the last two CTs were infused in a linear pattern. This asserts that the first three CTs mainly addressed both lower and higher order thinking order skills. Later, learners in the last two CTs gradually moved to consistency in attaining higher thinking order skills .The gradual infusion of the CTs into the different stages of cooperative learning was accompanied by a gradual development in the essays of the experimental group learners. This finding asserts that growth in writing relates to growth in thinking.

Therefore, one may conclude that language teachers need to be conscious about the type, nature, and purpose of the critical thinking strategy needed to generate a successful writing task. Also, they need to be aware of the different cooperative learning stages to furnish an acceptable atmosphere of cooperation. Therefore, careful planning of lessons, selection of CT strategies, appropriate use of the types of cooperative learning, and awareness of the writing stages are essential factors in the success of a writing class. For example, the first three CTs that address the lower-level thinking skills require certain types of cooperation and tasks, especially in the pre-writing phase. Meanwhile the last two CTs that address the higher-level thinking orders (analysis, synthesis, and evaluation) require more challenging tasks in cooperation to reach a higher level of synthesis and written expression. Therefore, one of the main assets of critical thinking is that it can be used to address the different levels of thinking domains all at the same time.

These findings are in line with what Flower and Hayes (1981) explained about the need to create a context for writing that is multilayered, complex, and recursive. Writers should have a set of unique thinking processes that they can select from and sort through during the process of composition. In addition, these processes should be hierarchical and interwoven into the writing process. Finally, the five CTs shaped the act of composing as a goal-directed activity. One may conclude that all five critical thinking strategies highly contributed to developing students' writing ability as they were engaged in the act of composing in small groups.

As a final point, the assimilation of critical thinking and cooperation that requires proper execution of various procedures of cooperative learning leads to a significant change in learners' dispositions, which is in line with the arguments (Johnson, Johnson, & Smith, 1991). This is supported by evidence from the attitude questionnaire results and from the essays evaluations that showed the students were open-minded. The fruitful and participatory discourse that students in the experimental group witnessed transformed their attitudes towards writing in a positive way. Gradually, they became able to write clearly, accurately, precisely, deeply, fairly, and logically. This is also in accordance with what Paul and Elder (2008) describe about the benchmarks needed for any critical thinker (p. 48). These traits were reflected in how they approached writing and how they changed their attitude towards it. Further, they manifested some universal intellectual standards such as care, respect, empathy, courage, and equity due to their participation in a cooperative setting. This was also evident in the results of the attitude questionnaire.

Based on evidence from the students' essays and the attitude questionnaire, the learners from the experimental group were characterized by traits such as open-mindedness and cooperation. It is worth noting that many definitions of critical thinking (Kuhn, 1991; Ennis, 1993; Pithers & Soden, 2000; Lipman, 1988; Facione, 1990; Paul, 1992; and Fisher, 2001) define it as the ability to analyze reason, reflect, judge, and be open-minded. These traits were demonstrated in the writing of learners from the experimental group .Many skills were successfully employed due to the exploratory dialogues that resulted from the five CTs in a cooperative learning environment. This is also consistent with what Elder and Paul (2010) discuss about the importance of elements of critical thought.

Therefore, the execution of the small group work in the writing classroom merged with critical thinking shifted the process of learning how to write to encourage "perfections of thought," and productivity in discussions while sharing ideas with peers. The notion of productivity in small groups is supported by Noddings (1989) and Cohen (1994) who assume that such learning outcomes cannot be achieved without the creation of suitable discourse or conversation within the small groups "productive small groups as those that are engaged in high-level discourse" (Cohen, 1994, p.3) .

5.4.3 Third Question: How can cooperative learning facilitate the use of critical thinking in essay writing at the process and product levels?

Through the implementation of its elements, cooperative learning sets a democratic ambiance, which is conducive to promoting critical thinking and writing skills. Analysis of the students' essays show how cooperative learning created readiness among learners from the experimental group accompanied by growth in writing abilities. This practice of cooperative learning as a paradigm facilitates the use of skill, will, knowledge, and self-regulation at the process and product levels of writing. To illustrate, learners on the process level benefited while working in groups to practice the skill of planning and other writing skills as they were driven by the will to cooperate and to share knowledge with others. Meanwhile, they benefited on the product level of writing while self-regulating their own learning to write their essays individually. This is consistent with what Graham (2006) mentioned about the need to address these aspects in order to develop writing. Indeed their writing did develop.

Results from this study reveal that there are a number of ways that cooperative learning offered to aid the process of writing while using critical thinking strategies. These factors are:

the execution of the three types of cooperative learning (formal, informal, and structured controversy), selection and size of groups, true nature of tasks, effective use of critical thinking strategies, amount and nature of writing tasks, and the use of the social and cultural tools.

The selection of group size and true nature of tasks, as suggested by Cohen (1994), affected the degree of progression and involvement while composing. The experimental group essays that were analyzed and showed significant gains in clear writing indicate that there was a clear relationship between the successes of the writing tasks and the nature of cooperation in those tasks. This is consistent with earlier literature about writing supported by Graham (2006); and Sperling and Freedman (2001). Also, direct instruction of writing tasks and multiplicity in introducing different cognitive levels of thinking within a task played a significant role in making cooperative learning a success. One example is the use of PMI along with Instructional Scaffolding in weeks six and seven. Learners were asked to plan using PMI and the T chart.

Cooperative learning played a vital role in transforming the abilities of some students' from novice writers to capable writers. In the case of other students, they became effective and average writers. Cooperative learning changed their perception of writing and changed their self-efficacy towards their ability to write and self-regulate their learning strategies while writing. This is in line with Pithers and Soden (2000) who believe that self-regulation of one's own thinking is critical thinking that can be nurtured by writing. This is supported by the theoretical framework of constructivism, and is also supported by Vygotsky (1978) who believes that novice learners construct knowledge in collaboration with more capable learners. Language is the tool mediating this process (Vygotsky, 1978), as learners gradually internalize the socially constructed knowledge. Learners in the experimental group worked in groups that included a mix of novice thinkers and novice writers and expert thinkers and expert writers and this affected the students' development. They had a positive impact on each other's performance because they could act as capable writers. This also explains the progressive development in essays for clear writing among the three levels while writing in a cooperative setting. This is consistent with what Dobao (2011) discussed about how learners can employ mixed strategies as novices and experts to write.

Further, the systematic approach of implementing each cooperative learning stage (formal, informal, and structured controversy) contributes to making tasks more manageable because of the group selection and size, i.e. four members per group. This is a major factor in the success and productivity of small group work as Cohen (1994) suggests. The amount and

nature of writing is only possible if the main writing task is first divided up into more manageable sub-tasks. Most of the literature review on L2 writing assures that the process of L2 composing involves demanding cognitive and linguistic tasks. This finding is also stressed by Tsui's study (2002), which states that the nature and amount of writing tasks can affect the development of writing. In addition, Festa (2009) and Harmer (2004) also argue that the nature and amount, of writing can contribute to better writing.

Thus, a hallmark of cooperative learning was clearly demonstrated in the effective and exploratory dialogic that created a strong and reliable relationship between the learner and other group members as the attitude questionnaire indicates in factors three, four, five, and seven. This, in turn, affected the level of internalization and self-exploration while writing essays. Results from student essays for clear writing reveal that the depth of internalization varied among the two groups because learners from the experimental group used participatory discussions while working in small groups as a process to reflect and think more clearly. Whereas the control group members were unable to either connect their personal thoughts or exchange expressions due to the absence of cooperative learning. This finding is evident in the essays for both groups, especially in terms of clarity and development in writing (See Appendix 11 and 12 for samples of student essays). Further, analysis of students' essays for critical thinking indicates that the experimental group learners were making connections by giving examples from their real lives in an insightful manner. An example of an essay from the experimental group:

> *Actually, when I will become a mother, I will follow the style of authoritarian because our life needs this style, at least until they are adults and then I will become more relaxed and give them freedom to do their decisions. Because if you take care of your children in the first few years of their life and cultivate the good things in them, you will not worry about them, isn't it?*

However, the essays of the control group did not reveal as much insight because they did not demonstrate strong signs of critical thinking. This finding about the control group is in accordance with Cook (2008), who states that some students tend to move toward a point of convergence in dialogic because it is not exploratory. Hence, exposure to cooperative interactions upgraded the degree of interaction to become exploratory talk that required learners to think and consider different points of view, and it also created a pattern for learners to adopt. As such, the notion of exploration in writing and building internal representations

while writing was widely stressed in many studies including (Dunlop's 2006; Simpson & Courtney, 2007; Duran et al., 2006). This conscious-raising voice (insight) that developed among the experimental group writers was also evident in the essay analysis for critical thinking. One example of an essay from the experimental group:

> *We all agree that rules and boundaries are important for children to have, but we should ask ourselves how to use these rules to manage family. Should we use punishment to control our children? Should we use fear to manage of children? No. This is wrong, we should think carefully before we take any decision against our children…you can persuade your child in a simple and easy style.*

Finally, another significant factor that made cooperative learning a successful environment for writing was the socio-cultural setting that employed the use of topical themes and authentic materials that directly related to the students' social setting as Palestinians. For example, some of these topics addressed the traditional educational system in Palestine, social issues that related to divorce, early marriage, women and media, abortion, and adoption. The spirit of cooperation created a social context that promoted cognitive skills. This factor confirms that the social and cultural topics had a major effect on learners' progression and productivity while writing. The thematic options and controversial topics that they were introduced to i.e education, gender relations, and family values, made the content "alive." This added more value to the quality of their ideas as they personalized while writing. Hence, this was not consistent with some earlier research on writing models such as the Bereiter and Scardamalia (1987), which focuses purely on cognitive processes, neglecting the social factors involved in writing. Further, according to Myles (2002), the Flower and Hayes model (1981) also does not recognize the socio-cultural variation in the functions of the written language. However, this factor was a driving engine for cooperative learning as learners were exposed to academic and non-academic genres in reading and writing about a socially relevant topic in their persuasive/argumentative essays. This is consistent with Woolfolk (2010) and Vygotsky's social-cultural theory.

To summarize, three findings have emerged from the analysis of the experimental group's essays:

1. Cooperative learning fosters somewhat effective and effective writing skills, such as planning and composing, which leads to growth and development in thinking and writing. Productive classroom interactions and peer work provide an opportunity for learners to practice critical thinking. It is evident that the design of a rich cooperative classroom environment, group selection and size, true and diversified nature of tasks, and classroom interactions merged with critical thinking strategies contribute to the co-construction of meaningful essays.

2. Cooperative learning dismantles the separations between skilled and unskilled writers, and therefore, individual differences decrease due to peer interaction, which, in turn, pave the way for critical thinking that leads to clear writing. This is evident in the T-test results and in the analysis of the statistical findings for the standard deviation and the range (Table 27, p.123). To elaborate on this point about skilled and unskilled writers, the recurrent themes that surfaced in the literature review and previous studies about the classification of skilled and unskilled writers as suggested by Abdullah et al. (2011) indicate that the differences of unskilled and skilled learners is a problematic issue in teaching writing. The researcher found that these "differences" decrease in a cooperative learning environment. For example, the range in (Table 27, p.123) shows that the differences among skilled and unskilled writers from the experimental group significantly decreased from 7.0 to 2.0 , unlike the control group learners were the differences slightly decreased from 7.0 to 5.0. Therefore, data shows that cooperative learning can dismantle and minimize differences between skilled and unskilled writers which are essential for energizing the writing process because students upgrade their levels while cooperating and processing in groups to reach their goals.

3. Cooperative learning shifts attention to writing as a process of exploration. That is, learners are at the center of the learning-teaching process of writing while they are working cooperatively. Data from essays reveal that the influence of critical thinking on writing was noticeable while students were composing, planning, and peer reviewing collaboratively. Further, essays that were analyzed in terms of clear writing revealed a gradual and considerable development of clarity in writing accompanied by noticeable and strong signs

of critical thinking in five essays from the experimental group. This is also supported by the writing skills that emerged from and utilized by the experimental group learners who relied heavily on recursive planning and peer revisions, while the control group learners continued only to draft and outline using writing as a product.

5.4.4 Fourth Question: What are students' attitudes towards cooperative learning in essay writing?

The results of the attitude questionnaire show that students had a positive attitude towards cooperative learning. Scores were above the mean of three for all 38 items. This reveals the need and the importance to introduce the five elements of cooperative learning in order to create a successful cooperative environment. These elements stress the fact that "coming together is a beginning; keeping together is progress; working together is success" (Johnson, Johnson & Smith, 1994, p.3). The results show that experimental group learners were able to achieve higher results in writing clearly and critically as essays indicate. In addition, increase retention while working in groups as shown in factor five about goal interdependence. Moreover, demonstrate positive heterogeneous relationships through group processing as shown in factors three, five, seven and eight. Finally, gain greater social support as shown in factors one, two, three and four from the attitude questionnaire.

Evidence from the attitude questionnaire asserts the successful implementation of the five cooperative learning elements using the three types of cooperation (See pp. 55 and 56); .The CT strategies must abide by these elements to be fully effective. These elements are bound to create:

(a) Clearly perceived positive-interdependence as indicated in factor five, Goal Interdependence (Table 36, p.129). Items 14 and 34 asked students whether when they work together they believe their job is not done until everyone in the group has learned and completed the assignment.

(b) Considerable promotive (face-to-face) interaction as indicated in factor three about Student Academic Support (Table 34, p.128). In items 1, 5, and 17, students were asked about encouraging each other.

(c) Clearly perceived individual accountability as indicated in the sixth factor, Resource Independence (Table 36, p.129). In items 39, 50, 52, and 56, students were asked about being accountable, sharing, and contributing to each other while working.

(d) Personal responsibility to achieve the group's goal.

(e) Frequent use of relevant interpersonal and small group skills.

(f) Frequent and regular group processing to improve effectiveness as indicated in the eighth factor about Fairness in Grading within groups (Table 39, p.131). In item 16, students were asked whether they had an equal chance to be successful as other members in the group. In addition to the fifth factor about Goal Interdependence (Table 36) in items 8, 14, 21, 27, and 34, about how students continuously assess their work as a team.

Judging by the fact that students had positive attitudes towards cooperative learning, this paradigm created a positive, rewarding, and motivational atmosphere. It can be concluded that cooperation functions as a motivating tool for learning, as it provides learners with the opportunity to become more mature socially, enhance different writing skills in the process of inquiry and discovery, and to reflect on what they do or believe, all of which are core elements of critical thinking.

To summarize, positive attitudes towards cooperation and the use of cooperative learning in teaching writing reveal the success and promotion of writing through critical thinking. Students' responses reveal that they developed social skills. Cooperative learning creates willingness and readiness among learners because it enabled them to write without fear, facilitates face-to face promotive interactions, enhances task emphasis that is goal-oriented, and supports using group processing techniques to reinforce and polish their writing skills.

5.5 Conclusions and Suggestions for Further Research

The main purpose of this study is to investigate the teaching of essay writing through critical thinking to upper-intermediate EFL Birzeit University learners within the cooperative learning paradigm. The study design is a mixed method research that combines qualitative and quantitative tools, each of which is used to examine relevant aspects. It is an experimental study in which two groups (experimental and control) are randomly selected .Qualitatively, the study uses an in-depth analysis of student essays (pre-, midterm, and final) collected at three different intervals throughout the second semester of academic year 2011-12. The purpose is to document the development of students' writing and thinking. These essays are also analyzed quantitatively using the Statistical Package for Social Sciences (SPSS) and a T-test to measure students' performance. In addition, a questionnaire is used to study students' attitudes towards cooperative learning.

For investigation and interpretation of the data, the researcher has used the following tools:

- The influence of the five critical thinking strategies using Facione and Facione's HCTSR (1994).
- A qualitative analysis of thirty six essays gathered for three student levels in both sections to trace development in clarity in writing using the *Clear Writing Scoring Rubric* as a qualitative tool, and to trace signs of critical thinking using HCTSR.
- A quantitative T-test to compare the results between the pre, midterm, and final essays for the two groups during the three intervals.
- An attitude questionnaire administered to the experimental group only to study their attitudes towards cooperative learning

The study shows that the teaching of essay writing flourishes in a classroom that integrates cooperative learning and critical thinking. These two elements shift the process pedagogy of writing into a dynamic and recursive process, and that, assimilating critical thinking strategies with cooperative learning aided the learners in this study, a group of Palestinian students, in improving their essay writing performance and in shaping a positive attitude towards cooperative learning as the questionnaire reveals. Also, critical thinking strategies are effective in developing L2 learners' writing skills and their critical thinking ability. Learners from the three student levels from the experimental group wrote essays that are clear and effective. The independent sample T-test reveals that the experimental group learners have considerably improved in their writing during the three intervals. The differences are statistically significant for the benefit of the experimental group. Further, five essays from the experimental group learners have witnessed noticeable signs of critical thinking and, therefore, outperformed the control group learners.

Another conclusion that can be drawn from the study results is how to use critical thinking strategies as a tool to enhance writing and how to practice using cooperative learning in its various types and procedures. Further, this study reflects the mere fact that learners must be involved in the process of learning in groups using classroom interactions within the cooperative learning framework, and that, English language teachers in specific need to believe in the abilities, capacities, needs, and interests of their students regardless of their language competency. Therefore, emphasis must be granted to the role of the learners as the

center of learning. This suggests that there is a need to open our classrooms to cooperative learning-based practices as opposed to the conventional methods of teaching, especially in the area of writing which is considered a complex task for many learners and teachers due to its intricacy.

The results of this study accentuate the benefits of cooperative learning for L2 learners, which is apparent in the differences between the performance of the experimental and control groups. Cooperative learning as a teaching paradigm not only does it facilitate the use of critical thinking strategies as a tool in teaching writing and developing critical thinking abilities, but also teaches learners some humanistic principles such as mutual respect and good listening. Those learners who experienced cooperative learning became open-minded, flexible, organized, reasonable, and conscious as indicated in their responses to the attitude questionnaire (factors three, four, five, and seven), and in their essays. An example of one essay from the experimental group:

> *I am 100% sure that progressive education at one point will be way of development…you will find yourself and your niche. It can attract the students and motivate their individual needs with no limited capacity. Although progressive education is simpler than traditional education, but the simplest ideas are the greatest…any change of means may affect achievement at the end*

Another example of an essay from the experimental group:

> *I am sure that every parent want their children to be the best in the world, but not in these ways that I mentioned before from my opinion. Although I am strongly against authoritarian parents and their rules, but sometimes all families need to use the harsh rules in order to make their children always under control.*

These two examples show that both students were open-minded towards progressive education and parental controlling.

By using cooperative learning, they were given more time to sense their context, understand, absorb, practice, write, and re-write in order to progress as writers. Therefore, it is very important to give learners time to recognize their needs, internalize ideas through personal experience, enjoy tasks, create a stance of their own, and write with clarity.

In addition, despite the fact that some educators such as Willingham (2007), Paul (2004), Rimer (2011) consider critical thinking to be a controversial issue in teaching, this study is grounded in the fact that critical thinking is a learned skill that can be infused into the teaching of L2 English language. Further, the essence of critical thinking as a skill lies in its adaptability to fit in a cooperative setting. However, the study shows that the combination of CTs with cooperative learning blooms in a writing classroom that uses a cooperative environment and promotes learners' critical thinking skills. Indeed, such an intertwining can improve student writing as proven by this study. The strategies used in this research proved to be very important tools that can provide learners with more opportunities to learn how to write, think, and become better learners of L2 English writing. Henceforth, the combination of using critical thinking strategies with cooperative learning has proven to be a distinguished paradigm in the teaching of essay writing.

The researcher hopes that this study will provide some benefits to the English teaching and learning process, especially in teaching essay writing and promoting thinking. In addition, it provides some implications that will benefit learners in planning their writing assignments.

To consolidate the findings of this study, the following recommendations for further research in the domain of teaching writing may be made:

- Address how other approaches to teaching English as a foreign language such as MI theory, and the Natural Approach can be used to enhance writing and its different aspects (vocabulary, reading, grammar, etc.). Since this study only focused attention on writing, it is very important to conduct further research discussing the use of cooperative learning as a paradigm in teaching other skills in language.
- Provide more training programs to guide teachers through the process pedagogy of writing and discussing factors that contribute to the development and success of writing.
- Provide more training programs for teachers regarding the assessment of written texts (essays) based on rubrics that can address language and thinking skills, keeping in mind that language, structure and mechanics are not the only factors that can be used to assess students' essays.
- Provide more training programs to guide teachers and train them how to use the Johnsons' model of cooperative learning, since, as this study asserts, the success of cooperative learning in improving students' writing should be considered as a factor for its adoption in L2 writing classes.

- Provide more training programs that address humanistic values such as social and leadership skills in order to create a community of learners that will promote the habit of writing in its various forms.
- Explore the impact of reflective writing on students' performance while they write.
- Explore different critical thinking strategies, other than the ones used in this study that can be effectively used to enhance the different skills of teaching English as a second/foreign language.
- The limited number of participants used in this study cannot be generalized to all college language learners in Palestine. Therefore, a true-experimental research, on a larger scale, is needed to address different participants from different universities in Palestine. This would help implement this approach in Palestinian classrooms.

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Appendices

Appendix 1: Explanation of Reading Strategies and T Chart

What Are Reading Comprehension Strategies?

Many books are dedicated to reading strategies, and there is no one definite list of strategies. We've selected the following strategies that appear in many professional books and resources.

Meta-cognition

Simply stated, meta-cognition is thinking about thinking. Reflecting on one's thoughts is the basis for all reading comprehension strategies. It allows students to monitor their comprehension, pose questions about the text, make predictions, inferences, and connections, and synthesize.

Teachers can encourage students to be more metacognitive about their reading by modeling this process and by having students read short passages and reflect.

Schema

Also known as background knowledge, schema refers to the collection of information, experiences, and thoughts that a reader brings to a text. Constructivist learning theory tells us that new information is learned by creating links to prior knowledge, or by situating new information within the context of something previously known. Without the appropriate schema, students will struggle to comprehend a text.

Teachers can build schema by providing a concrete activity or experience or by having students browse the textbook and trade books and record what they know about the topic. Students also need to understand how schema helps them comprehend text. In her book *Comprehension Connections: Bridges to Strategic Reading,* Tanny McGregor (2007) provides an introductory activity for schema involving a sticky roller! The concrete object helps students understand that schema is a collection of information, experiences, and thoughts.

Inferring

To make inferences, readers think about and search the text and use personal knowledge to construct meaning beyond what is literally stated. Successful inferring involves both schema and clues from the text.

While students struggle with this strategy, science and math teachers have an advantage in that both content areas stress linking claims to evidence. Teachers can have students complete several concrete activities in which the students explicitly link a conclusion to the evidence that supports it. These types of experiences will help students learn to do the same with text.

Questioning

Questioning can be used for many purposes, including setting a purpose for reading, monitoring comprehension, clarifying meaning, and extending understanding.

Teachers might have students browse text and pose questions prior to reading. During reading, students might ask and answer both literal and inferential questions to develop comprehension and make connections. After reading, questions serve as the starting point for a discussion about a particular text.

Determining Importance

Determining importance involves distinguishing between what information is most important versus what is interesting but not necessary for understanding.

Teachers have students practice determining importance when they ask students to identify the main idea or theme. Boldfaced words, titles, section headings, captions,

graphs, and other visual information can support students as they determine importance from a text.

Visualizing

Visualizing means that students create images based on what they read. These images might involve any or all of the five senses and might change over time as a student becomes more deeply involved with a text. While we often think of visualizing in terms of fiction (movies based on books are a good example), the strategy is equally important with nonfiction text.

Teachers can help students visualize content-area text by providing hands-on experiences before reading and by asking students to draw images to represent key concepts. Teachers could easily incorporate technology into these lessons by using clip art, digital images from a photo-sharing site (such as Flickr), or digital storytelling.

Making Connections

Making connections means that a student has engaged with a text and is able to relate it to a broader context. Reading teachers often refer to three types of connections: text-to-text, text-to-self, and text-to-world. Text-to-text connections mean that a student is able to link two texts together. Text-to-self connections are based on a student's schema and are highly individualized. Finally, text-to-world connections link what a student is reading with the "real world."

Math and science teachers can promote connections by providing a variety of texts, prompting reflective thinking (metacognition), and scheduling time for class discussions. Real-world experiences, such as citizen-science projects or meaningful assignments, allow students to make text-to-world connections.

Synthesizing

Synthesizing is often the last strategy taught and can be intimidating for teachers and students alike. Tanny McGregor demystifies this complex process by explaining that synthesizing is simply an understanding of how knowledge grows and changes over time. She suggests introducing the strategy through concrete experiences and providing "thinking stems" for students such as "I used to think..., but now I think..."

Teachers can help students synthesize by using graphic organizers such as K-W-L charts that encourage students to reflect on their new knowledge at the end of a lesson or unit. Simply having students discuss a text every few pages is enough to prompt an understanding of how knowledge can change as a result of reading.

T- Chart

Notes	**Thinking**

Appendix 2: Paul's Taxonomy of Socratic Questioning

The taxonomy of Socratic questions, created by Richard Paul, is not a hierarchy in the traditional sense. The categories build upon each other, but they do not necessarily follow a pattern or design. One question's response will lead into another category of questioning not predetermined by the teacher/facilitator. In keeping with the PBL philosophy, this aspect of the model is most conducive! The role of the skilled teacher/facilitator is to keep the inquiry "train on track," but, also, to allow the students to "travel to a viable destination" of their own design.

The following table has been adapted from:

Paul, Richard, *Critical Thinking: How to Prepare Students for a Rapidly Changing World*, 1993.

Questions that Probe Reasons and Evidence		
Questions of Clarification	**Questions that Probe Assumptions**	**Questions that Probe Reasons and Evidence**
What do you mean by ____? What is your main point? How does _____ relate to _____? Could you put that another way? Is your basic point _____ or _____? What do you think is the main issue here? Let me see if I understand you; do you mean _____ or _____? How does this relate to our problem/discussion/issue? What do you, Mike, mean by this remark? What do you take Mike to mean by his remark? Jane, can you summarize in your own words what Richard said? . . . Richard, is this what you meant? Could you give me an example? Would this be an example, . . .? Could you explain this further? Would you say more about that? Why do you say that?	What are you assuming? What is Jenny assuming? What could we assume instead? You seem to be assuming _____. Do I understand you correctly? All of your reasoning depends on the idea that _____. Why have you based your reasoning on _____ instead of _____? You seem to be assuming _____. How do you justify taking that for granted? Is that always the case? Why do you think the assumption holds here? Why would someone make that assumption?	What would be an example? How do you know? Why do you think that is true? Do you have any evidence for that? What difference does that make? What are your reasons for saying that? What other information do you need? Could you explain your reasons to us? Are these reasons adequate? Why do you say that? What led you to that belief? How does that apply to this case? What would change your mind? But, is that good evidence for that belief? Is there a reason to doubt that evidence? Who is in a position to know that is true? What would you say to someone who said that ____? Can someone else give evidence to support that view? By what reasoning did you come to that conclusion? How could we find out if that is true?
Questions about Viewpoints or Perspectives	**Questions that Probe Implications and Consequences**	**Questions about the Question**
The term "imply" will require clarification when used with younger students. What are you implying by that? When you say _____, are you implying _____? But, if that happened, what else would happen as a result? Why? What effect would that have? Would that necessarily happen or only possibly/probably happen? What is an alternative? If _____ and _____ are the case, then what might also be true? If we say that ____ is ethical, how about _____?	How can we find out? What does this question assume? Would _____ ask this question differently? How could someone settle this question? Can we break this question down at all? Is this question clear? Do we understand it? Is this question easy or hard to answer? Why? Does this question ask us to evaluate something? What? Do we all agree that this is the question? To answer this question, what other questions must we answer first? I'm not sure I understand how you are interpreting this question. Is this the same as _____?	

Appendix 3: Names of Referees (Clear Writing Evaluation Rubric)

Name of Referees who reviewed & assessed the Essay Scoring Rubric to check clarity in writing essays	Certificate (s) Obtained	Years of experience
1.Dr. Samir Rammal	PHD in rhetorical linguistics & M.A. in Translation & Linguistics	36
2.Mahmoud Abdel-Fatah	M.A. in applied linguistics &Translation	32
3. Lamees Mahmoud	M. A in Translation	10
4.Fatin khalaf	M.A. In TEFL	40
5.Dr. Insaf Abbas	P.H.D in Education, and an M.A. in literature	33
6.Fatin Abdal Sabur	MFA, Creative writing MA TESOL	8
7.Othman Amer	Director of Languages at the Curriculum Center/MOE Palestine	35
8.Particia Kanaana	M.A. in TEFL	30
9.Ruba khalaf	M.A. in Education	12

Appendix 4: Instructions from the Pre- essay

Department of Languages and Translation
Diagnostic Essay Writing Test
ENGC 231

Write an essay on the following topic:

Do you think that University teaching in its system is necessary for success in life?

Why or why not? Give three reasons to support or refute your position.

Instructions:

1) **Your essay should be at least 5 paragraphs (250-300) words.**
2) **Write a clear thesis statement and clear topic sentences.**
3) **Use personal experience as one kind of evidence in the argument**

What True Education Should Do --Sydney J. Harris. 1994

In Feldstadt, M. C. (Ed.) *The thoughtful reader* (pp. 2-3). New York: Harcourt.

When most people think of the word education, they think of a pupil as a sort of animate sausage casing. Into this empty casing, the teachers are supposed to stuff education.

But genuine education, as Socrates knew more than two thousand years ago, is not inserting the stuffings of information into a person, but rather eliciting knowledge from him; it is the drawing out of what is in the mind.

"The most important part of education," once wrote William Ernest Hocking, the distinguished Harvard philosopher, "is this instruction of man in what he has inside of him."

And, as Edith Hamilton has reminded us, Socrates never said, "I know, learn from me." He said, rather, "Look into your own selves and find the spark of truth that God has put into every heart and that only you can kindle to a flame."

In the dialogue called the "Meno," Socrates takes an ignorant slave boy, without a day of schooling, and proves to the amazed observers that the boy really "knows" geometry—because the principles and axioms of geometry are already in his mind, waiting to be called out.

So many of the discussions and controversies about the content of education are futile and inconclusive because they are concerned with what should "go into" the student rather than with what should be taken out, and how this can best be done.

The college student who once said to me, after a lecture, "I spend so much time studying that I don't have a chance to learn anything" was succinctly expressing his dissatisfaction with the sausage-casing view of education.

He was being so stuffed with miscellaneous facts, with such an indigestible mass of material, that he had no time (and was given no encouragement) to draw on his own resources, to use his own mind for analyzing and synthesizing and evaluation this material.

Education, to have any meaning beyond the purpose of creating well-informed dunces, must elicit from the pupil what is latent in every human being the rules of reason, the inner knowledge of what is proper for men to be and do, the ability to sift evidence and come to conclusions that can generally be agreed to by all open minds and warm hearts.

Pupils are more like oysters than sausages. The job of teaching is not to stuff them and then seal them up, but to help them open and reveal the riches within. There are pearls in each of us, if only we knew how to cultivate them with ardor and persistence.

Appendix 5: Instructions from the Midterm Exam

Argumentative Essay

Traditional Education vs. Progressive Education

Instructions:

1. **Write a five paragraph essay arguing with or against traditional education. Choose a position and provide evidence for it.**
2. **Write a good introduction and conclusion, and write a clear thesis statement.**
3. **Use argumentative techniques.**
4. **Use the quotation below in one body paragraph. Use it to support your essay and write the citation that follows.**
5. **Decide which points you will use and think about the support you will provide. It is advisable to produce an outline before you write.**

	Traditional Education	
	Pro: arguments with	**Cons: arguments against**
1.	It has produced results over the years.	Results of traditional education are misleading. They show what a student has memorized not what he /she has learned.
2.	Many if not most students around the world have learned from traditional education.	It relies a lot on book memorization and lecturing rather than eliciting information.
3.	Many students who excel in university have learned in a traditional atmosphere.	It does not encourage creativity and fails to discover talented students. It considers students as empty vessels.
4.	If curriculum is well structured, and staff is experienced and qualified, it can be very effective.	It restricts knowledge to textbooks. It emphasizes learning details rather that than the analysis of knowledge.
5.	It guarantees equality and that everybody in the public sector is getting education.	The skills that are taught are limited and traditional schools do not teach appropriate thinking (cognitive) skills for our 21 century. It does not prepare students for college education.
6.	If schools conditions are poor, it doesn't mean that the approach is wrong. Better results can be achieved if economic conditions are improved.	It does not respond to multiple intelligence theories. Modern theories in education recognize different learning strategies of students; the visual learners, the musical learners, auditory learners, and others.
7.	Some argue that it does depict the individual differences among students. Use the Quotation below: "Education is what survives when what has been learned has been forgotten." (Skinner,1964,p2)	Modern education emphasizes individual learning such as research in the interest areas or projects with assessments criteria different than exams. Alternative education is also one option to the traditional 'talk and chalk' approach. Use the quotation below: "There are pearls in each of us if only we knew how to cultivate them with ardor and persistence." (Harris, 1986,p5)

Appendix 6: Instructions from the Final Exam

231 Final Exams

Parental Control

Parenting style has a profound effect on the brain and, it is one of the major influences on a child's future. The parent's style of "managing" their children affects their academic achievement, psychological health, self confidence and capacity to cope with real-life challenges. Baumrind (1966) has identified different parenting styles; one style is the authoritarian.

Authoritarian parents have high **expectations** of their children and have very **strict** rules and expect their orders to be **obeyed** without explanation. This strict parenting style often uses punishment rather than **discipline**. They are very demanding, but they don't express much warmth or **nurturing**. They don't give their children choices or options.

Write a persuasive essay to explain your position regarding the issue. Argue either against or for authoritarian parenting using the sources below. You should write an essay that has the following criteria:

4) **Your essay should be at least 5 paragraphs of 300 to 400 words.**
5) **Write a clear thesis statement and clear topic sentences.**
6) **It should include at least 2-3 in text citations (quotation, paraphrase, summary).**
7) **Use personal experience as one kind of evidence in the argument.**
8) **Do not copy and do not use long direct quotations.**

Glossary:

Authoritarian (adj.): parents who use strict rules.
Expectations (n.): what parents want from their children. Expect (v)
Strict (adj.): hard or tough rules.
Obey: listen to their parent's orders. Obedient (adj.), obedience (n)
Discipline (n/v): to do everything in order and on time. Disciplined (adj.)
Nurture: raise their children with love and care.

Arguments that support authoritarian or strict parenting:

1. School achievement: Strict parents hold their children to high standards. Strict parents demand the best grades from their children, and the children tend to perform extremely well due to those expectations. Strict parents may even limit fun activities or experiences for children who do not succeed up to their standards. This incentive can encourage more studying.
2. Confidence: Another advantage of strict parents is that they develop confidence in their children. This happens because they help the children learn important values, such as discipline. The children learn that they must do as they are told or deal with the consequences. This confidence can also lead to independent and decisive adults.

Source:

Van Damme,Y. (July 5, 2011). The advantages of strict parents. In *ehow Family*. Retrieved April 10, 2012, from http://www.ehow.com

3. Authoritarian parents strongly believe that their children can be the best in school. Not being able to make their children the best, means the parents are not doing their jobs and that their children are not working hard enough. Authoritarian parents are not concerned about their children being emotionally hurt. They believe that treating their children in a tough way will make the

children strong, not weak. Authoritarian parents assume that their children are strong, and not fragile.

4. Test results seem to indicate that children with authoritarian parenting like Chinese or Asian background perform better than their peers from Western background. This is attributed to their parents' authoritarian parenting style.
5. In recent international standardized tests, children from China ranked on top in all three fields (reading, math and science) and by a wide margin. Within the participating American students, Asians performed the best.
6. Great musicians like Mozart and Beethoven were known to be subjected by their authoritarian parents to countless hours of practice. This may not have been possible is they were allowed to just do what they want as children.

Source:

Authoritarian, strict parenting Vs., permissive: Which is Better? (2012). In *Raise Smart Kid*. Retrieved April 10, 2012 from http://www.raisesmart kid.com

Arguments against authoritarian or strict parenting:

1. While experts agree that rules and boundaries are important for children to have, most believe that authoritarian parenting is too punitive and lacks the warmth, unconditional love and nurturing that children need.
2. The children of authoritarian parents tend to associate love with obedience and success. Some children have more aggressive behavior outside the home; others may act fearful or shy around others; often have lower self-esteem; have difficulty in social situations. They are not trained to take major decisions on their own especially concerning their life like what to study in university or where to work.
3. Some children who are pressured by parents to perform perfectly in school eventually end up hating school.
4. Many children who are raised by authoritarian parents show signs of psychological problems like depression and anxiety, and some even resort to suicide.
5. Children who are raised to be obedient tend not to form their own ideas and opinions, and lack creativity and imagination.
6. Children who are overprotected become unable to handle challenges and hard work needed to survive in the real world. So even though their parents believe they are protecting them, they are not really preparing them to real life challenges.

Source:

Cherry, K. (2012). Parenting Style. In *About.com.psychology*. Retrieved April 14, 2012, from http://psychology.about.com/od/childcare/

7. Strict parenting deprives children out of the opportunity to internalize self-discipline and responsibility. Strict limits may control the children's behavior when they are young, but they don't help the child to develop self-discipline. Instead, strict limits can cause resistance to taking responsibility for themselves.
8. Authoritarian parenting is based on fear. If children do what parents want because of fear, they will not learn to take independent decisions when parents are not around them and when they grow up they could become excellent liars.

9. Children raised with strict discipline learn that power is always right. Later in life, many of these children won't question authority when they should. They learn to follow authority while others tend to be more angry and rebellious as teenagers and young adults.
10. Authoritarian Parenting could damage the parent-child relationship. And children who are parented strictly end up fighting with parents and looking for love in all the wrong places.
11. Children raised with strict discipline have tendencies toward anger and depression. That is because authoritarian parenting makes it clear to children that part of them is not acceptable, and that parents aren't there to help them deal with difficult feelings. They're left lonely, trying to sort out for themselves how to overcome some of their feelings and impulses.

Source:

Markham, L. (2012). What's wrong with strict parenting? In *Aha! Parenting*. Retrieved April 5, 2012, from http://www.ahaparenting.com/parenting /tools/positive-discipline/strict-parenting

Appendix 7: The Long Form of the Johnson's Attitude Questionnaire

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CLASSROOM LIFE MEASURE

Directions: On the answer sheet, fill in a circle which tells you how true each of these statements is of you.

If the statement is:

Fill in the circle under number:

Completely false 1
False much of the time 2
Sometimes true and sometimes false ... 3
True much of the time 4
Completely true 5

1. Other students in this class want me to do my best schoolwork.
2. My best friends are in this class.
3. I am not doing as well in school as I would like to.
4. I find it hard to speak my thoughts clearly in class.
5. In this class other students like to help me learn.
6. Schoolwork is fairly easy for me.
7. Other students in this class think it is important to be my friend.
8. When we work together in small groups we try to make sure that everyone in the group learns the assigned material.
9. I learn more from students who are similar to me.
10. I do schoolwork to make my teacher happy.
11. In this class it is important that we learn things by ourselves.
12. I like to work with others in this class.
13. I should get along with other students better than I do.

Go on to next page ....

1

CLASSROOM LIFE SCRIPT

Students are seated individually.

The questionnaire you have just been handed is about how you feel about specific things in this class. This is not a test; there are no right or wrong answers. This will not be seen by anyone in your class or by your teachers. It will be used only by the people from the University. Before we start, put your name and jersey number at the top of the page. Then wait quietly as we go through the directions together.

For each of the items, fill in the circle on the answer sheet which corresponds to how you feel about the statement. If you think the statement is completely true of you, fill in the circle #5. If you feel the statement is completely false for you, fill in the circle 1. If the statement is true much of the time, fill in circle #4, and if the statement is false much of the time, fill in circle #2. If you can't decide, or feel in between, fill in circle #3.

Are there any questions about what I want you to do?

Remember, these statements are about this class only. During the time you were in this class, you've had more than one teacher. Whenever there is a statement about your teacher, think of the teachers you've had for this class only. Whenever there is a statement about other students, think of the students who have been in this class with you.

I will now read each statement aloud, so answer each question as it is read. Do not skip ahead or try to finish early.

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14. I do schoolwork because my classmates expect it of me.
15. My teacher really cares about me.
16. When we work together in small groups, our job is not done until everyone in the group has completed the assignment.
17. In this class we work together.
18. In this class, we spend a lot of time working at our own desks.
19. I learn new things from arguing with other students.
20. My teacher thinks it is important to be my friend.
21. Everyone in this class has an equal chance to be successful if they do their best.
22. In this class, other students care about how much I learn.
23. Whenever I take a test I am afraid I will fail.
24. I am doing a good job of learning in this class.
25. In this class, other students like me the way I am.
26. When we work together in small groups, we all receive the same grade.
27. My teacher cares about how much I learn.
28. I do schoolwork to make my parents happy.
29. I would rather work alone than argue.
30. In this class everybody is a friend.
31. Other students in this class want me to come to class every day.
32. I do schoolwork to keep my teacher from getting mad at me.
33. In this class students check answers with other students.

Go on to next page ....

34. In this class we do not talk to other students when we work.
35. When we work together in small groups, our grade depends on how much all members learn.
36. My teacher likes to see my work.
37. Other students in this class care about my feelings.
38. I often get discouraged in school.
39. Other students in this class like me as much as they like. others.
40. In this class we help each other with our schoolwork.
41. I would like to be in a group where students often disagree with each other.
42. If a student works hard, he/she can definitely succeed in this class.
43. My teacher likes to help me learn.
44. When we work together in small groups, I have to make sure that the other members learn if I want to do well on the assignment.
45. In this class we work by ourselves.
46. In this class, other students really care about me.
47. I have a lot of questions I never get a chance to ask in class.
48. I do schoolwork to be liked by other students.
49. In this class we learn more when we work with others.
50. My teacher wants me to do my best in schoolwork.
51. When we work together in small groups, we cannot complete an assignment unless everyone contributes.
52. My teacher likes me as much as he/she likes other students.
53. I am often lonely on this class

Go on to next page ....

54. Students in this class get the scores they deserve, no more and no less.

55. My teacher cares about my feelings.

56. All the students in this class know each other well.

57. I deserve the scores I get in this class.

58. I am a good student.

59. When we work together in small groups, the teacher divides up the material so that everyone has a part and everyone has to share.

60. I would like to be in a learning group with students who are different from me.

61. I often feel upset in school.

62. Arguing with other students makes me feel unhappy.

63. I have more fun when I work with students who are different from me.

64. I learn more from students who are different from me.

65. Sometimes I think the scoring system in this class is not fair.

66. When we work together in small groups, we have to share materials in order to complete the assignment.

67. I like to share my ideas and materials with other students.

68. It bothers me when I have to do it all myself.

69. I like my work better when I do it all myself.

70. I like the challenge of seeing who's best.

71. I don't like to be second.

72. When we work together in small groups, everyone's ideas are needed if we are going to be successful.

73. I am happiest when I am competing with other students.

Go on to next page ....

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74. Competing with other students is a good way to work.

75. I don't like working with other students in school.

76. I can learn important things from other students.

77. I work to get better grades than other students do.

78. I like to help other students learn.

79. I like to compete with other students to see who can do the best work.

80. Working in small groups is better than working alone.

81. I try to share my ideas and materials with other students when I think it will help them.

82. When we work together in small groups, I have to find out what everyone else knows if I am going to be able to do the assignment.

83. It is a good idea for students to help each other learn.

84. I like to do better work than other students.

85. I like to cooperate with other students.

86. I like to work with other students.

87. I do better work when I work alone.

88. Students learn a lot of important things from each other.

89. I would rather work on school work alone than with other students.

90. I like to be the best student in the class.

CLASSROOM LIFE: Scales

Factor 1: Teacher Academic Support

27. My teacher cares about how much I learn.
36. My teacher likes to see my work.
43. My teacher likes to help me learn.
50. My teacher wants me to do my best in schoolwork.

Factor 2: Teacher Personal Support

15. My teacher really cares about me.
20. My teacher thinks it is important to be my friend.
52. My teacher likes me as much as he/she likes other students.
55. My teacher cares about my feelings.

Factor 3: Student Academic Support

1. Other students in this class want me to do my best schoolwork.
5. In this class other students like to help me learn.
22. In this class, other students care about how much I learn.
31. Other students in this class want me to come to class every day.

Factor 4: Student Personal Support

7. Other students in this class think it is important to be my friend.
25. In this class, other students like me the way I am.
37. Other students in this class care about my feelings.
39. Other students in this class like me as much as they like. others.
46. In this class, other students really care about me.

Factor 5: Goal Interdependence

8. When we work together in small groups we try to make sure that everyone in the group learns the assigned material.
16. When we work together in small groups, our job is not done until everyone in the group has completed the assignment.
26. When we work together in small groups, we all receive the same grade.
35. When we work together in small groups, our grade depends on how much all members learn.
44. When we work together in small groups, I have to make sure that the other members learn if I want to do well on the assignment.

CLASSROOM LIFE: Scales

Factor 1: Teacher Academic Support

27. My teacher cares about how much I learn.
36. My teacher likes to see my work.
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5. In this class other students like to help me learn.
22. In this class, other students care about how much I learn.
31. Other students in this class want me to come to class every day.

Factor 4: Student Personal Support

7. Other students in this class think it is important to be my friend.
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26. When we work together in small groups, we all receive the same grade.
35. When we work together in small groups, our grade depends on how much all members learn.
44. When we work together in small groups, I have to make sure that the other members learn if I want to do well on the assignment.

Factor 6: Resource Interdependence

51. When we work together in small groups, we cannot complete an assignment unless everyone contributes.

59. When we work together in small groups, the teacher divides up the material so that everyone has a part and everyone has to share.

66. When we work together in small groups, we have to share materials in order to complete the assignment.

72. When we work together in small groups, everyone's ideas are needed if we are going to be successful.

82. When we work together in small groups, I have to find out what everyone else knows if I am going to be able to do the assignment.

Factor 7a: Cooperation

67. In this class I like to share my ideas and materials with other students.

76. In this class I can learn important things from other students.

78. In this class I like to help other students learn.

81. In this class I try to share my ideas and materials with other students when I think it will help them.

83. In this class it is a good idea for students to help each other learn.

85. In this class I like to cooperate with other students.

88. In this class students learn a lot of important things from each other.

Factor 7b: Cooperation, Scale 2

17. In this class we work together.

33. In this class students check answers with other students.

40. In this class we help each other with our schoolwork.

49. In this class we learn more when we work with others.

Factor 8: Alienation

3. I am not doing as well in school as I would like to .

4. I find it hard to speak my thoughts clearly in class.

6.* Schoolwork is fairly easy for me.

13. I should get along with other students better than I do.

23. Whenever I take a test I am afraid I will fail.

38. I often get discouraged in school.

47. I have a lot of questions I never get a chance to ask in class.

53. I am often lonely in this class.

58.*I am a good student.

61. I often feel upset in school.

65. Sometimes I think the scoring system in this class is not fair.

Factor 9: Extrinsic Motivation, Social Support

10. I do schoolwork to make my teacher happy.
14. I do schoolwork because my classmates expect it of me.
28. I do schoolwork to make my parents happy.
32. I do schoolwork to keep my teacher from getting mad at me.
48. I do schoolwork to be liked by other students.

Factor 10: Cohesion

2. My best friends are in this class.
12. I like to work with others in this class.
30. In this class everybody is a friend.
53. *I am often lonely in this class.
56. All the students in this class know each other well.

Factor 11: Academic Self-Esteem

3. *I am not doing as well in school as I would like to .
6. Schoolwork is fairly easy for me.
23. *Whenever I take a test I am afraid I will fail.
24. I am doing a good job of learning in this class.
58. I am a good student.

Factor 12: Fairness of Grading

21. Everyone in this class has an equal chance to be successful if they do their best.
42. If a studnt works hard, he/she can definitely succeed in this class.
54. Students in this class get the scores they deserve, no more and no less.
57. I deserve the scores I get in this class.
65. *Sometimes I think the scoring system in this class is not fair.

Factor 13: Individualistic Learning

11. In this class it is important that we learn things by ourselves.
18. In this class, we spend a lot of time working at our own desks.
34. In this class we do not talk to other students when we work.
45. In this class we work by ourselves.
68. *It bothers me when I have to do it all myself.
69. I like my work better when I do it all myself.
75. I don't like working with other students in school.
80. *Working in small groups is better than working alone.
86. *I like to work with other students.
87. I do better work when I work alone.
89. I would rather work on school work alone than with other students

CLASSROOM LIFE (Short Form)

Directions: On the answer sheet, fill in a circle which tells you how true each of these statements is of you.

If the statement is:	Fill in the circle under number:
Completely false	1
False much of the time	2
Sometimes true and sometimes false	3
True much of the time	4
Completely true	5

1. Other students in this class want me to do my best schoolwork.
2. My best friends are in this class.
3. I am not doing as well in school as I would like to.
4. I find it hard to speak my thoughts clearly in class.
5. In this class other students like to help me learn.
6. Schoolwork is fairly easy for me.
7. Other students in this class think it is important to be my friend.
8. When we work together in small groups we try to make sure that everyone in the group learns the assigned material.
9. I do schoolwork to make my teacher happy.
10. I like to work with others in this class.
11. I should get along with other students better than I do.
12. I do schoolwork because my classmates expect it of me.
13. My teacher really cares about me.

Go on to next page ....

Factor 14: Competitive Learning

70. I like the challenge of seeing who's best.
71. I don't like to be second.
73. I am happiest when I am competing with other students.
74. Competing with other students is a good way to work.
77. I work to get better grades than other students do.
79. I like to compete with other students to see who can do the best work.
84. I like to do better work than other students.
90. I like to be the best student in the class.

Factor 15: Controversy

19. I learn new things from arguing with other students.
29. *I would rather work alone than argue.
41. I would like to be in a group where students often disagree with each other.
62. *Arguing with other students makes me feel unhappy.

Factor 16: Valuing Heterogeneity

9. I learn more from students who are similar to me.
60. I would like to be in a learning group with students who are different from me.
63. I have more fun when I work with students who are different from me.
64. I learn more from students who are different from me.

14. When we work together in small groups, our job is not done until everyone in the group has completed the assignment.

15. My teacher thinks it is important to be my friend.

16. Everyone in this class has an equal chance to be successful if they do their best.

17. In this class, other students care about how much I learn.

18. Whenever I take a test I am afraid I will fail.

19. I am doing a good job of learning in this class.

20. In this class, other students like me the way I am.

21. When we work together in small groups, we all receive the same grade.

22. My teacher cares about how much I learn.

23. I do schoolwork to make my parents happy.

24. In this class everybody is a friend.

25. Other students in this class want me to come to class every day.

26. I do schoolwork to keep my teacher from getting mad at me.

27. When we work together in small groups, our grade depends on how much all members learn.

28. My teacher likes to see my work.

29. Other students in this class care about my feelings.

30. I often get discouraged in school.

31. Other students in this class like me as much as they like. others.

32. If a student works hard, he/she can definitely succeed in this class.

33. My teacher likes to help me learn.

Go on to next page ....

34. When we work together in small groups, I have to make sure that the other members learn if I want to do well on the assignment.

35. In this class, other students really care about me.

36. I have a lot of questions I never get a chance to ask in class.

37. I do schoolwork to be liked by other students.

38. My teacher wants me to do my best in schoolwork.

39. When we work together in small groups, we cannot complete an assignment unless everyone contributes.

40. My teacher likes me as much as he/she likes other students.

41. I am often lonely in this class.

42. Students in this class get the scores they deserve, no more and no less.

43. My teacher cares about my feelings.

44. All the students in this class know each other well.

45. I deserve the scores I get in this class.

46. I am a good student.

47. When we work together in small groups, the teacher divides up the material so that everyone has a part and everyone has to share.

48. I often feel upset in school.

49. Sometimes I think the scoring system in this class is not fair.

50. When we work together in small groups, we have to share materials in order to complete the assignment.

51. In this class I like to share my ideas and materials with other students.

52. When we work together in small groups, everyone's ideas are needed if we are going to be successful.

53. In this class I can learn important things from other students.

Go on to next page ....

54. In this class I like to help other students learn.

55. In this class I try to share my ideas and materials with other students when I think it will help them.

56. When we work together in small groups, I have to find out what everyone else knows if I am going to be able to do the assignment.

57. In this class it is a good idea for students to help each other learn.

58. In this class I like to cooperate with other students.

59. In this class students learn a lot of important things from each other.

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The Effect of Prolonged Implementation of Cooperative Learning on Social Support Within the Classroom

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ABSTRACT. This study was conducted to determine whether cooperative learning experiences are related to social support in the classroom. The relationship between cooperative learning and social support, the impact of prolonged implementation of cooperative learning on social support, and the effect of different frequency of cooperative learning experiences on social support in the classroom were investigated. An instrument measuring social support was administered in November and in January to 91 eighth-grade students from a suburban school district in the Midwest. The results indicate that cooperative learning was highly related to social support within the classroom and that the longer and more frequently students engaged in cooperative learning, the greater the social support within the classroom.

ONE OF THE MOST IMPORTANT aspects of classroom climate is students' perceptions of social support, which may be defined as the existence and availability of people on whom one can rely for assistance, support, and caring. Social support is related to performance in achievement situations (especially problem-solving situations), persistence on challenging tasks under frustrating conditions, academic and career aspirations, resilience in stressful situations, self-reliance and autonomy, a coherent and integrated self-identity, and psychological health and adjustment (Bowlby, 1969; Johnson, 1980; Sarason, Levine, Basham, & Sarason, 1983; Sarason, Sarason, & Linder, 1983). For many immediate and long-range educational goals, social support is a critical aspect of

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classroom life. Yet there is little discussion of how teachers may ensure that adequate levels of social support exist in their classrooms.

The two potential sources of social support in the classroom are peers and the teacher, and the two ways in which they may provide social support to students are by giving help and encouragement for academic achievement and providing personal liking and caring. General classroom cohesion indicates social support, and alienation from school, schoolwork, and other students indicates a lack of it. One way in which social support may be promoted within classrooms is through the use of cooperative learning procedures whereby students work together to maximize each other's learning (Johnson & Johnson, 1983a).

The purpose of the present study was to determine whether cooperative learning experiences are related to social support in the classroom. This issue was addressed by examining the relationship between cooperative learning and social support, the impact of prolonged implementation of cooperative learning on social support, and the impact of different frequency of cooperative learning experiences on social support in the classroom. There is considerable evidence in American society that cooperative learning promotes more academic and personal support from peers and the teacher than do competitive or individualistic learning (Johnson & Johnson, 1983a). Almost all of this evidence, however, has come from short-term experimental studies. There have been almost no naturalistic studies examining the influence of cooperative learning experiences on social support within the classroom over a period of months. The experimental studies need to be corroborated by such naturalistic studies.

Of the naturalistic studies that have been conducted (Johnson & Johnson, 1983b; Johnson, Johnson, & Anderson, 1983), there has been only one measure near the end of the school year. Apparently, there have been no naturalistic studies in which social support has been measured more than once. In the present study, therefore, social support within the classroom was measured a few weeks after it had been implemented in a number of classrooms and then remeasured a few months after the initial implementation.

Finally, cooperative learning is rarely used an identical period of time in different classrooms. It is used more frequently in some classrooms than in others. We expected that if there is a basic relationship between cooperative learning and social support, more social support would be experienced in classrooms where cooperative learning was frequently rather than infrequently used.

Method

Instrument

The Classroom Life Instrument consists of 59 Likert-type questions to which respondents indicate on a 5-point scale the truth of the statements. The instrument contains 12 factors that have been identified both theoretically and through previous factor analyses (Johnson & Johnson, 1983b; Johnson, Johnson, & Anderson, 1983). The factors and their Cronbach alphas are listed in Table 1.

Sample

Students from 5 eighth-grade classes (45 girls, 46 boys) from a suburban school district in the Midwest completed the Classroom Life Instrument in both November and January of the same school year. Many of the students had been

TABLE 1
Scales Included in the Classroom Life Instrument

Scale	Description	No. of Items	Reliability
Cooperative Learning	Liking for and positive attitudes toward working cooperatively with other students	7	.83
Positive Goal Interdependence	Perceptions of joint outcomes and ensuring that all group members learn the assigned material	4	.61
Resource Interdependence	Perceptions of sharing materials, having a division of labor, and jigsawing materials	5	.74
Teacher Academic Support	Belief that the teacher cares about how much one learns and wishes to help one learn	4	.78
Teacher Personal Support	Belief that the teacher cares about and likes one as a person	4	.80
Student Academic Support	Belief that other students care about how much one learns and wish to help one learn	4	.67
Student Personal Support	Belief that other students care about and like one as a person	5	.78
Class Cohesion	Belief that students in the class are friends and like each other	5	.51
Academic Self-Esteem	Belief that one is a good student and doing a good job of learning	5	.61
Fairness of Grading	Belief that students get the grades they deserve and if one works hard, one succeeds	5	.61
Achieving for Social Approval	Belief that one achieves to please teachers, parents, and peers	5	.72
Alienation	Belief that one is estranged from school, peers, and classroom activities	12	.68

working in cooperative learning groups since the beginning of the school year and continued to learn cooperatively until the end of the year. This was not, therefore, a pretreatment-posttreatment study.

Students also indicated on a 5-point scale the amount of time they worked in cooperative learning situations in their classes. They were divided into high- and low-implementation groups on the basis of their ratings. The sample was divided into students who reported participating in cooperative groups less than half of the time (35 students) and those who reported participating half the time or more (56 students).

Analyses

Three types of analyses were conducted. Simple Pearson correlations were computed between the three cooperation scales and the other scales used in the instrument for the January testing. The large sample size enabled small correlations to be statistically significant; hence, correlations under .25 were considered insignificant from a practical standpoint. To determine whether students' perceptions of the classroom climate became more positive over time, a paired *t* test was computed for each factor compared in November and January. Finally, *t* tests were conducted between the high- and low-implementation groups for the January testing.

Results

The results in Table 2 indicate that the three cooperation scales were significantly related to teacher academic support, teacher personal support, student academic

TABLE 2
Correlations Between Positive Interdependence Scales and Social Climate Scales

	Positive Interdependence Scale		
Social Climate Scale	Cooperative	Positive goal	Resource
Cooperative Learning	—	.53	.62
Positive Goal Interdependence	.53	—	.65
Resource Interdependence	.62	.65	—
Teacher Academic Support	.53	.53	.50
Teacher Personal Support	.52	.47	.52
Student Academic Support	.47	.34	.31
Student Personal Support	.33	.18	.28
Class Cohesion	.53	.43	.50
Academic Self-Esteem	.26	.13	.08
Fairness of Grading	.44	.41	.40
Achieving for Social Approval	−.02	−.05	.10
Alienation	−.17	−.06	.02

Note. At this sample size, a correlation of .20 is significant at the .05 level, a correlation of .27 is significant at the .01 level, but a correlation of .30 is considered to be of practical significance.

support, student personal support, class cohesion, and fairness of grading. From Table 3, it may be seen that students' perceptions of cooperativeness within the classroom decreased, $t(89) = 2.39$, $p < .05$; perceptions of positive goal interdependence increased, $t(89) = 2.71$, $p < .01$; perceptions of resource interdependence increased, $t(89) = 1.54$, $p < .10$; perceptions of peer academic support increased, $t(89) = 6.47$, $p < .01$; perceptions of peer personal support increased, $t(89) = 2.82$, $p < .01$; perceptions of class cohesion increased, $t(89) = 4.22$, $p < .01$; and feelings of alienation decreased, $t(89) = 1.71$, $p < .10$.

TABLE 3
Factor Means From Responses on Classroom Life Instrument Reported in November and January

Social Climate Scale	November	January	*t* value
Cooperative Learning	3.56	3.31	2.39**
Positive Goal Interdependence	3.52	3.78	2.71***
Resource Interdependence	3.36	3.52	1.54*
Teacher Academic Support	3.85	3.80	.40
Teacher Personal Support	3.40	3.49	.87
Student Academic Support	2.73	3.23	6.47***
Student Personal Support	2.93	3.12	2.82***
Class Cohesion	3.21	3.50	4.22***
Academic Self-Esteem	3.46	3.45	.09
Fairness of Grading	3.98	4.06	.93
Achieving for Social Approval	2.25	2.16	.96
Alienation	2.62	2.52	1.71*

*$p < .10$. **$p < .05$. ***$p < .01$.

The students who perceived cooperative learning as being used half the time or more (see Table 4) also perceived more cooperativeness in their classes, $t(89) = 1.80$, $p < .05$; more resource interdependence among students, $t(89)$, $p < .10$; more teacher academic support, $t(89) = 2.04$, $p < .01$; more teacher personal support, $t(89) = 2.26$, $p < .05$; less extrinsic motivation, $t(89) = 2.85$, $p < .01$; and fairness in the grading system, $t(89) = 2.09$, $p < .05$.

Discussion

The results of the present study indicate that the more the students liked to work cooperatively and the more they perceived positive goal interdependence and resource interdependence between them and their classmates, the more they perceived the classroom climate as being both academically and personally supportive and enhancing. Positive attitudes toward cooperative learning and perceived positive goal and resource interdependence were positively related to perceiving teachers as caring about and wanting to maximize how much students learn, perceiving teachers as caring about and liking students as individuals,

TABLE 4
Time Spent in Cooperative Groups and Social Climate

Social Climate Scale	Low cooperation	High cooperation	*t* value
Cooperative Learning	3.75	4.02	1.80**
Positive Goal Interdependence	3.76	3.80	.29
Resource Interdependence	3.37	3.59	1.40*
Teacher Academic Support	3.69	3.99	2.04**
Teacher Personal Support	3.32	3.65	2.26**
Student Academic Support	3.23	3.15	.50
Student Personal Support	2.98	3.10	1.15
Class Cohesion	3.45	3.56	.87
Academic Self-Esteem	3.52	3.40	.80
Fairness of Grading	3.92	4.18	2.09**
Achieving for Social Approval	2.45	2.00	2.85***
Alienation	2.56	2.51	.46

*$p < .10$. **$p < .05$. ***$p < .01$.

perceiving students as caring about and wanting to maximize how much each other learns, perceiving students as caring about and liking each other, perceiving students as liking and wanting to work with each other, and perceiving the grading system as being fair. Liking for cooperative learning was also somewhat related to academic self-esteem. These results corroborate previous correlational (Johnson & Johnson, 1983b; Johnson, Johnson, & Anderson, 1983) and experimental (see Johnson & Johnson, 1983b) studies.

The present study is unique in that it focused on whether the accumulation of cooperative learning experiences affects classroom climate. Between November and January, students became less excited about participating in cooperative learning groups, felt more responsible for ensuring that all group members learned the assigned material, perceived more resource interdependence among students, felt more encouragement to learn and more concern about one's learning from peers, perceived the students within the class as being friends and as liking to work with each other, and felt less alienated from school and classmates. These results may indicate generally that the longer cooperative learning is used within the classroom, the more positive the effects on classroom social support.

There were a number of differences between the classroom climate perceived by students who experienced cooperative learning less than half of the instructional time and those who experienced it half of the time or more. The high cooperatives liked cooperative learning more, perceived more resource interdependence among students, perceived more teacher academic and personal support, perceived the grading system to be fairer, and were less extrinsically motivated.

Many teachers worry that students working on a joint product cooperatively will perceive the grading system as unfair. There seems to be a bias toward having each student produce an individual product and receive an individual grade. The results of this study may possibly alleviate such fears. The more positive students' attitudes were toward cooperation, the more positive goal and resource interdependence were perceived in the classroom, and the more experience students had in cooperative learning situations, the more they believed that everyone who tried had an equal chance to succeed in class, that students received the grades they deserved, and that the grading system was fair.

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Answer Sheet

Johnson's Cooperative Learning Questionnaire

Fill in the circle:

Question number	Completely false 1	False much of the time 2	Sometimes true and sometimes false 3	True much of the time 4	Completely true 5
Q 1	1	2	(3)	4	5
Q2	1	2	3	(4)	5
Q3	1	2	3	(4)	5
Q4	1	2	3	(4)	5
Q5	1	2	3	4	(5)
Q6	1	(2)	3	4	5
Q7	1	2	3	(4)	5
Q 8	1	2	3	4	(5)
Q9	1	2	3	4	(5)
Q10	1	2	3	4	(5)
Q11	1	(2)	3	4	5
Q12	1	2	(3)	4	5
Q13	1	2	3	4	(5)
Q 14	1	2	3	(4)	5
Q 15	1	2	3	4	(5)

Q16	1	2	3	4	5
Q17	1	2	3	4	5
Q18	1	2	3	4	5
Q19	1	2	3	4	5
Q20	1	2	3	4	5
Q 21	1	2	3	4	5
Q22	1	2	3	4	5
Q23	1	2	3	4	5
Q24	1	2	3	4	5
Q25	1	2	3	4	5
Q26	1	2	3	4	5
Q27	1	2	3	4	5
Q28	1	2	3	4	5
Q29	1	2	3	4	5
Q30	1	2	3	4	5
Q31	1	2	3	4	5
Q32	1	2	3	4	5
Q33	1	2	3	4	5
Q 34	1	2	3	4	5
Q35	1	2	3	4	5
Q36	1	2	3	4	5
Q37	1	2	3	4	5

Q38	1	2	3	4	5
Q39	1	2	3	4	5
Q40	1	2	3	4	5
Q 41	1	2	3	4	5
Q42	1	2	3	4	5
Q43	1	2	3	4	5
Q44	1	2	3	4	5
Q45	1	2	3	4	5
Q46	1	2	3	4	5
Q47	1	2	3	4	5
Q48	1	2	3	4	5
Q 49	1	2	3	4	5
Q50	1	2	3	4	5
Q51	1	2	3	4	5
Q52	1	2	3	4	5
Q53	1	2	3	4	5
Q54	1	2	3	4	5
Q55	1	2	3	4	5
Q 56	1	2	3	4	5
Q57	1	2	3	4	5
Q58	1	2	3	4	5
Q59	1	2	3	4	5

Appendix 9 – Cooperative Learning Lesson Plan

Cooperative Lesson Planning Form

(*Cooperation in the Classroom*, p. 2:47-48)

Grade Level:_____Subject Area:_____Date:_____

Lesson:_____

Making Preinstructional Decisions

Academic Objectives:_____

Social Skills Objectives:_____

Group Size:_____Method of Assigning Students:_____

Roles: _____

Room Arrangement:_____

Materials:_____

___One Copy per Group ___One Copy per Person

___Jigsaw ___Tournament

___Other:

Explaining Task and Cooperative Goal Structure

1. Task:_____

_____

2. Criteria for Success:_____

_____

3. Positive Interdependence:_____

_____

4. Individual Accountability:_____

5. Intergroup Cooperation:_____

6. Expected Behaviors:

Monitoring and Intervening

1. Observational Procedure:____Formal _____Informal
2. Observation by: _____Teacher _____Students _____Visitors
3. Intervening for Task Assistance:_____

_____

4. Intervening for Teamwork Assistance:_____

_____

5. Other:_____

Assessing And Processing

1. Assessment of Members' Individual Learning:_____

_____

2. Assessment of Group Productivity:_____

_____

3. Small Group Processing:_____

_____

4. Whole Class Processing:_____

_____

5. Charts and Graphs Used:_____

_____

6. Positive Feedback to Each Student:_____

_____

7. Goal Setting for Improvement: _____

_____

8. Celebration:_____
9. Other: _____

Appendix 10: Compiled ENGC 231 Course Outline

Critical Reading & Writing

1. Introduction:

Critical Thinking studies a process which is indispensable to all educated persons--the process by which we develop and support our beliefs and evaluate the strength of arguments made by others in real-life situations. It includes practice in inductive and deductive reasoning, presentation of arguments in oral and written form, and analysis of the use of language to influence thought. The course also applies the reasoning process to other fields such as science, law, social science, ethics, and the arts.

2. Course Description

A continuation of ENGC 141, with an emphasis on persuasive writing, on research methods, critical thinking, and on advanced reading skills. In this course, students practice processes appropriate for university reading and writing: identifying contexts (audiences and purposes) common in academic discourse and writing about personal experience as well as academic readings. The course includes the development and revision of argumentative essays using various strategies; reading and discussion of selected essays; and introduction to incorporation and documentation of material from primary sources. The course is integrated to comprise, reading and writing in addition to speaking. Therefore, assessment capitalizes on reading comprehension, writing and presentations. By writing and rewriting several essays, students refine their prewriting, drafting, and revising strategies to produce focused and detailed essays that involve summarizing, paraphrasing and citing sources.

3. GOALS AND OBJECTIVES

Successful completion of this course will develop good thinkers who are able to:

- analyze and take time to think about claims;
- identify, evaluate, and construct inductive and deductive arguments in spoken and written forms;
- recognize common fallacies in everyday reasoning;
- distinguish the kinds and purposes of definitions;
- distinguish the functions of language and its capacity to express and influence meaning;
- recognize and assess arguments in various forms of reasoning;
- use the appropriate strategies of reading various types of texts at different levels of comprehension;
- analyze various kinds of reading materials for the purpose of utilizing them in essay writing;
- use vocabulary effectively;
- demonstrate skills in summarizing and paraphrasing readings;
- acquire the basic search skills required to use resources (for the purpose of reading, writing and presentation);

- formulate sound written opinion by writing a research-based essay of acceptable style and mechanics;
- communicate effectively through oral presentation;
- Write well-developed and organized essays.

The goals of the course are to help you

- develop the habits of assessing and defending the reasonableness of your beliefs and values and those of others;
- appreciate the importance of looking at an issue from a variety of points of view and of recognizing the complexity that surrounds most controversial issues; and
- Appreciate the value of critical thinking in both public and private decision-making.

After you have finished this course, you should be more:

- *skilled* in reading & writing
- *Self-aware*, recognizing your own biases and influences;
- *Inquisitive and curious*, wanting to learn more about issues before passing judgment;
- *Objective*, basing your judgments on evidence and avoiding twisting evidence to fit your opinion;
- *Open-minded*, having the ability to say, "I don't know" or "I was wrong";
- *Sensitive to language*, avoiding slanted language, recognizing ambiguous, vague, emotionally laden language, defining key terms;
- *Imaginative*, approaching topics and problems from various angles;
- *Fair and intellectually honest*, avoiding misrepresenting the ideas of others or misinterpreting data and research to fit your own purposes

4. Material

The course will draw on thematic readings. For example, readings might include topics that students can react to with personal experience and can also reflect upon from more academic viewpoints. Throughout the semester, students will summarize readings, and will also write about the theme through other approaches.

- Reading passages of advanced level on given academic topics basically covering disciplines in arts/humanities & social sciences, and law.
- Writing: (supplementary material for teaching the essay, the RBE [Research Based Essay] and the related skills.)
- Presentation: (supplementary material for teaching the presentation**)**

5. ABSENCE POLICY:

Students can be absent for an equivalent of 6 C.H. during the semester without excuse. However, their absence shall be considered when calculating the attendance mark. Students who miss more than double the meetings per week (more than 6 contact hours) without an acceptable excuse will receive a WF.

6. WRITING ASSIGNMENTS

All homework assignments must hand written. Some assignments must be typed, double-spaced, using a 12 pt. font, either in Times New Roman or Cambria. Always check your spelling, grammar, and punctuation before turning in an assignment, as reoccurring errors can adversely affect your grade. If you know you have trouble proofreading, please see me for assistance. If a typed assignment is not properly formatted or obviously fails to meet class standards, I am not inclined to grade it.

Instead, you will be asked to reformat it, revise it, and resubmit it to be graded, *due within a week of being asked to revise it*

7. PLAGIARISM

We'll talk about plagiarism early in the semester so that you'll know what it is and how to avoid it. Plagiarism, which means attempting to give your reader the impression that words or ideas in an essay are your own when in fact they are someone else's, is a serious academic offense for which you will be dismissed. Don't take any chances. If you have questions about what should be documented and cited, please ask.

7. Course Evaluation Criteria

At the end of the course, each student will receive the number of points earned. The student's final grade is the total of **100** points.

- **4 Position papers (Including a summary and a reflection)** **10 points**
- **Writing Assignment I (essay)** **20 points**
- **Writing Assignment II (essay)MD** **20 points**
- **Writing Assignment III (argumentative essay)** **10 points**
- **Final Exam** **20points**
- **Presentation** **10points**
- **Discussion and attendance points** **10 points = 100**

Appendix 11: Sample Essays

Sample of the progress of the Persuasive/ Argumentative Essay for the Experimental group

Pre

5

I thik that University teaching in its system is necessary for succes in Life for Three reason.

First It's the the Last Leavel of the education way, That complement the academic skills, which Contain the gists of all this Level for specific specialization. every student have to know what he wont and how he can get it for best way. this is the academic direction.

Second reason related on another way from academic, that can get the self confidence that can help him out side the University and this technic gand from the daily life inside it. student with out selfconfidance make the life more complicated.

Theard reason

Traditional & Progressive Education

There is many differences Thinking about which is the best way to study at this time, "Traditional or progressive" Education. Some people said That "Every ways lead to Rome". And another people with and only with the traditiond education. On another hand we see people with the progressive and modern education. I think that we should to bracket with this two ways Traditional & progressive. But we can't disregard the traditional way for three reasons, communication whith teachers and students, leadership site of teacher, and time management of students.

The first reason that we can't disregard the traditional Education is communication with both Teachers and students. I strongly beleave that communication is can make abetter job for both. With communication, student feel in safety. And this can encourage him to make his work in best way. At last period time many of psychologists make a lot of researches that give companion of coherence with communication and what it reflect to students self-confidence. In another hand, communication can also affect in positive way on teachers. It can help him to improve the technical process that they see it can make a better job and make a difference in the student.

The second reason is Leadership site of teacher. Every student should have someone to lead him to the true side. whithout this Leadership, students feels on dispersal. with open and clear way. student can do better and creative job. Every teacher have an experiance that help him to know which exactly Idea arrived to students mind and which of this Idea may not arrived yet. After that he can get a solutions to make sure that every things is clear. Leadership position in teacher can also depict the individual differences among students.

and encourage creativity and fails to discover talented students.

The third reason, which is essential one is time management of student. Traditional schools usually have specific time to start and end the study day which is begin at 8:00 - 8:00 pm - on this specific time students can manage his all day time. This can help him to equalize among his study and day life, such as play sports and exert his hobbys. But in progressive study we can't limited the time of work and study.

"A spank a day will keep you bright all day". (Rafidi, T, 2012)
Its a Famous wisdom that with an Authoritarian parents. In our socity this care will famous with old day. Many parents in our socity used the strict rules and hard rules with there children. In my eyes look I see that this openion build in wrong bases. I am against Authoritarian parents for two resons and with them from one reason. The first two reason is Authoritarian parents is based on fear, Authoritarian parents could damage the parent-child Relationship. (Markham, L. (2012)). On anothell hand, I'm with Authoritarian parents for one reson, there is an advantage of strict parents is that develop child confidence. (van Damme, Y. (July 5, 2011).

The First reason that I'm against Authoritarian parents is that the rearing that based on fear affect on children in bad way. Opponents can talk that fear give a strong child and it become good for him. I will talk that make children feels a fear from there parents give a worst affect on long term. They will not learn to take independent decisions when parents are not around them. For example, from my short period time in university i see many of students from class for example who afraid to make there own designs. It makes me feel in bad way from him. Its hard to help him. They raise in this way from they alive in this world.

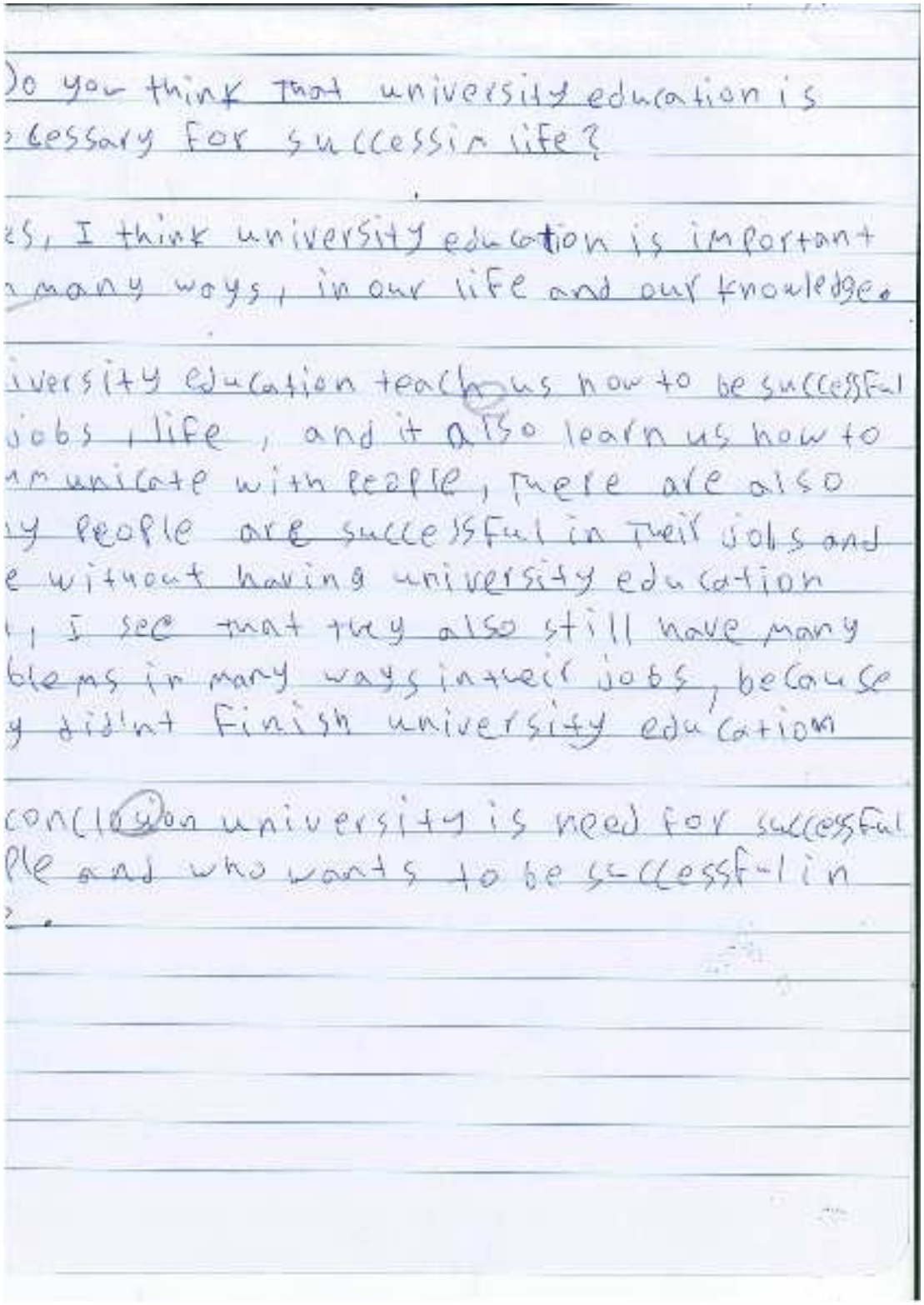
The second reson that I'm against Authoritarian parents is that this way can damage the parent-child relationship. opponents can said that this strong way to raise the children can make a good relationship with them, which make him aman. But I strongly belive in another way, that this type of raising can damage this relationship and end up fighting with parents. (Markham, L. (2012) parents have to respect the childhood.

The third reson is reason that Why am with Authoritarian parents. I'm with them for one reason. There is an Advantage of strict parents. Is that they develop confidence in their children. because they help the children learn important values. Its an important point. we can't gainst it. Confidence is a mainly reason that come on good way to live a potey life.

In conclusion, we should work hard to help our children for give him a right value to live in this hard world. with right value a child raise on strong bases. It's a harder Job to be aparents. when I be a Father I want to be like my dad. He raised me to be the best. I'm very apriciated him to be an good Father.

Thank you Miss.

Sample of the progress of the Persuasive/Argumentative Essay for the Control group



Do you think that university education is
cessary for successim life?

es, I think university education is important
many ways, in our life and our knowledge.

iversity education teaches us how to be successful
jobs, life, and it also learn us how to
mmunicate with people, there are also
y people are successful in their jobs and
e without having university education
, I see that they also still have many
blems in many ways in their jobs, because
y didn't finish university education

conclusion university is need for successful
ple and who wants to be successful in
.

Progressive education is a new type of education that you may use for better education. This type of education includes many ways to let the student feel more comfortable with studying, being more focused on his study and to found it fun not boring. in progressive education, student will motivate on study better; projects will be made, and the centre of education will be on the student not the teacher.

- first, Progressive education will motivate student on study in many ways to let each student feel comfortable. such as the class will be different than the traditional education like, the chair that student used to sit on will be replaced with better chairs such as beanbags, the painting of the wall will be in different colors not just white, The arrangement of the chairs will be different, marks will not be important, these things will motivate students on study.

secondly, projects will be made and many work sheets that student can take marks more easy in these projects than tests; However student wont be affraid any more from marks and tests, everyone can get marks because there are many thing is replaced with tests. The most thing that students feel better with it that is nothing will be in home everything is in class.

as for my last point the teacher must not be the centre of attention in the class. if the teacher let the students participate more in class, they will be more motivated to study. However the student will study harder if they participate more in class.

in conclusion progressive education maybe the type of education that students nowadays will constrate more in their studies than traditional education.

First

Parental control

Parenting style is different between the world ,there is two parcting styyle the first style the authoritarian parents who are very strict with their rules they just give orders and their childre must obey to their orders, the other style of parenting is not be strict on their children and about myself : or against the authoritarian parents because it effect brain, effect the social life, strict parent dosent let their chilsre to be responsible.

first of all, authoritarian parents effect their children brains because they just order rules without leting the children think if he want to do this or not these parent's effect the children brain, but not strict parents don't order things on their children they can just give advice, these parents comlet their children think ons to be responsible of what they want without effecting the brain with orders and strict rules.

Secondly, the non-strict parents are likely to have better social life for their children, because their chisdre have used to think on their own without orders from their parents so they can handle their social life easily without being shy of anything. authoritarian parents their children will be shy around others because they have lower self-esteem and they are not trained well to take decisions by themselves especially in their life of what to study in university and where to work ((cherry, K. (n.d.). Parenting style.).

at last, strict parenting deprives children out of the opportunity to internalize self discipline and to be responsible, strict orders could control the children when they become young, but this strict orders will led the children afraid about to take decision by themselves and that effect them for example when they want get married. as personal experience in my family there are no strict rules every one is responsible for himself so every one can take choices. (markham, L. (2012). www.ahaparenting.com)

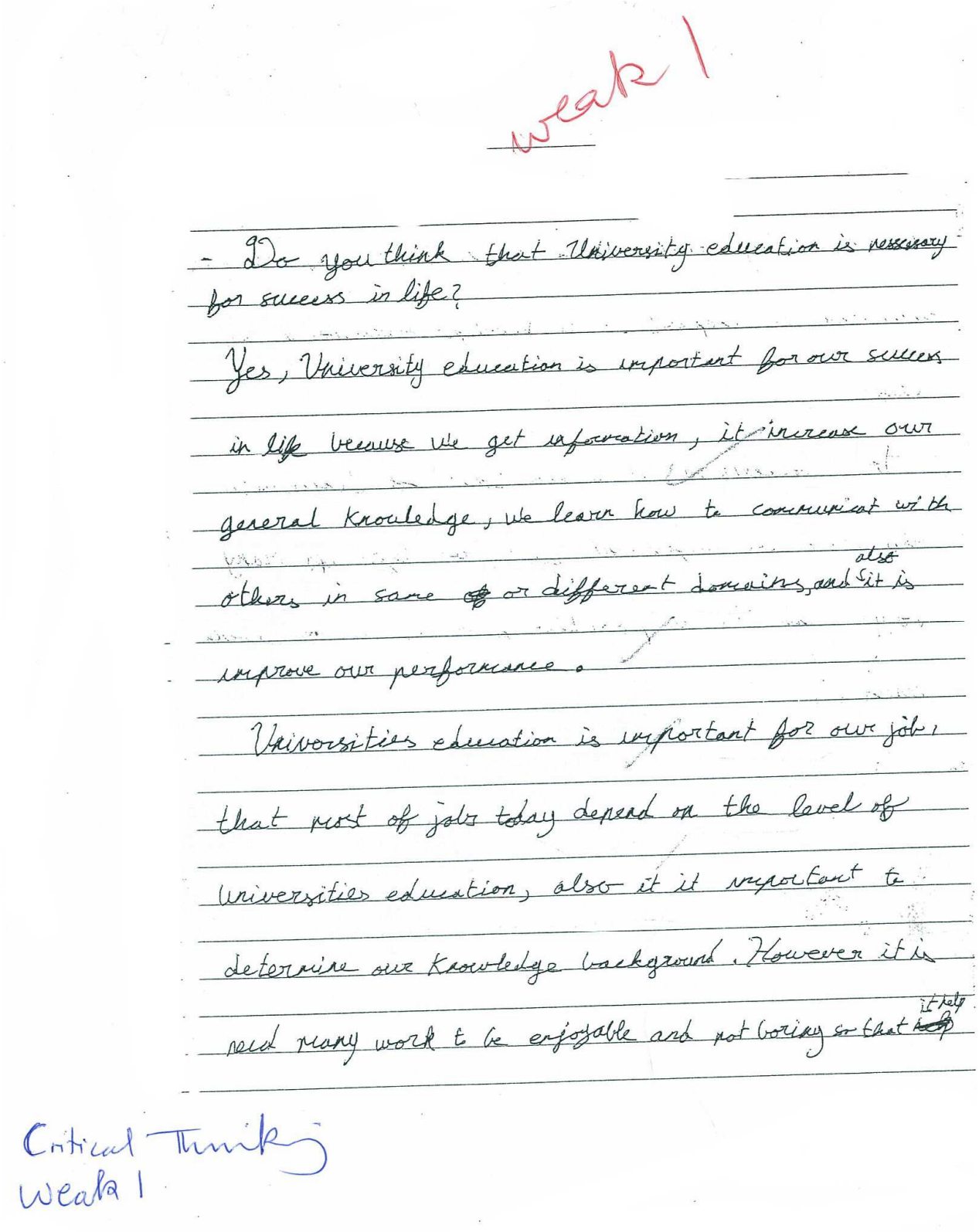
in conclusion being in a family with non strict parents is better for everything you will not have a problem in your life, you can be responsible on everything you do.

sources:

1-(cherry, K. (2012). parenting style.
http://psychology.about.com/od/childcare

2- markham, L. (2012) http://www.ahaparenting.c

Appendix 12: Sample Corrected Essays for Critical Thinking



weak 1

- Do you think that University education is necessary for success in life?

Yes, University education is important for our success in life because we get information, it increase our general knowledge, we learn how to communicat with others in same or different domains, and also it is improve our performance.

Universities education is important for our jobs, that most of jobs today depend on the level of universities education, also it it important to determine our knowledge background. However it is need many work to be enjoyable and not boring so that it help

Critical Thinking
Weak 1

Modern Parental Control

We Should learn how to deal with our Children in the r
way because they will hold our future, and because of that
Shouldn't teach them in a stricted way because simply the
go against us an against themselves, So we can teach them a
valus such as rispect, honisty & love ..., not in an authorit
but in a modern way and not stricted.

the parentes will feel in there Children confidence and it
raise more and more if the modern control folowed by a sutabi
for example if the Clean the house from an order from there p
or helpthem to made something done ther will be a praize fo
or something else plus they will" love, rispect & aprecia t e
other" as Eminem say.

the parentes Who always till his Children What to do and
to make they will prisen there Children thought in a one
~~directed~~ direction an they will become without imagination an
thewill not sirvive in the real world " Cherry, K.

because when they grow up they won't find the one that will directe them an they will fail up because they might can't handel that,

power isn't right in all cases and it's wrong to learn against that and if parentes used the power in that way with there children the will damage the relationship between them and not to trust with each other because the both sides thinks that what they stand for is right and they would take the power from that and don't care to other opainion.

it's all about the parentes Choise, so if the Choos the moderm way the will mak a progress and they will see there own children derlopment, but if they Choos the hard way "When there children grow up they will become an extremly failer" "like father like Son"

Markham, L.

Persuasive Essay Graphic Organizer

Paragraph #1 - Introduction

- Attention-grabbing beginning - (story) Once upon a time there was a little girl with big dreams.
- Description of issue - Traditional education is no longer helpus we must replace it with modern education.
- Opinion Statement - I strongly believe that in order to keep the dreams in our mind we should change traditional education in to modern progressi education that liberates our mind and let them fly.

Paragraph #2

Reason #1 - Traditional stuff information and stop your mind from thinking

Evidence to support
(details and examples)

- Tawjihe exam.
- University permission.
- afraid to think
- It is like fill a bottle with milk
-
- Freeze our mind
- It is all about what you
- memorize not learn.

Paragraph #3

Reason #2 - modern education discover the talent in you

Evidence to support
(details and examples)

- encourage creativity.
- eliciting knowledge.
- the quizzes are not a fair way to judge.
-
- Newton was bad in school
- study what other people do while we can do sth.
- There are talents in us.
-

Paragraph #4

Reason #3 - modern education develop our personality.

Evidence to support
(details and examples)

- group work → communicating
- to find information.
- have confidence.
- modern talk about issues that are real.
- ability to convence
- open mind.
-
-

Paragraph #5 - Conclusion

- Restate opinion - So I want to raise a question to the person who started traditional education "Why you hate humans?"
- Summarize 3 reasons - (Freeze our mind, stuff information and dont help us to build our personality) traditional education.
- Call to action or closing statement - It is your choice which way to go and I myself will start chang from myself now.

CT strong 4

liberate your minds

Once upon a time there was a little girl with big dreams. She first dreamed to be a doctor then she wanted to be a singer, then she wanted to be an explorer then she wanted to go to the moon! Then this girl turned six and started her twelve years trip of shrinking her ability to dream. Yes she started school. "An old traditional school", since then she stopped dreaming to go to the moon instead she started dreaming to pass her exams. This is what I call "Traditional Education". If I had to choose between them I certainly would go to the moon. I strongly believe that in order to keep the dreams in our mind, we should change traditional education in to modern progressive education that liberates our minds and let them fly.

Good!

My first point against traditional education is that it stuffs information in the student's mind. It stops the mind from thinking. When you look back to school the first thing you remember is a heavy, full bag that everymorning when you hold it you say "I hate school"! Traditional education focuses on memorising facts without having any idea why this fact is exist in the first place. It is like fulling a bottle with milk but what if the person who hold that bottle want cheese or milkshake. While modern education focuse on what you have and help you take it out. It help you make the cheese instead of give it to you. I believe that traditional education freeze our mind and kill our soul and stop it's creativity. I strongly argue any one that say over years in school our mind didn't stop thinking and make us afraid of anything than memorize because that is whate we used to. the proof of this is the tuyjehe this year we have 70,000 student that take place in Tuyjehe, and 55,000 of them are in the Literary stream and only 15,000 are in scientific stream. So why is that? Traditional education makes us memorize what great people do, but what if we can be great too. So there is no doubt that this way of teaching is a terrible mistake.

excellent

My second reason is that modern education discover the talent that is in every

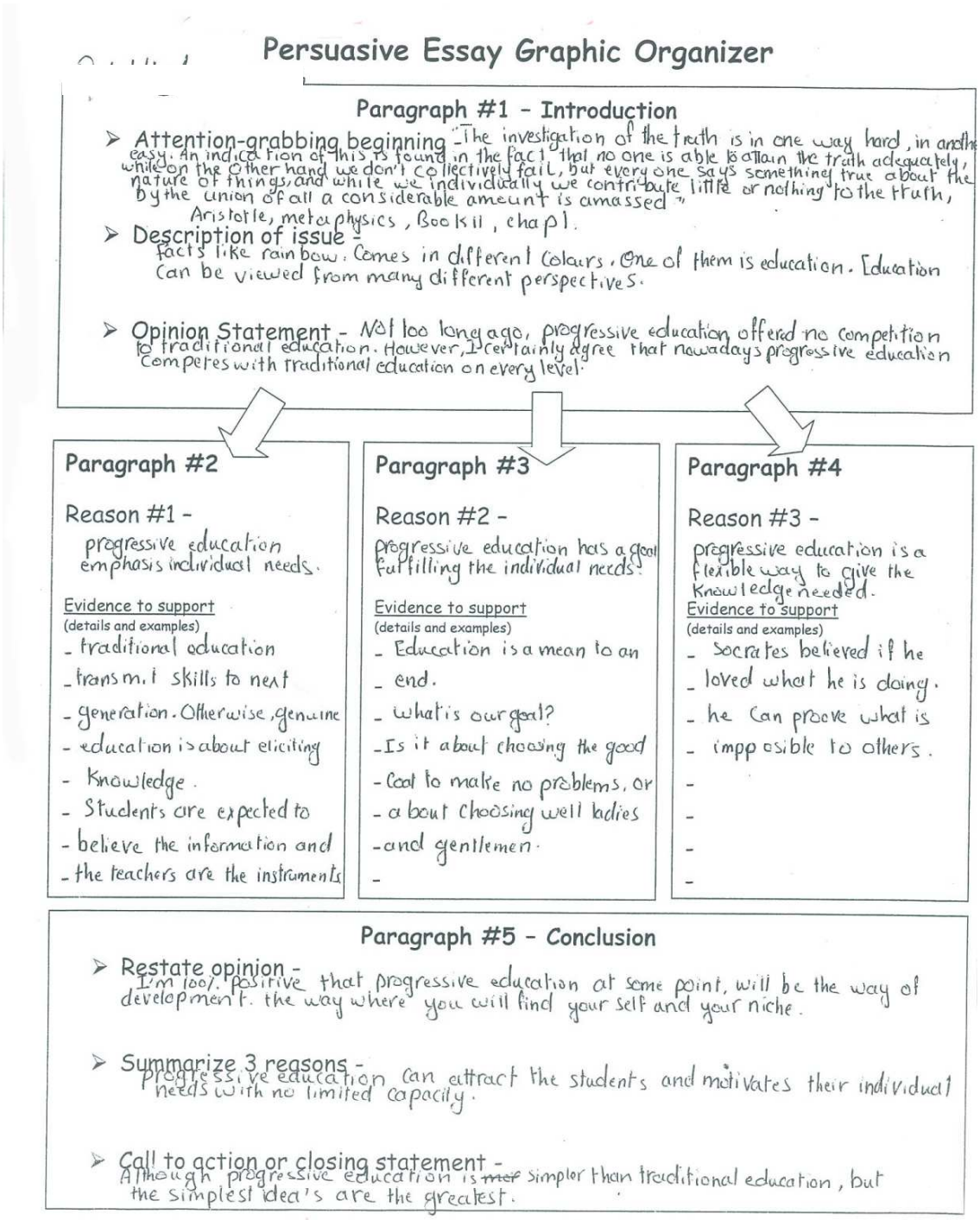
pearls

student and encourage creativity and make the student feels distinguished. Students are ~~turtles~~ and they just need someone to bring this purle up and this is the job of education it is not to stuff information put it is to elicite knowledge from them as Socrate said : "Look in to your ownselves and find the spark of truth that God has put in to every heart, and that only you can kindle to a flam". Modern education recognize different learning strategi of students while traditional education give exams for all students and judge them according to their ability to memorize and this is not fair. For example Newton was a very careless student, his teachers even ask his pare to drop him from school because there is no use, and he discovered most of the physics principles that we have to memorize! So exams and memorizing and stuffing are not a scale of how a student is cleaver, talented and creative. "There are parts in each of us if only we knew how to cultivate them with ardor and persistence" (Harris, 1986,p) example quote-in-text citation

My last reason is that modern education helps the student developing the ability to communicate, and build their personality. Modern education by team work help you to collaborate with people. For example, if we brin two student's one with traditional way and the other with modern way and they argue about something, the one that had modern education and know how to talks to people and convense them will not face a problem, while the other will be lost and can't talk unless he was prepared. Modern education take the text and the subject from the issues of the students themsel not from old books and subjects that are not appropriate for our 21 century So modern education build your personality and make your brain say hello to the world

So I am going to send a question to the person who started the traditional education «why do you hate humans?". Modern education will raise your level it will prepare you for college study and for life and teach you how to think, talk and create, while traditional education will only hold yo

Sample of a Persuasive/ Argumentative Graphic organizer for Planning



4

It is mother's day. Aseel and her friend Sarah was going back home from university. It was a nice day and Sarah want to buy flowers for her mom. Aseel has a hight marks in school all of her life. In highe she took 98 and Sarah took 93. At that day Sarah has a big shock when Aseel said to her "why you are buying flowers ?". "Because I love my mother, don't you love your mother ?" Sarah said. Aseel Answered :" the one is that home is worth of even deserve my love !" If I had to choose I really want to be Sarah. I strongly believe that "Authoritarian" is a wrong way to rise children. I certainly believe in my parents "the open cool parents" that make friends with their children and their children love them so much.

My first reason against authoritarian is on the self confidence side. I strongly argue the people who say that strick parents develop confidence in the child. (Van Damme, 2011). The opposite thing is exactly what happen here. To develop the person's confident and personality he/she must take his own decisions. If he always do what parents want because of fear they will never learn to take independent decisions (Markham, 2012). This kind does not develop their confidence because they think that in order to be a good child in my parent eye I have to do the thing they want or say the thing and lie about it. It is like they don't like them for who they are. So authoritarian don't develop confidense it develop lies. So in front of the parents and when they grow up they will be an excellent liars. For example. my small cousin have a very strick parents and when you ask him what he think about something he say : " I dont know ask my father ", this is because he is afraid of them and I am sure that when he will be older he will lie of them. So what is this ?! wake up people you are developing big. But liers not confident people with their own personality.

My second reason against authoritarian is on the academic achieveme way. As for the strick parents who hold their children to high standards and even limit fun if they don't do as they expected (Van Damme, 2011).

I say to them "What you are doing?" Your children are not gods and they can make mistakes. In this way you are teaching your children that to have mistakes or things didn't go very well it is like the end of the world. Well, guess what? If people didn't lose they will never now the real feeling to win If they weren't in the end of the cliff they will never know how it is great to be at the top. I am not saying not to blame them sometimes and told them that you can and will do better but not to punish them if they took 90 out of 100. If they never fell disappointed they will never be able to force the life difficulties. Your children are not sausages and you are not suppose to stuff information in them you suppose to elicit knowledge from them (Harris, 2006). Parents dont have the right to punish them hard or treat them bad if they have some mistakes. They do well in school because of fear not because of study or have knowledge. As for you parents remember that Newton the great scientist was a very careless student, you can give them a present when they do well as an encourage for study.

My third reason against authoritarian is on the psychological health and relationships between the parents and their children "Authoritarian Parenting could damage the parent - child relationship and parented strickly end up fighting with parents and looking for love in the wrong places" (Markham, 2012, 5) For example, I know a young man he is 17 now and he is fighting with his parents all the time and he told me that he is really hateing them and he want them to leave him alone. When he was kid he obey their orders but he grow up with a very big hate and now he dont lesen to them at all. So I think that to be more cool and smoth with them were they are small to make them listen to you when they are big. Try to be cool and be friendly with your children and will make them told you everything. To told you bad things that happen with you them is better than hiding and you will never know thing about them. So beale them in a smoth cool way even if you don't like what you hear because that will make you know every thing about them. Children who are raised with strick rules likewise the person who is under a table they even not talk to people so much.