Democratic and Popular Republic of Algeria
Ministry of Higher Education and Scientific Research

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DEVELOPING CRITICAL THINKING SKILLS THROUGH GROUP WORK INTERACTION AT FERROUDJI BROTHERS SECONDARY SCHOOL
Case study: 2nd Year Scientific Stream

Dissertation Submitted to the Department of Foreign Languages in Candidacy for the LMD Master in English Language and Communication

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Declaration

I hereby declare that the substance of this dissertation is the result of my investigation due reference of acknowledgment is made when necessary to the whole of other researchers.

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DEDICATION

All praise to Allah the Almighty, the most Graceful and the most Merciful for the wisdom, the strength, and good health in order to complete this work.

This study is wholeheartedly dedicated to our parents who have been our endless source of strength and courage, whose moral, spiritual, and emotional support have not ceased to flow.

YET!

ACKNOWLEDGEMENT

'And, when you want something, the entire universe conspires in helping you to achieve it.'

Paulo Coelho

This thesis became a reality with the kind support of many people. We would like to extend our sincere thanks to every one of them.

Foremost, we should like to thank our supervisor Mrs. Koran for her trust, patience and encouragement along this journey.

We are highly indebted to all teachers of English in the Department of Foreign Languages of Khemis-Miliana

Abstract

Group work is a utilitarian strategy to develop various skills in students, such as communicative, social, and critical thinking skills; all of which promote active and enhanced learning. This paper investigates the effectiveness of group work in developing critical thinking and exploring Ferroudji Brother secondary school in Boumedfaa students' perception of working in groups and its integration by teachers. To gather data, two different questionnaires were administered to 13 students and three teachers, in addition to asking some open-ended questions. The investigation into group work effectiveness supported by a qualitative and quantitative data analysis showed interesting and encouraging positive outcomes. However, some teachers do not usually make the students work cooperatively and collaboratively.

Keywords: effectiveness; collaboration; cooperation; critical thinking; group work; strategy

Résumé

Le travail de groupe est une stratégie utile pour développer diverses compétences chez les apprenants, tels que les compétences communicatives, sociales et de pensée critique, qui favorisent l'apprentissage. Ce document présente une recherche sur l'efficacité du travail de groupe dans le développement de la pensée critique et vise aussi à explorer la perception des élèves du **Lycée Ferroudji Frère à Boumedfaa, Ain Defla** vis -à -vis du travail en groupe et son l'intégration par les enseignants. Pour recueillir des données, deux questionnaires différents ont été administrés à 13 élèves et trois enseignants en plus de questions ouvertes. L'enquête sur l'efficacité du travail de groupe, étayés par une analyse qualitative et quantitative, a montré des résultats positifs intéressants et encourageants résultats,. Cependant, certains enseignants ne font généralement pas travailler leurs élèves en coopération et en collaboration.

Mots clés *: efficacité ; travail de groupe ; pensée critique ; coopération ; collaboration*

ملخص

العمل في مجموعات إستراتيجية فعالة تساعد في تطوير مختلف المهارات عند الطلاب ، مثل مهارات التفكير الاتصالي والاجتماعي والنقدي ، وكلها تعزز التعلم. هذا البحث يهدف إلى التحقيق في فعالية العمل في مجموعات في تنمية التفكير النقدي واستكشاف تصور الطلاب للعمل في مجموعات وإدماجها من طرف الأساتذة. التفكير النقدي مهارة مهمة لكنها مهملة في تعليم الطلاب . يتم تعليم الطلاب الحفظ مع القليل من الوقت المخصص للترويج للتفكير النقدي و مهارات التفكير عامة التي تسمح بفهم أعمق وتجربة أكثر ثراءً. أُجرِي هذا البحث **في ثانوية الإخوة فروجي ببومدفع عين الدفلة**. لجمع البيانات ، تم إجراء استبيانين مختلفين على 13 طالبًا وثلاثة معلمين بالأضافة الى سؤال أسئلة مفتوحة . أظهر التحقيق فعالية العمل الجماعي و نتائج إيجابية ومشجعة مدعومة بتحليل نوعي وكمي. ومع ذلك ، فإن بعض المعلمين لا يحفزون طلابهم على العمل الجماعي.

الكلمات المفتاحية *: العمل في مجموعات ، التفكير النقدي ، الإستراتيجية ، الفعالية ، التعاون.*

List of Abbreviations

CBA: Competency based approach

CT: Critical thinking

CTS: Critical thinking skills

GW: Group work

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Chapter One: Introduction

1. Background of the Study

The learning process is one of the most important issues that eminent researchers and scholars have tackled. They discovered that children and adults learn in different ways, which revealed many issues. The transition from infancy to adulthood is the most difficult stage of a learner's life and education. They are meant to go from absolute reliance on the instructor as their sole source of information to the point when they can rely on themselves to manage their own learning at this stage.

All students must be able to think critically and strategically in order to perform better. Mendelman (2007) claimed that "in a day and age in which more and more children grow up engaged with primarily passive activities…teaching critical reading is one of the most important, and most difficult burdens of the classroom" (p. 300).

2. Statement of the Problem

Students at Ferroudji Brothers Secondary School – Boumedfaa find difficulties to grasp all the information presented to them as they still learn in a traditional way ‘ teacher-centered approaches ’ in which teachers decide on the content that they intend to teach, plan how to teach this content and then assess the content . For one reason: students have not been taught to think critically, analyze, interpret and evaluate knowledge, instead they duly absorb it and mechanically deliver it. Bowers & Flinders (1990) identified teacher-centered model as an industrial production in which student is a product and behaviors of “exit skills” or “out comes”. This traditional learning though it has long been replaced by modern approaches such as Competency Based Approach, it is still practiced by many teachers, leaving learners’ thinking shamefully restricted to the lower order of thinking (remembering, understanding, applying) and unprepared for the world of labor which greatly stresses the importance of possessing 21stcentury skill such as critical thinking and team work.

3. Rationale of the Study

Many studies have highlighted the importance of developing critical thinking in learners and the implementation of group work in classrooms as an effective means to do so. Developing CT in learners should be the main aim of teachers. Mendelman (2007) asserted that "critical thinking should be taught in virtually every course in the humanities" (p. 300). However, very few studies were conducted in this particular field due to the lack of awareness of teachers and learners alike of the vitality of possessing critical thinking skills (CTS) and being a competent team member nowadays.

4. Aims of the Study

The present study attempts to provide an overview knowledge about the implementation of group work in classroom and how it affects the learning process. It also intends to explore the extent to which group work interaction endorses the promotion of critical thinking in learners. In this regard, teachers and students at Ferroudji Brothers secondary school are the focal center of this research.

Accordingly, the general aim of this study is to find out whether group work increases the level of interaction between learners, therefore, enhances the development of CT in students at Ferroudji Brothers Secondary School and how this development is affected by factors that can be generated from group work activities. Hopefully, the results obtained from this research will help learners and teachers to take active roles in their learning and teaching respectively.

5. Research Questions

This research attempts to answer the following questions:

1. What are the perceptions of English teachers at Ferroudji Brothers Secondary School about the implementation of group work in their classes?
2. What are the perceptions of students at Ferroudji Brothers Secondary School about working in groups?
3. To what extent does working in groups develop learners'critical thinking?

6. Research Methodology:

This study is concerned with exploring the extent to which group work encourages learners to develop critical thinking skills. It also hopes to provide overview knowledge about the implementation of group work in classroom and how it affects the learning process. In this research, we have adopted a mixed-method approach. It will explain how participants of this research were selected, such as who and how many people were involved in order to collect the required data to be collected. Research design, data collection tools and instruments – students' and teachers' questionnaires - will also be explained. Finally, it will consider how the data gathered was analysed - data analysis tools- and a brief summary.

7. Structure of the Dissertation

This paper is divided into five chapters. The first chapter is devoted to the introduction in which the statement of the problem, rationale of the study, research questions, methodology and ethical considerations are mentioned. The second chapter begins with a brief literature review documenting the historical and theoretical background of critical thinking, its importance as a vital 21st century skill, as well as the steps and the strategies undertaken to develop it. In addition, the importance of implementing group work in classrooms, principles of working in groups are highlighted, including a description of the barriers and challenges encountered in group work. The third chapter is devoted to the methodology used to carry out the investigation of developing critical thinking skills through group work interaction. In the fourth

chapter, results and findings from the investigation are discussed and analyzed. The last chapter, the conclusion, limitations of the study and recommendations are presented.

8. Ethical Considerations:

It is crucial that ethical considerations are considered during the research because all participants have legal and moral rights. For the current study, researchers assured that they did not invade their privacy without consent from them, that all answers received from them was acknowledge and accurately represented . Some ethical considerations this study insured for the participants were:

a- Informed consent:

All participants were aware of the key elements of this study and what was expected of them.

b- Dignity :

- ✓ All participants were treated with great respect.

c- Privacy and Confidentiality :

- ✓ Guaranteeing that information provided will be unidentifiable by anybody other than by the researcher.
- ✓ Ensuring they are knowledgeable that if any of information resulting from the research is to be used for presentations or reports.
- ✓ Confirming that they are well informed that the results will be presented in the thesis and they will be reviewed by the researcher's supervisor.

- ✓ Ensuring that they understand that the thesis may be read by future students.

Summary

This chapter was devoted to the presentation of the background of the current research which is the effectiveness of implementing group work at the high school level as a strategy to develop critical thinking in learners. The statement of the problem was also mentioned in addition to rational of study, research aims ,questions and methodology. It ends with an overview of the structure of the dissertation and some ethical considerations.

Chapter Two: Literature Review

The aim of this chapter is to gather theoretical evidence existing in the literature about critical thinking and group work. In this chapter, we explore in depth the theoretical and historical background of critical thinking and the implementation of group work in classroom as a means to develop critical thinking. The first section is devoted to critical thinking, in which we deal with the history of CT, its various definitions and skills, the steps as well as the strategies to develop it. We shall also tackle the barriers that might thwart the promotion of CT in classroom. In the second section, we shall explore group work in terms of the distinct definitions, principles of working in a group and the key characteristics of a group. We shall also pinpoint some of the most used group work activities in classrooms as well as some of the challenges any learning group or teacher may encounter. Finally, we shall draw a link between group work interactions and how it can lead to the development of critical thinking in learners.

1. Section One: Critical Thinking

1.1. Thinking and the Individual

Thinking is a mental activity that takes place in the human brain. It is characterized by awareness, perception, reasoning and judgment, selection of information and solving problems. To resolve problems quickly, thinking, which is a survival and crucial skill for both individual and society, is needed. According to Fábián (2017), the differences between thinking and non-thinking attitudes include distinct behaviors. Furthermore, this might be brought in different interaction with and influence on social environment, as it is shown in figure1.

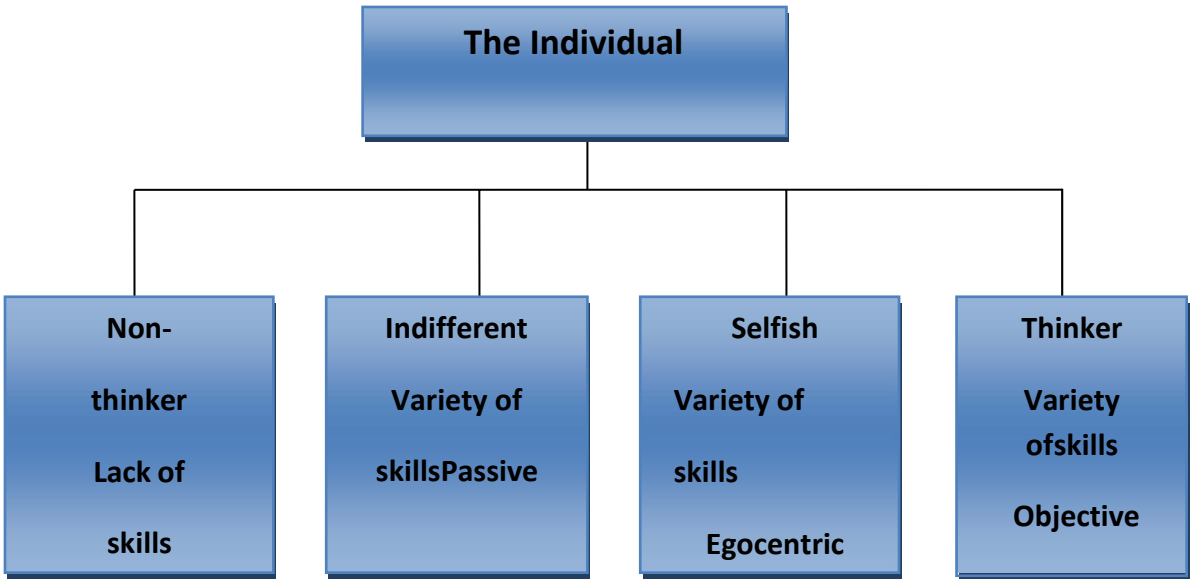


Figure 1: Thinking and the Individual (Fàbiàn, 2014)

According to *Fàbiàn* (2014), thinking varies from one individual to another depending on their behaviors; thus, he classifies the individuals into:

Non-thinker: according to Fábián (2017), the individual who witnesses an absence of thought or simply do not choose to think, he/she lacks thinking skills such as: processing and organizing information, making connections, decisions, and plans, asking questions as well as solving problems. Non-thinker is subject to manipulation; i.e., he is easily controlled and influenced by others opinions‟ without any reasoning, analysis, and critical thinking.

Indifferent thinker: based on Fábián's (2017) definition, the individual who has no preference or bias as being impartial in his/her thinking; therefore, he/she can use some skills such as giving a fair opinion and decision about aparticular situation where he is not directly involved. He/she is a passive thinker showing a complete lack of interest towards something.

Selfish thinker: according to Paul and Elder (2005,), the selfish critical thinker is good at thinking but unfair to others .He/she uses variety of skills during his/her process of thinking to get what they want. He/she is a competent thinker,

egocentric, greedy and unkind.

The thinker: the individual who is objective in his thinking and possesses all the thinking skills. He/she is the agent of thought who spends a lot of time in thinking deeply about something and produces new ideas as he/she reaches higher order of thinking skills: analysis, evaluation and creation.

According to *Anna Martin* (2017), some of the qualities that an independent thinker will bring to the table are: persistence, belief, independent self-esteem, confidence, determination and creative awareness. These qualities will enable him/her to become more innovative in their thinking and will help them create the best opportunities to demonstrate independent thinking in a positive manner.

Individual thinking is a valuable skill to be acquired. It is a tool used to improve personal expression and creative ability. As a result, some individuals are distinguished from being critical thinkers striving for reasonable thinking, whereas, others prefer to stop in lower-order of thinking and become non-critical thinkers

Critical Thinkers	Uncritical Thinkers
*Have a **passionate** drive for clarity, precision, accuracy, relevance, consistency, logicalness, completeness, and fairness.*	Often think in ways that are unclear, imprecise, inaccurate, etc.
*Are **sensitive** to ways in which critical thinking can be skewed by egocentrism, sociocentrism, wishful thinking, etc.*	Often fall prey to egocentrism, sociocentrism, wishfu thinking, etc.
*Are intellectually **honest** with themselves, acknowledging what they don't know and recognizing their limitations.*	Pretend they know more than they do and ignore their limitations.
*Listen **open-mindedly** to opposing points of view and **welcome criticisms** of beliefs and assumptions.*	Are close-minded and resist criticisms of beliefs and assumptions.
*Base their **beliefs on facts and evidence** rather than on personal preference or self-interest.*	Often base their beliefs on mere personal preference or self interest.
*Are **aware of the biases and preconceptions** that shape the way they perceive the world.*	Lack awareness of their own biases and preconceptions.
***Think independently** and are not afraid to disagree with group opinion.*	Tend to engage in 'group think', uncritically following the beliefs and values of the crowd.
*Are able to **get to the heart of an issue or problem**, without being distracted by details.*	Are easily distracted and lack the ability to zero in on the essence of a problem or issue.
*Have the **intellectual courage** to face and assess fairly ideas that challenge even their most basic beliefs.*	Fear and resist ideas that challenge their basic beliefs.
***Love truth** and **curious** about a wide range of issues.*	Are often relatively indifferent to truth and lack of curiosity.
*Have the **intellectual perseverance** to pursue insights or truths, despite obstacles or difficulties.*	Tend to preserve when they encounter intellectual obstacles or difficulties.

figure 2.

Figure 2: Difference between critical thinkers and non-critical thinkers(Reprinted from " George. J. Do private schools in Abu Dhabi UAE foster critical thinking as one of the main objectives of education?" Feb, 2015; 16)

1.2. History and Theoretical Background of Critical Thinking

The intellectual roots of critical thinking are as ancient as its etymology, traceable, ultimately, to the teaching practice and vision of Socrates 2,500 years ago who discovered by a method of probing questioning that people could not rationally justify their confident claims to knowledge. In this part, a brief history of critical thinking will be metioned as well as its theoritical background.

1.2.1. BRIEF HISTORY OF CRITICAL THINKING

Based on literature, the intellectual origins of critical thinking can be traced back to the practice, teaching and perception of Socrates who claims the importanceof asking probing questions rather than accepting and believing in any given ideas. According to Elder, Paul& Bartell (1997) the first to set the basic constructs of critical thinking was Socrate, including these actions as reflectively questioning common beliefs and explanations and carefully differentiating those beliefs that are reasonable from those that mark the absence of adequate evidence or rational foundation.

In the Middle Ages, some thinkers such as *Thomas Aquinas* embodied the tradition of systematic critical thinking in their writings and teachings. *Aquinas* emphasizes that our awareness is of need for reasoning to be systematically cultivated and "cross-examined" not only of the potential power of reasoning. Basing on his thinking, he believes that those who think critically reject only those beliefs that lack reasonable foundations.

In the renaissance (15^{th} and 16^{th} c), many European scholars started to think

critically about religion, society, art, human nature, law and freedom. Some of these scholars were Erasmus, Colet, and Moore. They followed up on the ancient views. As a result, the emergence of critical thinking from the Renaissance and Post- Renaissance thinkers paved the way to science leading to the progress of democracy, human rights, and freedom of thought.

It was in the core of intellectual freedom and critical thinking that *Robert Boyle* (17th century) *Sir Isaac Newton* (17th c and 18th c) highly contributed withtheir work in understanding CT. *Boyle* criticized the chemical theory that had preceded him in his *Skeptical Chemist. Newton*, in response, developed a significant framework of thought which criticized the traditional way of accepting the world view.He stretches the critical thought of such minds such as *Copernicus, Galileo, and Kepler*. Thinkers that came after *Boyle and Newton* reflected more on the natural world and argued that egocentric views must be avoided in favor of views based on holy collected evidence and proper reasoning.

In the 19th century, critical thought was stretched to further fields like human social life by *Comte and Spencer*. In terms of problems of capitalism, much of social and economic critique was made towards *Karl Marx*. When it is applied to the history of human culture and the basis of biological life, *Darwin's* ***Descent of Man***. Moreover, applied to the unconscious mind, it is illustrated by thework of Sigmund Freud. Applied to cultures; it has resulted in the foundation of the field of Anthropological studies. Applied to language, it led to the creation of thefield of Linguistics.

In the 20th century, the power and nature of critical thinking rose intensively in more clear formulations. In 1906, *William Graham Sumner* published a large study of the establishment of sociology and anthropology, ***Folkways,*** in which he mentioned the tendency of the human mind to think sociocentrically; similarly, the tendency of schools to

serve the uncritical function of social indoctrination. At The same time, *Sumner* avowed the urgent need of critical thinking in education.

Dewey (1910), an educator, suggested that thinking emerges from ambiguous situations. He believed that education should be student-centered and realistic offering a room for them to reflect in order to produce critical thinkers. From his work occurs the application of the idea of pragmatic basis of human thought and its grounding in actual human purposes, goals, and objectives. From the work of *Ludwig Wittgenstein* we enhanced our awareness for need to analyze concepts and assess their power and limitations.

From the work of *Piaget*, we raised our awareness of the egocentric and sociocentric tendencies of human thought and of special need to develop critical thought which is able to reason with multiple standpoints, and to be raised to the level of "conscious realization". From the extensive contribution of science, we have learned the power of information with great care and precision, and with sensitivity to its potential inaccuracy and misuse. From the contribution of depth-psychology, we knew how the human mind is self- deceived, how it easily unconsciously constructs illusions and delusions, how it easily rationalizes and stereotypes.

1.2.2. Theoretical background of critical thinking

The main concern of 20th century education was critical thinking. Throughout the evolution of critical thinking many frameworks flourished aiming at teaching thinking in general and critical thinking in particular. As a result there are many approaches towards critical thinking and the way it is perceived. The following are some of them.

1.2.3. Bloom

Dr.Bloom, in 1956, created ***Bloom's Taxonomy,*** which is a hierarchical ordering of learning objectives, or domains of educational objectives: cognitive, effective, and

psychomotor. In terms of cognition, he gave an early definition of critical thinking claiming that it is a mastery of different skills such as: knowledge, comprehension, application (Lower-order of thinking) analysis, synthesis, evaluation (Higher order of thinking skills). This Latter is frequently related to critical thinking and served as the basis to promote in higher forms of thinking in education. Later, Bloom's framework inspired many theorists in the field of critical thinking.

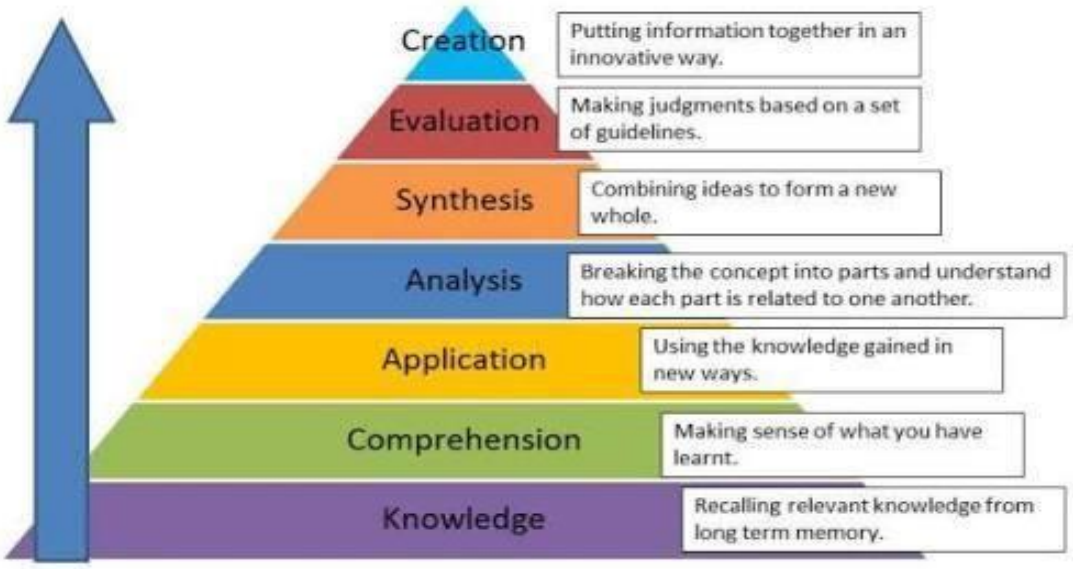


Figure 3: Bloom's Taxonomy Adapted from " Krathwohl D. A Revision of Bloom's Taxonomy: An Overview. Theory Into Practice. 2002; 41"

1.2.4. Brookfield

Brookfield (2012) portrays critical thinking as a process that comprises three stages where he equates critical thinking with the development of logical reasoning.

The first stage is called *"hunting assumption"*. Assumptions are principles in which our judgments and actions are focused on. In critical thinking it is extremely important to become aware about what the particular assumptions affecting our actions are. **The second stage** is called *"checking assumption"* .Once we know about assumptions, it is time to assess their relevance and accuracy. Instead of accepting the assumptions unquestionably, the critical

thinker takes into account evidence for the assumption. It may be something we encountered in our research, experienced, and transmitted to us by competent authorities. **The third stage** in critical thinking process is similar to what *Klooster* mentions about problem solving; viewing things from different angles. Pertaining different viewpoints aid us to be aware about what assumption is relevant and appropriate or futile.

1.2.5. Dewey

Dewey, an essential architect of the modern critical thinking movement, defines critical thinking as "Active, persistent, and careful consideration of a belief or supposed form of knowledge." (Dewy,1909,p.9).

1.2.6. Glaser

He is the co-author of the critical thinking test Watson Glaser *Critical Thinking Appraisal.* His definition is based on that of *Dewey*. Glaser (1941) describes Critical Thinking as ' a persistent effort to look at any belief or supposed sort of knowledge within the light of the proof that promotes and the additional conclusions to that it tends'

The striking difference between the two definitions of *Dewey and Glaser* is that the former speaks of "grounds" while the latter speaks of "evidence"; however, both agree on the importance of indicating basic motives of any belief when thinking critically .Also, their definitions incite to the importance of considering the results behind our thoughts and beliefs.

1.2.7. Norris & Ennis

Norris & Ennis (1989) approach a concise definition of this skill as a reflective

and reasonable thinking that stresses on the importance of deciding what to do or believe. *Ennis* (1987) presents critical thinking as a set of habits of using skills along with skills introduced by *Blooms*(1956).

1.2.8. Paul &Elder

These two remarkable leaders in the philosophical group of critical thinking theorists contributed effectively with their writing about the 21ST century skills. Generally, most of the researchers and teachers involved in the discipline agree on their definition. Paul and elder (2008) pointed out that critical thinking is the art analyzing and evaluating thinking with regard of enhancing it .

1.3. Definition of Critical Thinking

Despite the increasing body of literature about critical thinking, it suffers from a unifying definition. Some scholars view critical thinking as a gathering of diverse processes or competencies advanced earlier by Bloom in his taxonomy such as understanding, synthesis, evaluation and analysis. Jennifer Noon represents critical thinking in her book as a deep thinking process that enables us to distinguish what is wrong or right. Also it has to dowith one's analysis of his past experiences and engaging himself/herself in solving complex problems. Critical thinking is defined as a dynamic, purposeful, analytic process that results in reasoned decision and judgment.

Towards the end of 20th century, the concept of critical thinking has widely developed into a good thought, purpose of thinking, and the interaction between the thought and the thinking person. Critical thinking relies on some components such as standards, attitudes, competencies, experience, and specific knowledge base varying in critical levels from basic, complex to commitment, as it is depicted in figure 4.

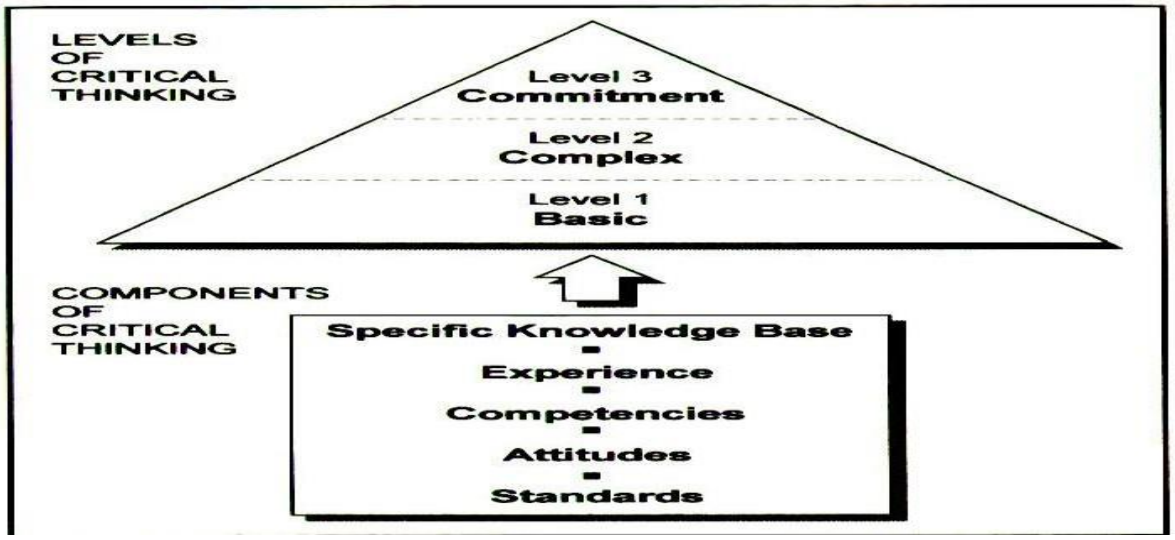


Figure 4: **Critical thinking models** **(Adapted from: Critical thinking skill in nursing practice)**

Critical thinking is a widely accepted educational goal. The definition is contested, but the competing definitions can be understood as distinguishing conceptions of the same basic concept-careful thinking directed to a goal-.

In addition, Delphi report reflects explicitly the dispositions dimension of critical thinking. It strives to bring success in educational instructions and assessment, through offering a sufficient description of the skills, sub-skills and dispositions characterizing the critical thinker.

1.4. Critical Thinking Skills

Critical thinking skills are important to the critical thinking process. According to The Delphi Report (Facione,1990) the six essential skills in any critical thinking process are:

a. **Interpretation**: The ability to understand information.

b. **Analysis**: The ability to identify the important arguments.

c. **Evaluation**: The ability to judge whether this argument is credible and valid based on the

logic and evidence given.

d. Inference: The ability to decide what to believe based on solid logic, and to understand the consequences of this decision.

e. Explanation: The ability to transfer the process of reasoning to other people.

f. Self-Regulation: The ability to monitor one's own thinking and correct flaws in logic.

1.5. Steps to Critical Thinking

Critical thinking can be defined as a process of questioning information and data. For previous thinkers, logic was the crucial method associated with it(*Moon , 2008)* . However, critical thinking is more than thinking logically or analytically; it also means thinking rationally or objectively. A distinction is necessary when teaching and developing critical thinking in students. Thus, Jennifer moon suggested few approaches that have been generated when there has been work to do with critical thinking such as teaching it or enhancing it.

Approaches to CT represent frames of reference or ways in which critical thinking was introduced or treated. These approaches are not certainly 'steady' – it is likely for a person to adopt several approaches at different times. *Moon* (2008) categorized these approaches into two groups: those that suggest a sequence of processes to be followed and those that simply list the components.

A common approach that suggests a sequence of processes, ie, to identify the component processes, skills and abilities in critical thinking usually in order to make the idea seem more comprehensible, more usable and to relate it to practice is that of Bell (1995) – writing in the context of psychology. His book is written for a student audience, is short, focused and specifically directed towards the activity of evaluating a secondary source. According to him, critical thinking can be considered a six-step process:

Step 1: Identify the Source – written by whom, where and when?

Step 2: Read to understand – looking for the central idea of the text, and the key points.

Step 3: Analyze the definitions of important terms – looking for concepts that are un-defined or ill-defined.

Step 4: Analyze the research evidence – identifying the evidence and noting any that is not complete.

Step 5: Evaluate the research evidence – looking for deficiencies in reasoning, looking at the dates of the study, subjects involved in experiments, research methods used, the results, the outcomes and given explanations, their explanations, and the conclusions drawn along with their relationship to the key points.

Step 6: Evaluate the rest of the source – looking at the supporting content of the other parts of the article (e.g. previous literature reviews) and at the end try to describe what you believe about the article's central idea relying on your critical thinking about the evidence and reasoning in the source.

The second group of approaches puts emphasis on the list of components and they are less specific about the sequence. An example of this approach is well represented by the comprehensive approach to the skills of critical thinking– that of *Cottrell* (2005). Her book ***Critical Thinking Skills*** *puts a great emphasis on* the identification and discussion of critical thinking skill components. The book is illustrated as taking an easy step-by-step approach to developing a set of critical thinking skills. It includes the following:

1. The identification of arguments and non-arguments
2. Recognizing the quality of the argument's statement
3. Recognizing assumptions and implicit arguments
4. Flaws identification in the arguments

5. Evaluating sources of evidence

6. The processes of critical reading as well as note-making. In addition to critical selection, interpretation, and noting of source material

7. Critical thinking in the context of writing

8. The evaluation of critical writing

As we have previously mentioned, these steps are not fixed as critical thinking can be approached and developed differently in different people. However, these two approaches provide a clear and concise structure for the teaching of critical thinking**.**

1.6. Barriers to Critical Thinking

Determining the approaches to critical thinking does not bring us into contact with all the issues that could be encountered in the exploration and development of critical thinking. Several researchers (Landsman & Gorski, 2007; Sandholtz, Ogawa, & Scribner, 2004; Sheldon & Biddle, 1998; Wong, 2007) put forward for consideration that the present educational trend to standardize curricula and focus on test scores undermines instructors' ability to address critical thinking inside and outside the classroom. The emphasis on "teaching for the score" distracts the learning process from student-centered instruction and puts the emphasis on the content. Furthermore, Paul (1987) argues that schooling is mostly based on working in a monological system of thinking –there is a truth that you need to know_. As a result, when learners leave school, they do not understand how to read, write, think, listen or speak in such a way as to organize and express what they believe". If the focus is on learning, students should be given the freedom (and responsibility) to actively interact with knowledge, explore content, analyze resources, and evaluate information.

Unfortunately, learners are not usually taught to think or learn by their own. Yet, they

seldom "pick up" these skills on their own (Ladsman & Gorski, 2007; Lundquist, 1999; Rippen, Booth, Bowie, & Jordan, 2002). Some students may be naturally inquisitive, however, some students feel anxious about questioning the work of experts. Critical thinking is not an innate ability and it is more than an activity that simply exists or does not exist for it varies in quality and perhaps depth (Moon, 2004, 35:41:45). Different students have different backgrounds, attitudes, interests, perspectives and habits of the mind, consequently, they have different conceptions and interpretations of the world that deeply affect who and how they are both inside and outside classrooms. This necessitates that students become aware of the barriers that might impede their thinking by acknowledging the challenges they encounter and be prepared to overcome them. Also, students should be trained to adopt the attitude of a critical thinker in order to become systematically analytical, fair, healthy skeptical, and open- minded in their pursuit of knowledge. By having these skills, they can become confident in their reasoning and can apply their critical thinking ability to any other content area (Lundquist, 1999).

The common pitfalls or barriers that often impede the integration of critical thinking in education:

- Lack of training
- Lack of information
- Preconceptions and over-reliance on emotions
- Time

First, teachers often are not trained to model or demonstrate critical thinking in classes. They are merely taught how to deliver content and provide instructions, which does not encourage a deeper understanding of views, or motivate students to engage in thoughtful discussions through which they can construct their own independent judgments. To overcome

this obstacle, teachers require further professional development and additionaltraining. Second, in order to effectively engage in critical and analytical thinking, both teachers and learners should read deeply and widely around a topic, learn how to ask questions and support their views with well structured arguments.

Third, both teachers and students have preconceptions about the content that renders them unable to think critically about the material. They tend to jump directly to conclusions ormake assumptions based on their misconceptions and personal bias. Such preconceptions partially prohibit critical thinking because they obviate analytical skills such as being fair, open-minded, and inquisitive about a topic (Kang & Howren, 2004). At last, time restrictions are barriers to implement critical thinking skills inside the classroom. When the focus is on content rather than enhancing students‟ skills and abilities, short cuts such as lectures and objective tests become the norm due to the overloaded content educators are obliged to cover up in such short time span. Whereas, research shows that lecturing is not the suitable method of teaching, and objective tests are not the best method of assessment and evaluation (Broadbear, 2003; Brodie & Irving, 2007).

1.7. Strategies to Develop Critical Thinking

Critical thinking switches classroom design from a model that largely ignores thinking to one that makes it pervasive and important (Cohen, 2010). Thus, teaching thinking, in general, and critical thinking, in particular, is a major concern for educators. As such, teachers are looking for interesting ways to effectively develop critical thinking in learners and integrate it into their classrooms. We shall present below some of the strategies that have been developed over time to foster critical thinking.

1.7.1. Raise Engaging, Thought-Provocative Questions

A great way to help students develop and practice critical thinking skills is to have them respond to open-ended questions that cannot be simply answered via standard research method.

Teachers can help students to refine their critical thinking skills by consistently providing effective and constructive feedback on the quality of their students‟ arguments, reasoning and thinking, instead of simply telling students they are wrong.

1.7.2. Encourage Objective Disagreement

In order to encourage students to develop critical thinking skills, they need to be encouraged to respectfully question other viewpoints and answers. If done appropriately, objective disagreement can be a great tool to help students sharpen their thinking skills. However, teachers must set a rule: no disagreement based on personal bias. Objective disagreement should always be rooted in logicand facts.

1.7.3. Problem Solving

This way of assigning a certain problem is one of the best methods for teaching critical thinking skills. It encourages students to use their critical thinking skills to identify the problem and then implement solutions.

1.7.4. Role-Playing

This method has always been excellent for exercising critical thinking. It encourages learners to do research about their roles in order to understand its persona

and characteristics. It encourages thinking and creativity, let's students develop and practice new language and behavioral skills in a relatively nonthreatening setting, and can create the motivation and involvement necessary for learning to occur.

1.7.5. Project-Based Learning

PBL generally requires students to use critical thinking skills to complete a specific, assigned task. That's why any class project that calls for learners to evaluate alternatives by weighing different points of evidence and then draw on those evaluations to reach the project's main objective will help students to develop critical thinking skills.

1.7.6. Peer and Group Work Interaction

Through team work and collaboration students will learn how excellent a source of information, questions, and problem-solving techniques their peers are. Group work interactions create a good environment for learners wherein they can develop their critical thinking skills.

2. Section Two: Group Work

2.1. Definition of group work

There are some many different ways in defining a group, according to Forsyth (2005), a group is one or two persons gathered for any collective work. Groups are defined as a fundamental part of human experience; they help people to develop more complex activities (Smith 2008). In other words, groups come about in a psychological sense because people realize they are in the same boat (Brown, 1988). Working in groups is a form of cooperative learning; we are guiding our efforts in a particular way. *Smith* (2008) they also add:

« *To engage with another thoughts , feelings, and to attend to*

our own. We have to be in a certain frame of mind. We need to be open to what is being said, to listen for meaning as well. We must not look for acting on the other person but join with them in a search for understanding».

Therefore, group work is an essential didactic strategy where students are subject to various roles and functions like helping each other, analyzing and discussing task's content as well as assessing and learning academically.

2.2. Importance of group work

Working in teams or in groups is considered as an important strategy in the teaching learning process. For teachers, group work helps them identify the types of interaction among their students in classroom helping them to acquire and develop proficiency of the language. Furthermore, Group work makes teaching effective and offers opportunities for teachers to observe and assess student learning as well as the practice of his teaching. For learners, working in groups develops their cooperative, social, communicative, and critical thinking skills. It aids students to discover individual differences among their classmates**.**

According to George, Michael. Power & Loh (2002) participating in cooperative learning enables students benefit in the following areas:

- Improved academic achievement.
- Active engagement in learning by learners, regardless of previous achievement level or individual needs.
- Increased motivation to learn
- Promoting and increasing learners' responsibility for their own learning process.
- Enhancing time on task (sometimes dramatically improved, compared to whole-class.)
- Improved collaborative skills
- Increased liking for school

- Improved student attitudes towards learning, school, peers, and one's self
- Increased ability to appreciate and consider a variety of perspectives and opinions.

2.3. Principles of Working in Groups

Group work is a crucial learning approach which can be beneficial for students when itis properly used. It is founded on the basis of a range of principles that are applied to all activities whether they are assessed or not. We shall briefly present some general group work principles suggested by researchers of Sheffield Hallam University (2011).

2.3.1. Preparation

Whatever the group task, it is vital that the purpose of working as a group and the expected outcomes of this are made clear to the students involved. The points below must be considered as follow:

- The linked learning outcomes besides to the rational ought to be clearly articulated to the students before starting, particular care should be given to any assessed group task.
- Working in groups involves a number of interpersonal skills which must be embedded in the curriculum and identified prior to, as well as facilitated during the assessed group work. These skills might include:
  - Emotional intelligence
  - Conflict resolution
  - Negotiation
  - Giving and receiving feedback
- Students need to have the chance to practice their interpersonal skills prior to undertaking a group assessment and activities.

2.3.2. Design

Group work should be designed with reference to the learning outcomes and should enable students to demonstrate these successfully. This may be through realizing the benefits of working together or through the produced outputs of the group.

The design of group work should equip students with knowledge and understanding of how individual roles contribute to groups at a level appropriate for the specified group work. The group tasks have to be both inclusive and accessible by design. Student needs and learning contracts where appropriate are taken into account. The opportunity for sell and/or peer assessment/Feedback should be built into the curriculum delivery and/or assessment strategy as necessary. Group and/or individual reflection on the group process should be included where needed. Design must contain an audit process for monitoring and supporting.

2.3.3. Monitoring and support

For group work to be a successful learning experience it needs to be supported and this, in turn, requires system in place to monitor the progress of groups. Monitoring ideally should be integrated into the way a group operates and be student-led.

- Support must be ongoing throughout the period of the group work with opportunity for tutor feedback and Intervention where necessary.
- Progress must be monitored and set intervals and remedial action taken by the tutor in case of difficulties based on information from audit process.

2.3.4. Assessment

Assessment has to take into account the following points:

- Should be conducted in such a way that it provides evidence of individual contribution and achievement of students.
- Need to take into consideration the process as well as the product of the group work.

- In the assessment of a group work activity no assessment task should consist solely of a flat group mark i.e. a common mark should be added to all participants based on the product and the efforts of a group activity.
- Marking criteria, including tutor and self/peer assessment criteria where appropriate, should be clearly articulated and provided to the group prior to the start of the group task(s). It means that these criteria should point out to a smooth and clear evaluation including individual's effort and his remarkable weighting in the group.

2.4. Types of Group Work Activities

In order to make students work cooperatively and collaboratively, teachers rely on various types of activities we shall list a few below.

2.4.1. Jigsaw

It is a well-known cooperative learning technique where the students are considered as experts of a particular aspect in any given topic. The students share their expertise and information with others (Loh & his colleagues, 2002). It is beneficial for all group members since by helping group mates to understand each piece of the jigsaw, each student helps the whole group to do better on the quiz or complete a better project.

2.4.2. Think-Pair-Share

According to George Jacobs & other associated researchers (2002), this strategy has three steps. First, students are in pairs. The teacher asks a question. Each studentspends time to think alone. Then members of each pair discuss with each other what they have learned. Finally, the teacher calls students at random. These students *share* about their pair's discussion.

2.4.3. Circle of Speakers

Group members take turn to speak. Obviously, we would not want to recommend Circleof Speakers (All at Once), because then there would be nobody listening, although we have seen groups that seemed to be attempting this **(**Michael 2002). he also stresses the idea that in Circle

of Writers and Circle of Speakers, individual accountability is promoted by the fact that individual group members are asked to provide an individual public performance by speaking or writing their ideas. Group mates view or hear these ideas as papers get passed around or ideas are spoken.

2.4.4. Numbered Heads Together (Kagan, 1994)

Numbered Heads Together is another important technique. It works through four steps. According to George (2002), first, students in foursomes each have a number: 1, 2, 3, or 4, as a second step, the teacher asks a question or gives a task. Then, groups put their heads together to respond to the problem or do the task. Finally, the teachers calls a number, and the student in each group with that number gives and explains their group's response or work.

2.4.5. Group Mind Mapping

One of the most popular types of graphic organizers are Mind maps (Buzan, 1994),along with their concept maps , cousins and word webs. Mind maps combine drawing, words, and the use of spatial relations to depict concepts and information relationships (Loh (2002).

2.4.6. Rotating Trios

Rotating Trios consist of learners discussing issues with many of their classmates in turn. Beforehand, teacher prepares discussion question. In class, he forms the groups in trios in a large circle then he gives them the discussion question, after that he suggests that each person take a turn to answer (Silberman 1995).

2.5. Challenges of Group Work

As shown in the literature, group work can be very beneficial and useful for learners if certain measures and principles are properly applied. Several experiments concluded that groups perform tasks better if their members work together rather than apart. The characteristics or principles of a 'group' such as: collective perception, needs, shared aims, interdependence,

social organization, interactions, cohesiveness and membership ensure that members learn broad skills and principles that help them be active and collaborative participants within any group. Group work interaction helps all members learn concepts and problem solving strategies, improve self-confidence and overcome the fear of mistakes (Davidson 1985; pp. 211–230). Group work can also be a convenient and helpful tool to help develop a positive attitude towards learning.

From a review by Webb, concerning studies investigating peer interaction and achievement in small scale groups, various compatible outcomes were achieved. Webb's review also showed that group work was useful when students were taught how to work in groups and how to provide and accept assistance.

However, GW presents a challenge for learners and teachers alike, especially when assessment is involved. In a competitive environment, learners are usually rewarded for individual efforts. Therefore, the grades assigned to group work can be unfair to one member or more of that group. Furthermore, GW can also sometimes lead to unsuccessful operations, mainly due to the lack of or poor application of the principles we have previously referred to.

Group work can be unproductive in many aspects. For instance, personalities, attitudes, schedules and confusion on the material can interfere with productive group work. In an ideal group, members contribute equally. In reality, less capable members of the group can sometimes leave it to others to accomplish and conclude the group"s exercises, whereas more capable student members might put in less effort to avoid doing all the work. Additionally, the amount of time spent explaining concepts can be positively correlated with the amount of time learning, so more capable members might learn a great deal by providing detailed explanations of the taught material to less able students struggling to comprehend as a captive audience (Kerr & Bruun, 1983, p 44, 78–94).

Conflicts in most cases arise when a group works together. Different people from different

backgrounds, with different experiences certainly have different perspectives, interpretations and analysis of the same situation. Some conflicts can push the group toward genuinediscussion that enhances the project, yet too much conflict affects the group dynamic negatively. Moreover, group work puts the learners in charge of their learning, which means learners are expected to explore the material covered in class in depth beyond the class information. When the concepts are not clear or a bit confusing, the group will struggle to complete the assignment.

Furthermore, some students thrive in a group setting, while others simply perform better when they work alone. Functioning effectively in teams requires students to develop strong communication, collaboration, and conflict resolution skills, which not all instructors are qualified to teach. Therefore, the teacher is required to keep up with the constant changes and the arising needs in the modern learning settings through being both an academic expert and a class manager to ensure the effectiveness of the groups.

2.6. Relationship between Group Work and Critical Thinking

It is believed that effective group work promotes the development of critical thinking skills. Proponents of "collaborative learning" claim that the active exchange of knowledge within small groups not only increases interest among learners but also fosters critical thinking. Studies demonstrate that the pedagogical customs of group work do produce higher achievement and more positive relationships amongst students, compared to competitive or individualistic experiences. According to Johnson (*1986*), cooperative teams achieve at higher levels of thought and retain information longer than students who work quietly as individuals. Thus, cooperative or shared learning gives learners a chance to engage in discussion, take responsibility for their learning and therefore become critical thinkers *(*Totten, Sills, Digby, Russ, 1991). Therefore, students are responsible for one another's learning as well as their own. Thus, the success of one member leads to the success of all.

Nathan Harter claims that the kind of critical thinking developed within learning groupsis

qualitatively different from that acquired by individuals. He also states that learning to participate in groups of people attempting to reason together is a core competency. Wheatley (2002) urged the need to create the conditions where we can think, where we can notice what is going on, and where we develop companions for the work that is required.

We are by no means trying to disavow the individualistic features of CT. In fact, the new collaborative paradigm actually puts a premium on a learner's interior discipline (Scott, 2001)*;* in another word, students are still expected to learn how to think individually, in private. Nevertheless, the need for groups and teamwork has arisen, therefore, the need to investigate their effectiveness.

So often in life, we resort to humans for scraps of information despite the availability of several different means where we can easily fill in the knowledge gap. Harter categorizes this utilitarian project of using other people to store and process information within the broader notion that the mind and self is somehow constructed socially. Ennis (1998) mentioned that critical practice is more readily accepted through shared decision-making processes at group level, if it can be , as a replacement of the individual level. So, he takes a constructivist stance towards CT.

Summary

To sum up, this chapter sheds light on how thinking critically is the most demanded skill in 21st century education. It is seen by many theorists as a vital part in the academic life of students. Furthermore, these sought-after critical thinking skills demand various techniques and strategies to be promoted. Hence, the most convenient one is that of group work. This latter does not only develop communicative and collaborative skills but also offers opportunities for the group mates to discover differences in their levels of thinking. Working cooperatively enables students to become the adventurous and broad thinkers, generate innovative solutions, use their

reasoning skills to analyze and evaluate, plan and think strategically. Finally, by relying on the principles and different group work activities, teachers create cooperative and thinking atmosphere that displays the mutual and strong relationship between group work and critical thinking.

Chapter Three: Methodology and Research Tools

Introduction

The previous chapter explored the existing literature about our main topic of interest: critical thinking and group work. The current chapter is devoted to presenting the research questions and aims. We shall present the research methodology we have undertaken, explain our research approach and then move to the description of the research design. After that, we must define the sample we have targeted in this study. Moreover, we shall mention the pilot of our study and the data collection procedures. Finally, the chapter will end with a summary of the chapter.

3. Research Questions and Aims

This study shed light on the relationship between the effect of group work on the development of critical thinking (CT) and how this development is affected by factors generated from group work activities. It attempted to provide an overview of knowledge about the implementation of group work in the classroom and how it affects the learning process.

Accordingly, the general aim of this study is to find out whether group work increases the level of interaction between learners, therefore, enhances the development of CT in students at Ferroudji Brothers Secondary School.

So, this research attempts to answer the following questions:

1.How do English teachers at Ferroudji Brothers Secondary School find the implementation of group work in their classes?

2.How do students at Ferroudji Brothers Secondary School find working in groups?

3.Does working in groups develop learners' critical thinking?

3.1. Research Design and Methodology

In this study, we have adopted a mixed method approach . We have collected and analysed both qualitative and quantitative data. Qualitative data is concerned with "intensive study, descriptions of events, and interpretation of meanings" (Schunk, 2012). Thus providing in-depth explanations, but this research paradigm involves only a few subjects (*Dawson,*2002); hence, the results cannot be generalized to other samples. The purpose of quantitative research is to generate knowledge and create understanding about the social world.

Research design is the structure within which research would be conducted (*Dawson,*2002).The current research follows a descriptive research design. Longman Dictionary of Applied Linguistics(2002) defines descriptive research as*" an investigation that attempts to accurately and factually describe a phenomenon, subject or area. Surveys and case studies are examples of descriptive research" (p. 152).* Descriptive research is, thus, concerned with several elements among which *Best* (1970) cited in Cohen etal. (2007) mentions: "*conditions or relationships that exist; practices that prevail; beliefs ,points of views, or attitudes that are held; processes that are going on; effects that are being felt; or trends that are developing*" (p205). Descriptive research systematically describes a situation, problem, phenomenon, service or programme, provides information about, say, the living condition of a community, or describes attitudes towards an issue. The subject we are tackling , that is, exploring the effect of group work interaction on English students' critical thinking development, requires a descriptive work.

3.2. Sample of the Study

The participants in this study are thirteen (13) students enrolled at Ferroudj Brothers secondary school Boumedfaa in Ain Defla during the academic year 2021-2022. Thirteen

participants, three males and ten females aged 16 and 17, were randomly selected from the second year scientific..... stream. The second sample consists of three (3) Algerian female teachers aged between 26 and 40 years old. Two of them have been teaching for 6 to 20 years, while the third other teacher has been teaching for 2 to 5 years. They have been selected to investigate the extent to which group work interaction affects the development of critical thinking.

3.3. Data Collection Tools

To collect data, the researchers used different tools. Data collection is the process of gathering and measuring information on variables of interest, in an established systematic way that enables one to answer stated research questions and evaluate the outcomes. In the following, data collection tools are to be mentioned and explained.

3.3.1. Questionnaire

Oxford dictionary defined the questionnaire *as "a written list of questions that are answered by a number of people so that information can be collected from the answers "(2010,p1201).*A questionnaire is a group of printed questions designed to collect information from the people who answer them (usually called *respondents*). The questions may be either open-ended, where respondents are required to answer in their own words, or multiple-choice, where respondents must select one or more answers from those provided. The respondents may also be provided with checklists or rating scales. The questions may concern the respondents' personal background, factual knowledge, attitudes or opinions. According to N. K. Malhotra (2006), a questionnaire is a set of formal questions used to collect data about any given phenomenon under study, NK. Malhotra added that the most important objective is to translate the researcher's data needs into straight forward questions for the respondents.

In this research, we have used two different questionnaires as instruments to collect data. One administered to teachers was self-developed based on our literature review. In contrast, the other administered to students was selected from a dissertation written by Anastasia Sofroniou and Konstantinos Poutos in 2015-2016 about, " The Effectiveness of Group Work in Mathematics", modified to suit our aim of t h e study. Both questionnaires consisted of open-ended questions, and different types of scales (rating scale, Likert scale) were used. We shall further explain our research instruments below.

3.3.1.1. Students'Questionnaire

Based on the research questions, the students' questionnaire aims at gathering data about group work, its effectiveness in the classroom and how it affects the learning process and to what extent does it develop critical thinking skill. Also , it aims to find out if working in groups affects the way students think . It is divided into two sections presented as follows:

Section one concerns students' background information and consists of two questions in which the participants are asked to indicate their age (Q1) and theirgenderQ2). Section two, refers to as students' views about critical thinking and group work, and includes three questions attempting to know students' general views about working in groups and how much of a critical thinker they are. It also includes ten statements aiming to know the extent to which students feel comfortable working in groups and how it affects their learning in general and the development of their critical thinking skills in particular. The items in this section require answers by putting a tick or cross according to the given rating scale (agree, moderate, and disagree).

3.3.1.2. The Students' Pilot Questionnaire

The learners' questionnaire was piloted to 10 second-year literary stream students of Ferroudji Brothers secondary school in Boumedfaa, AinDefla, from the 2 literary and philosophy 1 Class who were not included in the sample. This took place on April 20th, 2022. The

questionnaire was piloted to see how long it took learners to complete it and ensure that all questions were straightforward. This process will enable researchers to create a well-organized questionnaire and avoid any difficulty during the analysis and interpretation stages. The learner's answers revealed that the questions were clear and straight forward. So, the questionnaire is ready to be administered to the study sample.

The questionnaire trial run also allowed us to plan our coding frame by clustering our data directly on the computer using numerical labels to take steps towards drawing conclusions simultaneously as designing the questionnaire (Koran, 2012).

3.4. Teachers' Questionnaire

A written questionnaire was designed to gather information related to our research topic and to produce unbiased or relevant survey responses, comprises both open-ended where the respondent is supposed to be free to decide what to say and bow to say it and close-ended questions (yes/ no, multiple choice, rating scale, Etc). Based on the research questions, the questionnaire aims at gathering data about how English teachers at Ferroudji Brothers Secondary School find the implementation of group work in their classes. It is divided into three sections presented as follows:

The first section, concerns the teachers' background information, is composed of three questions (1 to 3), and the teachers are asked to indicate their gender(Q1),age range(Q2),and academic experience(Q3).

The second section, referred to as, Professional views on group work, comprises four questions (7 to 10). This section includes three open-ended questions: (Q1) how often do teachers use group work in their classes and when, which attempts to find information about how frequently teachers use group work and in which situations.(Q2) whether group work interaction

affects how their learners learn, which aims to elicit teachers' opinions about the relationship between group work and the learning process. (Q3) is group work consistent with their teaching philosophy. We have used the Likert scale, which comprises five options (strongly agree, agree, undecided, disagree, strongly disagree).This section comprises 24 statements describing the effectiveness of group work. Teachers were asked to select one option from (strongly agree=5, agree=4, undecided=3, disagree=2, strongly disagree=1).The items require answers by putting a tick (√) on the Likert scale that best reflects the teachers" position. Each statement intends to find out teachers' views about the effectiveness of group work.

The third section, named effectiveness of group work in developing critical thinking, consists of eleven statements (11) where the teachers are required to rate the extent to which group work affects promoting critical thinking by using the Rating Scale composed of 3 options. The items require answers by putting a tick (√) on the scale that best reflects the teachers' evaluation. Hence, teachers choose one option (largely, somewhat, and slightly).

3.4.1. The Teachers' Pilot Questionnaire

The teachers' questionnaire was piloted on four teachers of English at a secondary school in Ain Defla who are not included in the sample. All of them teach second-year streams. This took place on April 25th, 2022. The questionnaire was piloted to see how long it took teachers to complete it and ensure that all questions were straight forward. This process will enable researchers to create a well-organized questionnaire and avoid any difficulty during the analysis and interpretation stages. The teacher's answers revealed that the questions were not ambiguous. Thus, the questionnaire is ready to be administered to the study sample.

The questionnaire trial run also allowed us to codify our data directly on the computer using numerical labels to take steps towards drawing conclusions (Koran, 2012).

3.5. Administration of the Questionnaire

In this part, the researchers mention the administration of both students' and teachers' questionnaires. The questionnaires were addressed and administered as follows:

3.5.1. Students' Questionnaire

The students' questionnaire was administered on May 24th, 2022. Thirteen (13) randomly selected participants were given identical instructions on how to complete the questionnaire and introduced to the aim of our study. They were assured confidentiality, eventhough they were not asked to write their names. The questionnaire took the students nearly 20 minutes to be answered.

3.5.2. Teachers' Questionnaire

This questionnaire was addressed to three high school teachers of English at Ferroudji Brothers secondary school Boumedfaa in AinDefla on May 24th, 2022. This questionnaire took one day to be filled for one teacher and three days for the two others, depending on their free time and schedule.

3.6. Data Analysis Tools

The questionnaire's quantitative data were analysed through SPSS (version 22) for Windows 10, and the qualitative data were analysed using content analysis "Any technique for making inferences by systematically and objectively identifying special characteristics of messages." (Holsti, 1968 – Columbia university) .

The data gathered from the Likert scale items that is a rating system, used in questionnaires, that is designed to measure people's attitudes, opinions, or perceptions. Subjects choose from a range of possible responses to a specific question or statement; responses typically include "strongly agree," "agree," "neutral," "disagree," and "strongly disagree." Often, the categories of response are coded numerically, in which case the numerical values must be defined for that specific study, such as 1 = strongly agree, 2 = agree' and the multiple-choice items will be analyzed through descriptive statistics in the SPSS (version 22) . After the analysis of each item,

the total frequency and percentages rates of the responses will be presented in the form of tables and figures. The data gathered from open-ended questions will be analyzed through content analysis (Koran, 2012).

Summary

Chapter three has summarized the research methodology of this study. After describing the participants who contributed to this study and discussing its aims, the methods of generating data to find out whether group work increases the level of interaction between learners, and enhances the development of CT in students, have been explained. The questionnaires addressed to secondary school teachers and learners have been described, and the prepared questions have been selected according to the student's level of proficiency.

Chapter Four: Results and Findings

This chapter is devoted to the analysis of the data collected from the students and teachers' questionnaires. The results obtained contribute to answer the research questions: «Does working in groups develop learners' critical thinking? », «How do students at Ferroudji Brothers Secondary School find working in group? » and «How do English teachers at Ferroudji Brothers Secondary School find the implementation of group work in their classes? ». Thus, it helps to identify the effectiveness of group work on the development of critical thinking and provides further recommendations.

4. Data Presentation and Analysis of Students' Questionnaire Results

4.1. Section one: Background Information

Item 1: Age

The participants in this study are second- year, scientific stream, students enrolled at Ferroudji Brothers high school during the academic year of 2021/2022. They are of both genders aging between 16 and 17. They are Algerians, speaking Arabic as their mother tongue. They were selected randomly from 2nd year scientific classes.

Response	Frequency	Percentage	Percentage valid	Cumulative percentage
16,00	11	84,0	84,0	84,0
17,00	2	15,0	15,0	100,0
Total	13	100,0	100,0	

Table 1: Distribution of students' age

Item 2: Gender

Response	Frequency	Percentage	Percentage valid	Cumulative percentage
male	6	46,0	46,0	46,0
female	7	53,0	53,0	100,0

Total	13	100,0	100,0	

Table 2: Distribution of students' gender

Findings represented in the table above reveal that the dominant gender of the sample is females. Indeed 7 (53%) of the participants are female; whereas, 6 (46%) are male participants.

4.2. Section Two: Students' views about critical thinking and group work

The questionnaire filled by the 13 participants is the main source of feedback examined as the qualitative analysis section of this project. The results of the three first questions of the survey which require individual comments and opinions, have been summarized and grouped in a thematic way by considering the response frequency, as depicted in the following tables.

Q1 : I can think critically, logically and resonantly regarding a matter

Response	Frequency	Percentage	Percentage valid	Cumulative percentage
agree	12	92,0	92,0	92,0
disagree	1	7,0	7,0	100,0
Total	13	100,0	100,0	

Table 3: Students' attitudes toward thinking critically and logically.

Q2: How are you finding group work so far?

Response	Frequency	Percentage	Percentage valid	Cumulative percentage
helpful	11	84,0	84,0	84,0
I prefer working individually	2	15,0	15,0	100,0
Total	13	100,0	100,0	

Table 4: Students' views about group work.

Q3: Does group work interaction affect the way you think, make decisions and solve problems?

Response	Frequency	Percentage	Percentage valid	Cumulative Percentage
Yes	10	76,0	76,0	76,0

No	3	23,1	23,1	100,0
Total	13	100,0	100,0	

Table 5: Learners' opinions about the effect group work interaction.

From these responses, it is deduced that students in general can rely on their own thinking and logic to solve problems, produce hypotheses, and arrive to conclusions. The majority of students agree that they find group work helpful and useful when it comes to thinking matters through, augmenting and solving problems.

More detailed comments reveals that group work was found to be constructive, helping learners to deepen their understanding of the subject matter in general, and sharpening their thinking skills more particularly. Most participants believe that working in groups has improved their ability to appreciate and consider a variety of perspectives, detect problems in different situations and spot deficiencies in arguments. Acknowledging that group work promotes collaboration between classmates; strengthens their confidence to share opinions and exchange ideas more freely.

Statement 1: I enjoy working in groups

Response	Frequency	Percentage	Percentage valid	Cumulative percentage
agree	11	84,0	84,0	84,0
disagree	2	15,0	15,0	100,0
Total	13	100,0	100,0	

Table 6: The rate of students who enjoy working in groups.

Statement 2: I feel comfortable sharing my opinion when working in groups

Response	Frequency	Percentage	Percentage valid	Cumulative percentage
agree	12	92,0	92,0	92,0
disagree	1	7,0	7,0	100,0
Total	13	100,0	100,0	

Table 7: Number of learners who feel comfortable sharing opinions within groups.

Statement 3: Group work allows some students to be free riders, do little work whilst on the back of stronger students

Response	Frequency	Percentage	Percentage valid	Cumulative percentage
agree	7	53,0	53,0	53,0
moderate	5	38,0	38,0	92,0
disagree	1	7,0	7,0	100,0
Total	13	100,0	100,0	

Table 8: The rate of students who believe that one student do all the work.

Statement 4: I learn more about the subject matter working in a group than I would if I worked by myself

Response	Frequency	Percentage	Percentage valid	Cumulative percentage
agree	12	92,0	92,0	92,0
disagree	1	7,0	7,0	100,0
Total	13	100,0	100,0	

Table 9: Learners' attitudes concerning working individually.

Statement 5: Working in groups increases my ability to appreciate and consider a variety of perspectives

Response		Frequency	Percentage	Percentage valid	Cumulative percentage
V	agree	11	84,0	84,0	84,0
	moderate	2	15,0	15,0	100,0
	Total	13	100,0	100,0	

Table 10: Students who believe group work boosts the ability to consider other opinions.

Statement 6: Individual differences hinder the effectiveness of the Group.

Response		Frequency	Percentage	Percentage valid	Cumulative percentage
V	agree	2	15,0	15,0	15,0
	moderate	2	15,0	15,0	30,0
	disagree	9	69,0	69,0	100,0
	Total	13	100,0	100,0	

Table 11: Student's beliefs about individual differences and group work.

Statement 7: I benefit from the feedback I receive from the group members

Response		Frequency	Percentage	Percentage valid	Cumulative percentage
V	agree	8	61,0	61,0	61,0
	moderate	5	38,0	38,0	100,0
	Total	13	100,0	100,0	

Table 12: Learners benefit from group work interaction.

Statement 8: When conflicts arise in the group, I often try to generate genuine discussion for everyone to participate in and benefit from.

Response	Frequency	Percentage	Percentage valid	Cumulative percentage
agree	4	30,0	30,0	30,0
moderate	5	38,0	38,0	69,0
disagree	4	30,0	30,0	100,0
Total	13	100,0	100,0	

Table 13: Student's reactions when conflicts arise in the group.

Statement 9: I accept different interpretations and opinions of the other members

Response	Frequency	Percentage	Percentage valid	Cumulative percentage
agree	9	69,0	69,0	69,0
moderate	3	23,1	23,1	92,0
disagree	1	7,0	7,0	100,0
Total	13	100,0	100,0	

Table 14: Opinions variations and group work.

Statement 10: I can express my thoughts clearly, convincingly, and logically within a group

Response	Frequency	Percentage	Percentage valid	Cumulative percentage
agree	11	84,0	84,0	84,0
moderate	1	7,0	7,0	92,0
disagree	1	7,0	7,0	100,0
Total	13	100,0	100,0	

Table 15: Students' beliefs about the way they think within a group.

4.3. Discussion of the Questionnaires Results

This section presents the findings obtained from the students' questionnaire as one of the instruments employed to investigate the topic under study "Developing critical thinking skills through group work interaction".

The results gathered concerning students' perceptions about whether group work increases the level of interaction between learners, therefore, enhances the development of CT in students, indicated that the majority of the participants enjoy working in groups, feel comfortable sharing and exchanging knowledge in a group setting. However, as part of the opinioned responses, some students pointed out few possible pitfalls of working in groups, namely that it can slow down the lesson and that this form of learning can be non productive if only one member of the group does all the work.

They also agree that they learn better when working in groups than they do individually; they believe that group work enhances their ability to explore and contemplate different perspectives.

Most students seem to disagree that issues resulting from individual differences hinder the effectiveness of the group. On the contrary, they seem more inclined to accept and tolerate differences. They also seem indifferent to such inconveniences that working in groups allows some students to be free riders. In addition, the majority of the participants tend to play active and positive roles while working in groups when encountering any conflicts due to contradictory opinions. Besides, many students find the feedback they receive from other members beneficial and encouraging.

Taking into account the responses and view concerning group work in this intervention, it can be safely assumed that group work becomes also useful for social reasons as well as the positive effects on developing critical thinking. It was noted that working in groups helped to improve student's attitudes toward learning, in general, and allowed the struggling students to get over their anxiety and restrictions to become more free and comfortable sharing their ideas and interpretations. Moreover, group work is found to be more fun and enjoyable for learners as it increases the amount of learning achieved through discussions and problem solving and diminishes rote memorization.

4.4. Data Presentation and Analysis of Teachers' Questionnaire results

4.4.1. Section one: Background Information

Item 1: Gender

The participants in this study are three high school teachers at Ferroudji Brothers secondary school during the academic year 2021/2022. They are all females teaching second-year scientific stream.

Options	Responses	Percentage
male	0	0%
female	3	100%
total	3	100%

Table 16: Teachers' gender distribution

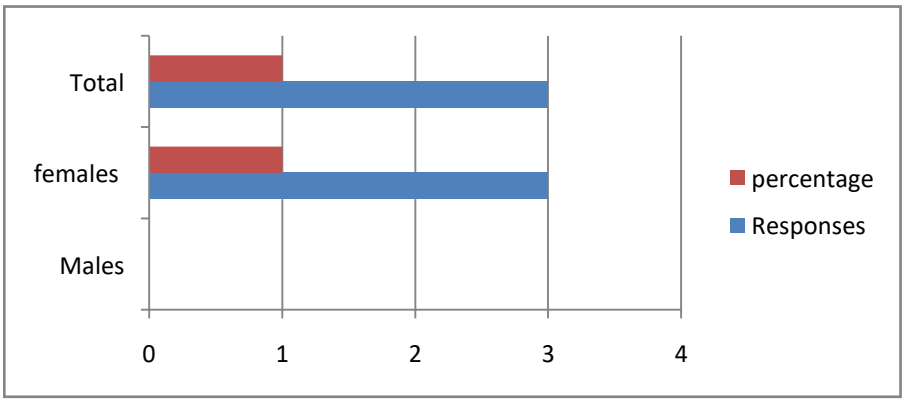


Figure 5: Teachers' gender distribution

Item 2: Teacher's age distribution

Age	Number	Percentage
20_30	2	67%
30_40	1	33%
40_50	0	0%
total	3	100%

Table 17: Teachers' age distribution

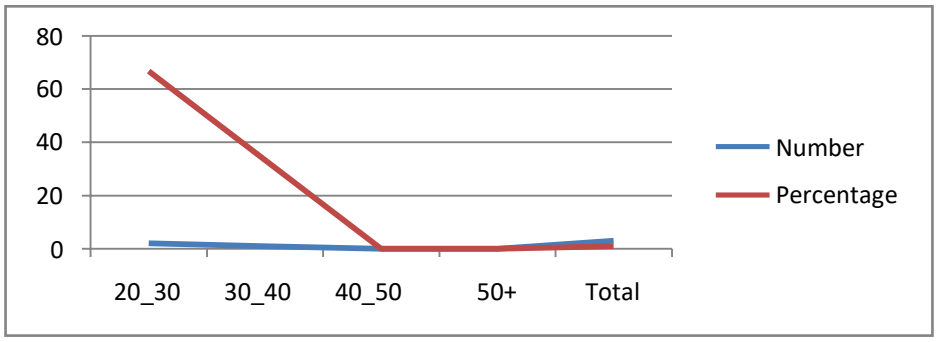


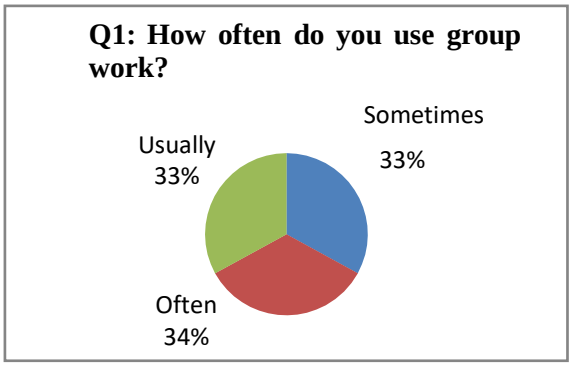
Figure 6: Teachers' age distribution

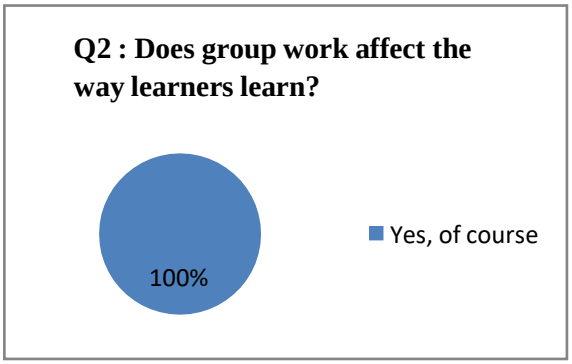
The table above shows that the participating teachers' age ranges from 20_30 to 30_40 years old. Therefore, answers are predicted to be different according to teacher's differences concerning their teaching experience and method of teaching, such as the use of group work in their classes. It is remarked that 66, 67 % of the sample are aged between 20_30 and only 33, 33 % are aged between 30_40.

Findings represented in the table above reveal that the dominant gender of the sample is females.

4.4.2. Section two : Professional views on group work

All the teachers responded to the first three questions. The results of these questions that require teachers' comments and opinions on the use of group work in their teaching method have been summarized and grouped thematically by considering the response frequency, as depicted in Figure **7**.





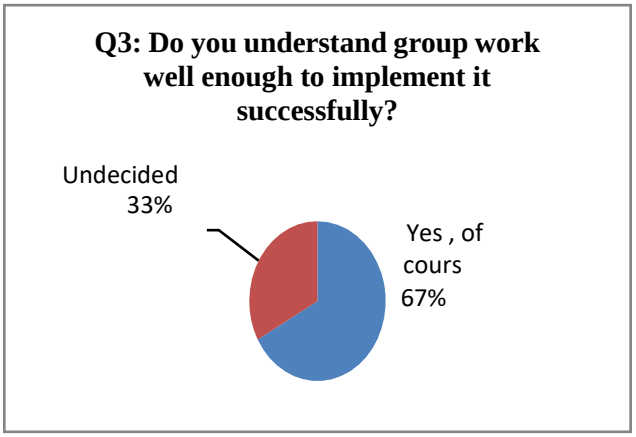


Figure 7: Teachers' responses to Q1_3

From these results, it is deduced that teachers do not always integrate group work in their classes; however, it is part of their teaching to some extent. While some teachers often use it, others usually or sometimes do. All three teachers claimed that they use group work when the task requires interaction and negotiation to encourage their students to create an environment of exchange. All the participants believe that working in a group positively affect show learners learn. It renders them the centre of the learning process, helps them learn more effectively and rapidly and motivates them to perform better.

Furthermore, two teachers admitted that they understood group work enough to implement it in their classes and that group work suits their teaching philosophy. However, one teacher remains undecided due to her insufficient understanding of this didactic learning form. She comments that this teaching strategy is still vague and, to some extent, difficult to handle, requiring a deep study and planning to include it in her class.

4.5. Effectiveness of group work

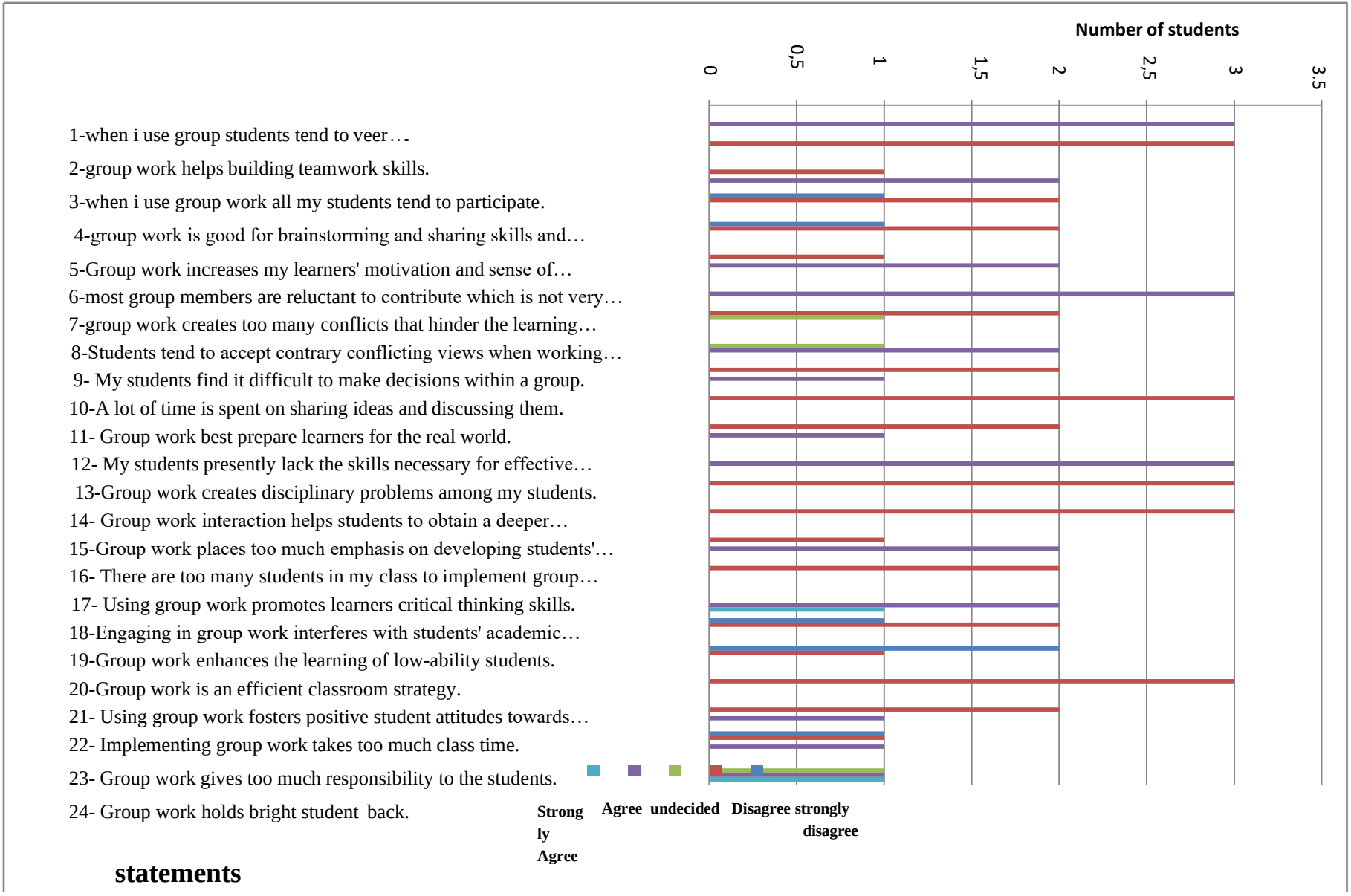


Figure 8: Teachers' Views About The Effective-ness Of Group Work

Figure 8 depicts, using a bar chart, an analysis of the Likert scale data of the questionnaire. It is noticed that teachers think that group work is an effective strategy to enhance the learning of low-ability students and foster their positive attitude towards learning. Besides group work offering a space for interaction, all teachers admitted that it gives too much responsibility to the students. Similarly, all teachers perceive group work as an excellent way to brainstorm and share skills and thoughts. Henceforth, teachers highly emphasize the importance of group work in developing students' skills, such as social, communicative, and critical thinking skills. As far as the results are concerned, all teachers are interested in integrating group work to serve their teaching goals.

The teachers vary in their positions towards further effects of group work. It is supposed that two teachers struggle to involve their students in working collaboratively. Nevertheless, the other ones do not face this kind of problem. While two teachers view that the considerable number of students in their classes prevents them from implementing group work tasks, the other does not see classroom seizing as an obstacle. One teacher thinks that her students presently lack the necessary skills to perform effectively within a group. They all disagreed that group work creates disciplinary problems and hinders learning. All of the respondents strongly disagree that group work holds bright students back.

Additionally, taking teachers' views into account in this study determines the positive effectiveness of group work and its helpful inclusion in the learning process. It was remarked that group work strives to develop more critical thinking skills. Moreover, group work is a crucial teaching strategy that aims to involve all types of learners.

4.6. Effectiveness of Group Work in developing Critical Thinking Skills

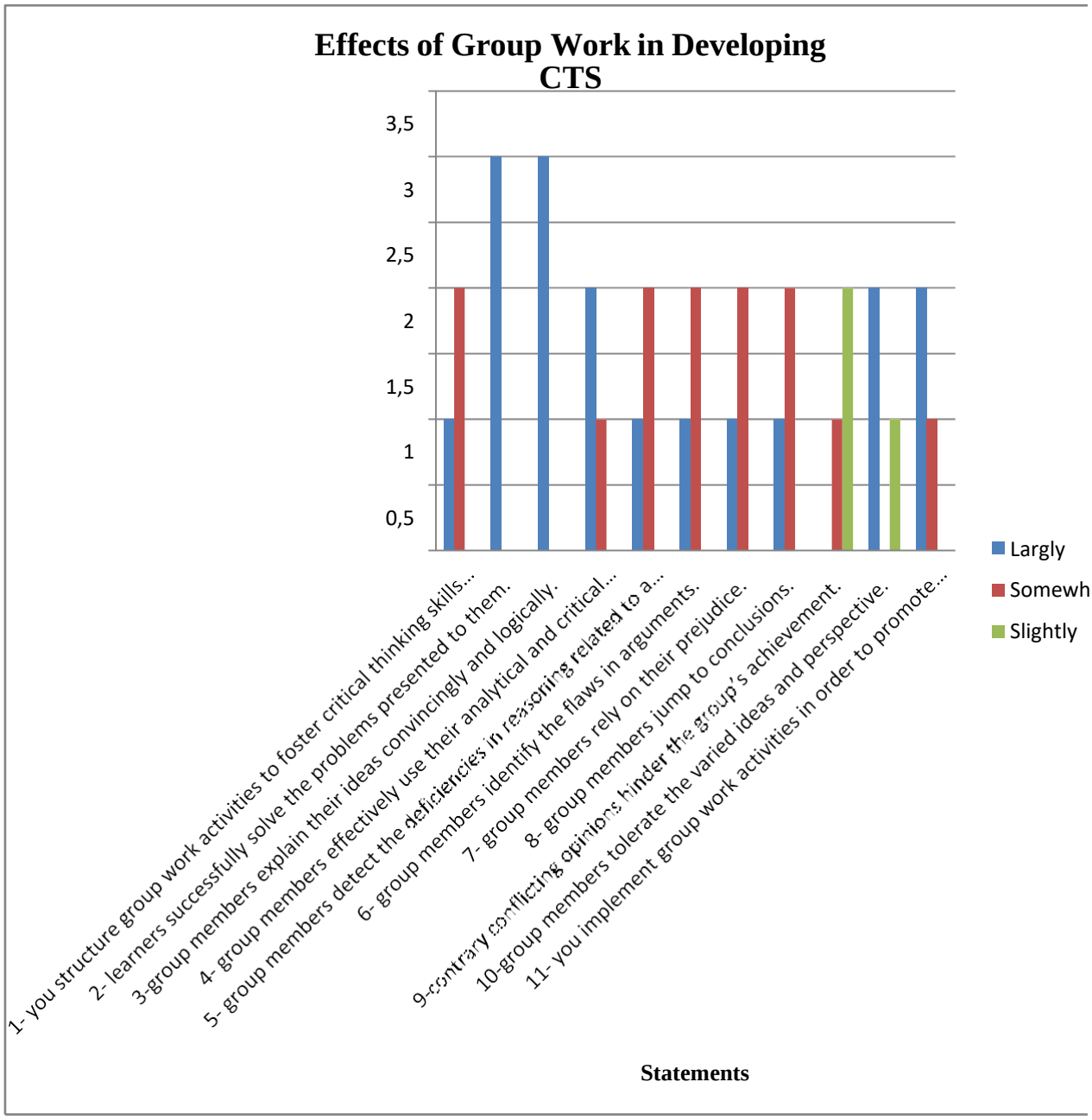


Figure 9: The effectiveness of group work in developing critical thinking.

Figure 9 displays, using a bar chart, an analysis of the rating scale data of the questionnaire. The significant conclusions here are that all teachers use group work in their classes. They all confirm that students succeed to a large extent in explaining their ideas logically and conveniently and solving the problems presented to them within a group.

Teachers vary in their rating of group work effectiveness in developing CT. Two teachers highly emphasize the importance of structuring group work activities to foster critical thinking in their students, while the other one gives less importance to this. One teacher thinks that students effectively use their analytical and critical thinking skills within groups compared to the other two. Also, the three participating teachers think that students do not always succeed in detecting reasoning deficiencies and identifying the flaws in arguments. However, they believe that their students slightly rely on their prejudices to solve matters.

They also think that their learners are tolerable towards contrary conflicting opinions, which endorses the group's achievement. Besides, considering the teachers' rank of the effectiveness of group work in developing critical thinking, it can be assumed that integrating cooperative tasks in their classes is a saveable strategy to foster learners' critical thinking. It was annotated that group work helps greatly enhance learners' reasoning and thinking towards many pedagogical issues. As far as the results are concerned, group work remains a suitable way to help learners overcome obstacles such that of restricted thoughts by encouraging them to think out of the box cooperatively and collaboratively.

4.7. Interpretations of the Results

4.7.1. Students' findings

Based on the analysis of the findings derived from students, questionnaire, we note that almost all the students opted for working in groups. This is, perhaps, because they are more accustomed to working cooperatively and collaboratively during their learning process. These students tend to feel more comfortable sharing ideas and opinions with familiar teammates. Henceforth, most students tend to be active and productive members in their groups. The researchers assume that this is due to the stress-free atmosphere teachers put their students in which encourage them to share and exchange their ideas and perceptions of various subjects.

Hence, group work is crucial for developing learner's highly cognitive skills. The students admit that group work increases the amount of learning through discussions and problem solving. We may consider that group work as an effective and suitable way to develop learners' critical thinking.

4.7.2. Teachers' findings

The study results show that group work is part of the teacher's plans to some extent. This may refer to the types of activities used by teachers in their class that don't require a collaborative work or their planning of the lessons lack the inclusion of group work. Furthermore, time management may be an obstacle for its integration. However, most of the participants agreed on the positive effect of group work mainly in promoting critical thinking skills. Although most teachers do not usually schedule group work in their teaching, it remains an interesting approach for fostering 21ST Century skills.

Summary

This chapter aimed to investigate the effectiveness of implementing group work at the high school level as a strategy to develop and foster critical thinking in learners. Two research instruments were used to reach the study's aim: teachers' and students' questionnaires. These tools helped to assess the effectiveness of group work to promote students' critical thinking and explore the students' perceptions about the implementation of group work. At the end of this chapter, it is possible to say that group work helped in deepening learners understanding of the taught material and they do feel comfortable working in a group setting and that it has helped them improve their critical and analytical skills, as well as their social and communicative skills.

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Chapter Five: Conclusion

The final chapter summarizes the critical research findings of the research questions and aims and discuss the value and contribution thereof. It will also review the study's limitations and suggest some recommendations for future research.

5. Study Aims and Overall Findings

The study aimed to explore the effectiveness of implementing group work to develop and foster critical thinking in learners. The results obtained from the discussion and analysis of the gathered data permitted us to draw several conclusions. In terms of students' perception of this didactic form of learning, group work helped them understand and perform better, a conclusion reflected in the responses of the majority of participants. The students taking part in this investigation further claimed that group work is convenient and they feel comfortable working within a group and that it has helped them improve their critical and analytical skills as well as learn more about the subject matter working in agroup than they would if they worked by themselves.

The teachers participating in this study have observed that working in groups allows many students to participate more in class. It helps them improve their self- confidence and overcome the fear of committing mistakes. They also believe that group work is a convenient and effective tool to help students develop a supportive attitude towards their learning. Moreover, teachers noted that though it is challenging to implement this strategy in class,the ending results are worth it. In addition, it was observed that students tend to be more tolerable of contradicting views and more contemplative of different perspectives. All three teachers point out that group work can frustrate both students and educators without careful planning and facilitation.

In addition, the aforementioned findings relate to similar experiences in literature by educators who have implemented group work in their own practice. For instance, *Yackel, Cobb and Wood*

(1991) found that small-scale group work problem-solving followed by whole class dialogue generated many learning opportunities that do not usually occur in a conservative tutorial or class, comprising opportunities for collaborative discussion and resolution of contrasting view points. Many studies demonstrate that the pedagogical customs of group work do produce higher achievement and more positive relationships amongst students than competitive or individualistic experiences.

5.1. Limitations of the Study

Despite the generally positive outcomes of this study which endorses the usefulness of group work, two possible limitations of this study are the small size of the sample and the data gathering instrument used for students. In this respect, the possible improvements would be to consider a larger sample size and conduct a group work interaction sessions for observation with an extended duration. The study was also limited by time which did not allow for conducting a deeper investigation and richer treatment.

5.2. Recommendations

From a broader perspective, 21st century world of labor requirements necessitate that employees possess 21st century skills such as critical thinking and teamwork skills, and are able to work on projects and solve problems effectively and collaboratively. Therefore, teachers need to train learners and help them develop these skills from a young age by putting them in similar settings to that of real world, where they are allowed to work on a various problems that require various skills. Teachers are also asked to consult more theories about this matter in order to have more insight into activities and techniques where working in teams is useful.

However, it is important to mention that group work model is not always the answer to all failing pedagogical practices. The teacher plays a crucial role in determining which practices are effective for class or level. The students should also be aware of their roles and responsibility during and after their learning process.

Summary

This chapter provides some suggestions and limitations. It starts with an overview of the aims and the interpretation of the findings. Then, the study's limitation are mentioned, and some recommendations for future researchers

References

Bell, J. (1995) *Evaluating Psychological Information*, Boston, Allyn and Bacon.

Browne M. Neil, Keeley Stuart M.. (2004). Asking the Right Questions: A Guide to Critical Thinking. (7th edition). Bowling Green State University.

Brown. R. (1988).Group Processes: Dynamics Within and Between Groups .University ofDelaware

Cottrell, S. (2005) *Critical Thinking Skills*, Basingstoke, Palgrave Macmillan.

Dewey. J. (1910). How We Think. University of Columbia.

Edward N. Zalta (1995). Stanford Encyclopaedia of Philosophy. Enter for the Study of Language and information, Stanford University.

Forsyth, D. R. (2018). *Group dynamics*. Cengage Learning.

George M.jacobs, Michael A. Power, and Loh Wan Inn(2002). The Teacher‟s Source book for Cooperative Learning.

Halpern, D. (1999). Teaching for Critical Thinking: Helping College Students to Develop theSkills and Dispositions of a Critical Thinker. New Directions for Teaching and Learning.

Landsman, J., & Gorski, P. (2007). Countering standardization. *Educational Leadership,64*(8), 40–41.

Longman *Dictionary of Applied Linguistics* (2002. P152)

Lundquist, R. (1999). Critical thinking and the art of making good mistakes. *Teaching inHigher Education, 4*(4), 523–530.

Mason, M. (2010). *Critical thinking and learning*. New York, NY: Wiley.

Mead, G. H. (1934, 1962). *Mind, self, & society*. Chicago: The University of Chicago Press.Moon.

J. (2008). Critical Thinking: an Exploration of Theory and Practice.

Oxford advanced learners dictionary (2010.)

Scott, T. K. (2001). The inner work of the leader. In S. Wilsey, L. R. Matusak, & C. Cherrey (Eds.), *Building leadership bridges 2001* (pp. 45-54). College Park, MD: International Leadership Association.

Silberman. Mel. (1995) .101 Ways to Make Training Active (2nd edition).

Smith, Mark K. (2008) „What is group work?“, *the encyclopaedia of informal education*

Stephen P. Norrisand Robert H. Ennis (1989) Evaluating Critical Thinking (Practitioner Guide to Teaching Thinking Series).(1st Edition)

Totten, S., Sills, T., Digby, A., & Russ, P. (1991). *Cooperative learning: A guide to research*.New York: Garland.

Walton Hall, Milton Keynes MK7 6AA (2008).Thinking Critically. The Open University.

Watson- Glaser (2002).Critical Thinking Appraisal. (UK Edition).

Wheatley, M. (2002). Restoring hope to the future through critical education of leaders. In C.Cherrey, & L. R. Matusak (Eds.), *Building leadership bridges 2002* (pp. 1-6). College Park, MD: International Leadership Association.

Articles

Alison Doyle(2019).Thinking critically, definitions, skills and examples .From https://www.thebalancecareers.com/critical-thinking-definition-with-examples-2063745

Anderson. R. Assistant Professor (2012). Moving Critical Thinking Research into the Classroom: A Review of Related Research and Translation to Practice. www.teach-usda.cals.vt.edu/best_practice/.../critical_thinking.pdf

Anna Martin (2017).The Importance of independent Thinking.

http://www.leadershipexpert.co.uk/importance-independent-thinking.html

Broadbear, J. T. (2003). Essential elements of lessons designed to promote critical thinking. *Journal of Scholarship of Teaching and Learning, 3*(3), 1–8. https://scholarworks.iu.edu/journals/index.php/josotl/article/view/1603

Burnard. P. Cremin. T. (2019). Thinking and Creativity. https://www.sciencedirect.com

Davidson, N. Small group cooperative learning in mathematics: A selective view of the research. In Learning to Cooperate, Cooperating to Learn; Slavin, R., Ed.; Plenum Press:NewYork, NY, USA, 1985; pp. 21 230.http://journals.openedition.org/educationdidactique/334

Dawson, C. (2002). *Practical research methods*. Oxford, UK: How To Books Ltd. Retrievedfrom http://www.general-files.com

Ennis R.H. (1998) Is critical thinking culturally biased? *Teaching Philosophy,* 21(1), 15-33. https://philpapers.org/rec/ENNICT

Fábián. Gyöngyi (2017). The Conceptual Framework of Critical Thinking in Education: A Proposal. University of Pannonia, Veszprém. https://www.researchgate.net/publication/313798231_The_conceptual_framework_of_critical_thinking_in_education_a_proposal

Hallam University and approved by Academic Development Committee (2011). Quality Enhancement and Student Success / Student and Learning Services. From https://www.shu.ac.uk/about-us/our-services/quality-enhancement/academic-quality-and- standards

Harter, N. (2009). Critical Thinking in Groups. (*Volume 8, Issue 1). Journal of Leadership Education.*https://www.researchgate.net/publication/270678110_Critical_Thinking_in_Groups

James J. Carpenter (2006).”The Development of a More Intelligent Citizenship), *John Deweyand the social Studies*. https://pdfs.semanticscholar.org/.../d0090f9127e466b5053bfdff72..

Johnson, D.W.; Johnson, R.T. Social skills for successful group work. Educ. Leadersh. 1990,47, 29–33.
https://www.researchgate.net/publication/234590538_Social_Skills_for_Successful_Group_Work

Johnson, D.W.; Johnson, R.T.; Smith, K.A. Cooperative learning: Improving University Instruction by Basing Practice on Validated Theory. J. Excell. Coll. Teach. 2014, 25, 85–118. https://eric.ed.gov/?id=EJ1041374

Kang, N., & Howren, C. (2004). Teaching for conceptual understanding. *Science andChildren, 42*(1), 28–32. https://eric.ed.gov/?id=EJ722110

Kerr, N.; Bruun, S. The Dispensability of Member Effort and Group Motivation Losses:Free-Rider Effects. J. Pers. Soc. Psychol. 1983, 44, 78–94.
https://www.researchgate.net/publication/232588976_Dispensability_of_member_effort_and_group_motivation_losses_Free-rider_effects

Kocak, Z.F.; Bozan, R.; Isik, O. The importance or group work in mathematics. ProcediaSoc. Behav. Sci. 2009, 1, 2363–2365. https://www.researchgate.net/publication/248606734_The_importance_of_group_work_in mathematics

Paul. R, Elder. L, and Bartell. T. (1997). California Teacher Preparation for Instruction in Critical Thinking: Research Findings and Policy Recommendations: State of California, California Commission on Teacher Credentialing. From https://eric.ed.gov/?id=ED437379

Paul, R. (1987) „Dialogical thinking – critical thought essential to the acquisition of rationalknowledge and passions", in J. Baron and R. Sternberg, *Teaching Thinking Skills*, New York, F. W. Freeman, pp. 127–148. https://psycnet.apa.org/record/1986-98688-007

Schunk, D. H. (2012). *Learning theories: An educational perspective* (6th ed.). Boston, USA: Pearson Education, http://www.docin.com/p-265473904.html February,2014.

S.Kay A. Thornhil, Melisa Wafer (1995), Improving Students" Critical Thinking Outcomes: A Process Learning Strategy in Eight Steps. University of Nebraska-Lin coln. https://digitalcommons.unl.edu/cgi/viewcontent.cgi?article=1346&context.

Webb. M, Jonathan D. Troper, and Randy. Constructive Activity and Learning in Collaborative Small Groups. Fall University of California, Los Angeles. Journal of Educational Psychology https://www.researchgate.net/profile/Noreen_Webb/publication/232599235_Constructive_Activity_and_Learning_in_Collaborative_Small_groups

Yackel, E.; Cobb, P.; Wood, T. Small-group interactions as a source of learning opportunities in second-grade mathematics. J. Res. Math. Educ. 1991, 22, 390–408. https://www.jstor.org/stable/749187?seq=1#page_scan_tab_contents

Reports

Facione, P. A. (1990) *Critical thinking: A statement of expert consensus for purposesof educational assessment and instruction*. California, Millbrae: The California Academic Press. https://eric.ed.gov/?id=ED315423

Essays

Facione, P.A. (2013) Critical thinking: What it is and why it counts. *InsightAssessment*. accessed 31 July 2015.
http://spu.edu/depts/health-sciences/grad/documents/ctbyfacione.pdf

Guides

Richard Paul and Linda Elder (2005). Foundation for Critical Thinking: A Guide for Educators to *Critical Thinking Competency*. Master Rubric. www.criticalthinking.org/resources/.../CT-competencies%202005.p

Websites

https://www.healio.com/nursing/journals/jne/1994-10-33-8/%7B2dafb80c-152a-4b0e- ae16-e69d646a173d%7D/a-critical-thinking-model-for-nursing-judgment

https://en.wikipedia.org/wiki/Bloom%27s_taxonomy

https://linkinglearningoutcomestoassessments.wordpress.com/bloomstaxonomy

https://www.pinterest.com/pin/154177987216302873

https://www.open.edu/openlearn/ocw/mod/oucontent/view.php?id=64740&section=1

https://www.wabisabilearning.com/blog/7-critical-thinking-strategies

Appendices

Appendix A

Students' questionnaire

Dear students,

This questionnaire is an essential part of our study. It aims at investigating the effectiveness of group work in developing critical thinking skills. You are kindly requested to put a tick √ next to each statement where your true feelings and thoughtsare required.

Thank you so much for your time and for your cooperation

Section One: background information

1) **Age:** …..

2) **Gender:** a- Male (….)

b- Female (….)

Section Two: students' views about critical thinking and group work

1. Answer the following questions briefly

Q1: I can think critically, logically and resonantly regarding a matter, do you agree/disagree

Q2: How are you finding group work so far? Helpful / I prefer working individually.

Q3: Does group work interaction affect the way you think, make decisions and solveproblems? Yes , it does / No it doesn't.

For each of the following statements, please tick /cross the response on the answersheet that best corresponds to your position.

Statements	agree	moderate	disagree
1. I enjoy working in groups			
2. I feel comfortable sharing my opinion when working in groups			

3. Group work allows some students to be free riders, do little work whilst on the back of stronger students.			
4. I learn more about the subject matter working in agroup than I would if I worked by myself			
5. Working in groups increases my ability to appreciate and consider a variety of perspectives			
6. Individual differences hinder the effectiveness of the Group.			
7. I benefit from the feedback i receive from the group members			
8. When conflicts arise in the group, i often try to generate genuine discussion for everyone to participate in and benefit from.			
9. I accept different interpretations and opinions of the other members			
10. I can express my thoughts clearly, convincingly, and logically within a group			

Appendix B

Teachers' questionnaire

Dear teachers,

The following questionnaire is an essential component of our study which aims at investigating the extent to which group work affects the development of critical thinking skills. It is greatly appreciated if you spare your valuable time to answer this questionnaire.

Your precious contribution in this modest research is mostly appreciated and would be of a great assistance. Please accept in advance our honest thanks and gratitude.

Section One: Background Information

Please, put a tick (√) in the appropriate box and/or give your answer wherever necessary.

1- Gender:

a. male (….)

b. Female (….)

2-Age range:

a- 20_30 (….)

b- 30_40 (….)

c- 40_50 (….)

d -50+ (….)

3- Academic experience:

a. **0** to **1** years (….)

b. **2** to **5** years (….)

c. **6** to **15** years (…..)

d. **16** to **24** years (……)

e. **25 years or more (….)**

Section Two: professional views on group work***:***

1. Answer the following questions:

a. How often do you use group work in your class?

b. Does group work interaction affect the way your learners learn?

c-Do you understand group work well enough to implement it successfully?

2. For each of the following statements, please tick /cross the response on the answersheet that best corresponds to your position.

Statements	Strongl yagree	Agree	Undeci-ded	Disagree	Strongly disagree
1. When I use group work, students tend to veer off task.					
2. Group work helps building up teamwork skills.					

3. When I use group work, all my students tend to participate.					
4. Group work is good for brainstorming and sharing skills and thoughts.					
5. Group work increases my learners' motivation and sense of responsibility.					
6. Most group members are reluctant to contribute which is not very encouraging.					
7. Group work creates too many conflicts that hinder the learning process.					
8. Students tend to accept contrary conflicting views when working in groups.					
9. My students find it difficult to make decisions within a group.					
10. A lot of time is spent on sharing ideas and discussing them.					
11. Group work best prepare learners for the real world.					
12. My students presently lack the skills necessary for effective cooperative group work.					
13. Group work creates disciplinary problems among my students.					
14. Group work interaction helps students to obtain a deeper understanding of the material.					
15. Group work places too much emphasis on developing students' social, communicative, and critical thinking skills.					
16. There are too many students in my class to implement group work effectively.					
17. Using group work promotes learners critical thinking skills					
18. Engaging in group work interferes with students' academic progress.					
19. Group work enhances the learning of low-ability students.					
20. Group work is an efficient classroom strategy.					
21. Using group work fosters positive student attitudes towards learning.					
22. Implementing group work takes too much class time.					
23. Group work gives too much responsibility to the students.					

24. Group work holds bright students back.					

Section Three: effectiveness of group work

Please, rate the following statements by ticking/crossing the response that fits you most:

Statements	largely	somewhat	slightly
1. Rate the extent to which you structure group work activities to foster critical thinking skills in your learners.			
2. In a typical group work activity in your class, rate the extent to which Learners successfully solve the problems presented to them.			
3. In a typical group work activity in your class, rate the extent to which group members explain their ideas convincingly and logically.			
4. In a typical group work activity in your class, rate the extent to which group members effectively use their analytical and critical thinking skills.			
5. In a typical group work activity in your class, rate the extent to which group members detect the deficiencies in reasoning related to a given matter.			
6. In a typical group work activity in your class, rate the extent to which group members identify the flaws in arguments.			
7. In a typical group work activity in your class, rate the extent to which group members rely on their prejudice.			
8. In a typical group work activity in your class, rate the extent to which group members' jump to conclusions.			
9. In a typical group work activity in your class, Rate theextent to which contrary conflicting opinions hinder the group's achievement.			
10. Rate the extent to which your group members tolerate the varied ideas and perspective.			
11. you implement group work activities in order to promote learners' critical thinking skills.			