



## Prospects for Raising Critical Thinking Competency through Project-Based Learning in EFL Classroom

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## Prospects for Raising Critical Thinking Competency through Project-Based Learning in EFL Classroom

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### Abstract

The last decade has witnessed a drastic change in technology and rapid communication. Therefore, rapid changes in the process of education have been evident; as technology has been used by students to solve complex issues and challenges through authentic tasks and learning activities which can reflect their real life rather than classroom-based tasks. This can enable them to play diverse roles and promote their thinking skills along with creative, judgmental, and critical thinking skills, social communication, collaboration, creativity and innovation. Hence, increasing students' critical thinking abilities can be promoted through cooperative learning in which students can create concrete results to represent what they have learned. This study would like to be a part of investigating the role of using project-based instruction in raising students' critical thinking skills in an EFL classroom. To further up the study, the researcher has opted for a classroom observation which aimed at assessing the level of students' ability to perform tasks through solving problems, analyzing, inferring, and evaluating. The findings would like to affirm that students who have been directed through project groups have been exposed to a favorable learning environment which enabled them to think critically by reflecting on their own learning and draw on personal knowledge autonomously.

**Keywords:** Cognitive skills, Project group, Cooperation, EFL context, Critical thinking

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### Introduction

Throughout the last decade, critical thinking pedagogy has been developed promptly, reflecting the changing goals and methods of education in response to the technological advances in the EFL context. As the financial managements of new institutes has intrinsically affected the educational policy and particularly productivity and individual capacity, teaching pedagogy in education has shifted from thinking of students as users of information aiming to develop students' cognitive and higher order thinking skills. On the other hand, due to technological advances, students became in need for analyzing and evaluating information to raise their cognitive skills to be able to solve complex problems. Ultimately, changes in pedagogy of teaching also require the changes of the role of both teachers and students.

Technological changes contributed to increasing students' capacities for problem solving, decision making, innovation, inference, and creativity. Critical thinking yet can be deeply related to the emotional and intellectual relationship with the individual himself, the others, and the learning context. Critical thinking development of students stands for the capacities of educationalists to implement the appropriate teaching pedagogies which can increase the students' critical abilities in the learning classroom (Dale, 2000 & Rizvi, 2007). Individuals are expected to think critically since their birth which can be noticed when children tempt to ask questions continuously. Nonetheless, in traditional classroom education the educational system may prevent questioning attitudes and cooperative learning, and require students to adjust with the existing learning methodology. Students then become restricted to the rules and become conformable and receivers of information. Therefore, the teacher will adopt a traditional environment with particular methods of teaching in which students are the submissive and silent in the learning classroom. On the other hand, students in the EFL classroom may not be able to answer certain questions due to the quality of the lesson content or knowledge which will lead teachers to feel obliged to answer all their questions.

This could be due their limited knowledge or professional development as they consider their teacher the only source of knowledge and the only authority. This habit of preventing students from asking questions in the EFL classroom can consistently restrict learning strategies such as discussion, interaction, questioning and peer questioning, and debating. Educationalists in the EFL classroom can raise their students' critical thinking skills by incorporating instructional strategies which can engage students in the learning process by being active and independent learners. Teachers should put emphasis on the learning process rather than on the content, as they should avoid using traditional strategies such as structured drills and memorization (Abdallah, 2021; Alsher, 2021; Ersan & Uslu, 2020; Paudel, 2021; Unsal Sakiroglu, 2020; Uslu & Ersan, 2020; Uslu, 2020).

This study aims at exploiting the role of interactive teaching strategies in creating a high level of critical thinking process in the ELT classroom in Algerian higher education. It tempts to diagnose particular teaching strategies which may be employed in EFL classrooms along with interactive and cooperative teaching strategies such as questioning, debating, and cooperating with peers. This study aims at exploring the effects of project work on improving students' progress in performing a task. Hence, prior to the aim of the study, the researcher seeks to identify the stimulation of EFL students' critical thinking skills through interaction, debating, peer questioning, and group work for the sake of achieving self-directed learning. Regarding the problem of the study, we can raise the question of the extent to which can project-based learning contribute to stimulating students' critical thinking competency in a language class. In this vein, students who are exposed to project work activities are more likely to be active learners and more self-guided. Therefore, a frequent use of project work strategies will provide authentic self-reflection and high level of response by thinking critically, in addition to providing readiness for creating the learners' own learning independently and making choices, setting goals, solving problems, monitoring, and self-evaluating the learning progress.

## **Review of Literature**

### **Critical Thinking**

A set of related literature on the notion of critical thinking affirm its relation with the teaching philosophy of the Greek Socrates who embedded these skills through a series of probing questions (see Figure 1). Therefore, learning during ancient times was through self-reflection and self-inquiry which required the justification of existing claims and knowledge. This teaching practice denies the authority of singular perspectives, knowledge and power. The positive outcome of this approach to learning was seen in terms of raising an individual's confidence and in the ownership of living a self-examined life; a life of quality (Gagren, 2010).

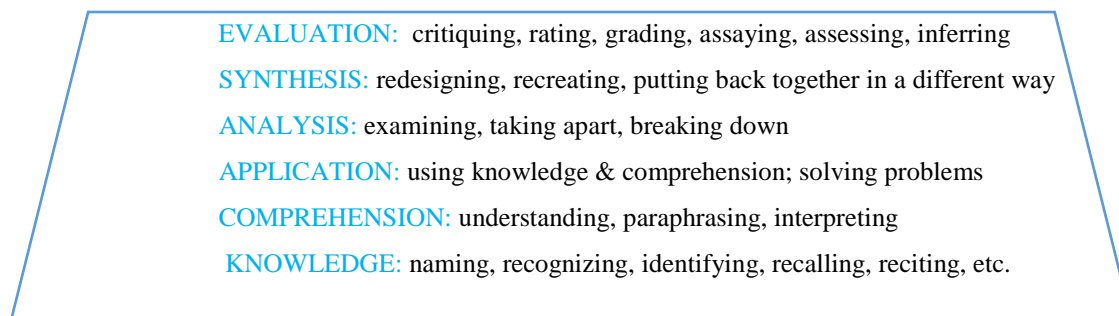


Figure 1. Bloom's Taxonomy: Levels of Critical Thinking (Bloom, 1965, cited in Armstrong, 2010)

In the English language teaching classroom, students need critical thinking skills to give convincing answers, supporting evidence, and to challenge others' arguments. Critical thinking is a self-regulatory and reasoned which encourages evaluation, problem solving, making inferences, making thoughtful decisions, and analysis. As students can be reflective thinkers by being able to decide what to do and be more aware of the meaning of language rather using it. According to Kabilan (2000), critical thinking must be used through language as students can engage in learning tasks with reflecting and interfering in different contexts.

Teaching critical thinking may have different conceptualizations in the ELT context. It is considered as "social practice" (Atkinson, 1997, p.72) as it is affected by the social and cultural context of the learner. To guarantee the achievement of critical thinking, students need to be exposed to a set of strategies of learning to increase their critical skills. Teachers of language should direct them to a problem or a situation in order to synthesize and make reasoning. According to Paul and Elder (2001), students may be encouraged to acquire knowledge by expressing it in a set of lectures, and then are asked to internalize it outside the classroom. Students must be exposed to multiple perspectives to interpret a situation or problem in order to stimulate their cognitive development based on their social and cultural environment (Kloss, 1994).

Critical thinkers can grow intellectually and gain self-development continuous knowledge acquisition (see Figure 2). Critical thinking can be viewed as a pedagogical competence of the teacher and a learning tool to help the students be self-directed learners. It is "purposeful, self-regulatory judgment which results in interpretation, analysis, evaluation, and inference, as well as explanation of the evidential, conceptual, methodological, or contextual considerations upon which that judgment is based" (Facione, 1990, p. 02). In the critical thinking process, educationalist must provide different perspectives and situations to engage their students in the process. Students are involved in evaluating assumptions and facts through cooperation. They can make decisions about the construction of the knowledge.

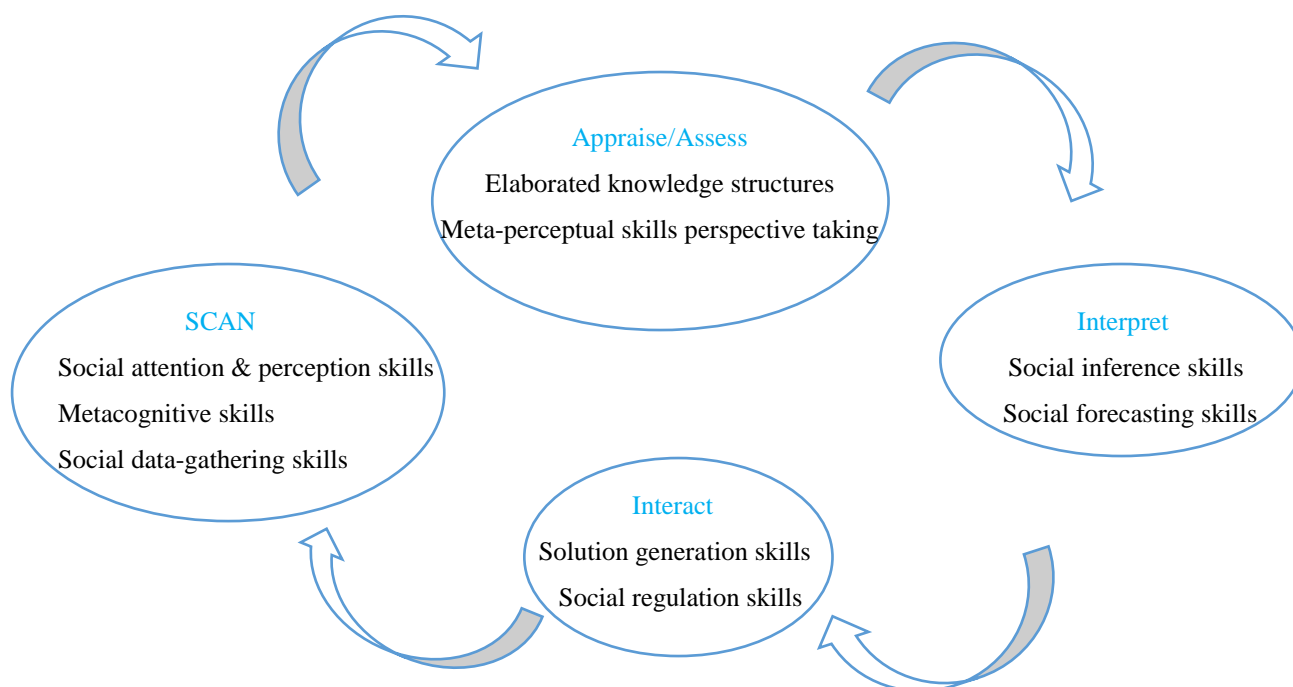


Figure 2. Critical Social Thinking Process Model (Adapted from Grossman et al., 2014, p. 07)

Critical thinking can be guaranteed when students are engaged in thinking rationally, empirically, and reasonably through using interactive teaching tools such as engaging in discussions, debating, and asking questions. These tools can help students analyze, assess, and evaluate thinking. As they can be provided with a spirit of inquiry, critical thinking disposition, and group work. Students yet can develop an argument and use evidence to support their argument, make reasoned conclusions, and solve problems through the information they use and the knowledge they construct.

### Teaching EFL Students through Project-based Learning

EFL students can construct knowledge and develop skills through experience and solving real life problems. Therefore, in the ELT classroom, teachers may be looking for fostering teaching pedagogies for achieving creativity among students especially with technological innovations. Further, the integration of learning activities which can stimulate students' cognitive skills, attitudes, decisions has been a matter of interest. Thus, these requirements to achieve creativity and lifelong learning in the classroom brought project-based learning into practice in many higher educational institutions.

Project-based pedagogy has gained its place as an inquiry-based teaching practice through which students can accomplish learning tasks in the classroom. It has been considered to be effective in the 21st century educational setting. PBL appeared in the first half of the 18th century, and it was first pioneered by David Snedden (Beckett, 2006) Later, in the early 19th century, it was developed by William Heard Kilpatrick whose argument was about emphasizing need for having purposeful tasks ( Muniandy, 2000; Wolk, 1994).

Students have the opportunity to construct knowledge by generating their projects based on their intellectual ability, motivational awareness, and individual differences. They can relate their new knowledge and their prior knowledge apply them to similar learning contexts in order to output lifelong efficient learning outcomes (Wrigley, 1998). Project-based learning is a way of teaching which regulate learning around projects. According to Thomas (2000), projects are: “complex tasks, based on challenging questions or problems, involving students in design, problem solving, decision making, or investigative activities; giving students the opportunity to work relatively autonomously over extended periods of time; and culminating in realistic products or presentations” (p. 1).

It is an instructional learner-centered tool which can allow students work cooperatively to accomplish complex tasks, challenge assumptions, or make a performance and therefore achieve lifelong and stimulate higher order thinking skills (Savery, 2006). The word “project” in EFL classroom context has been first coined by Fried-Booth who emphasized that language tasks can be efficiently created from the project itself, “developing cumulatively in response to a basic objective, namely, the project” (Fried-Booth, 1986, p. 8) On the other hand, Hedge (1993) considered projects in the classroom as extended activities which are integrating to language skills. These activities are accomplished for one shared goal and may include goal setting, questioning, planning, and brainstorming through language skills, peer work, observing, and cooperation, problem solving, debating, and interacting. Hence, project work is a collaborative way of learning which involves all the students to contribute and agree to one goal; as it lies within experiential and interactive teaching which emphasizes students’ self-reflection and regulation (Helle et al., 2006).

Project-based learning can be deeply related to other teaching methods along with the interactive approach, cooperative learning, it also can be related to problem-based instruction (Tynjälä & Olkinuora, 2006). Both learner-centered approaches put emphasis on the students to collaborate and work cooperatively to guarantee the achievement of the learning objectives and goal (see Figure 3). When engaging with a project, students need to face a block which needs to be addressed in order to produce and achieve the final product based on their problem and questions asked at the beginning of their task.

In problem-based learning, the focus is on the learning process, rather than on the final product as in Project-based learning (Blumenfeld et al., 1991). Wrigley’s (1998) project work involves a series of steps including choosing a topic, planning, making research, and goal setting. According to Blumenfeld et al. (2000), project-based learning involves the students’ need to construct knowledge by solving real life problems and using their skills to be able to ask questions, make investigations, research, analyze assumptions, draw conclusions, and report findings. Projects Approach in EFL classrooms can be applied differently by educationalists, as it has one shared learning goal. Occasionally, Papandreou (1994) proposed a model through which he explained how the project work proceeds, as shown in Figure 1.

EFL students can increase stimulate their cognitive growth and develop their language and thinking skills through project-based learning. Indeed, students need to integrate and use their language skills in the project work to accomplish their learning task. As Haines (1989) admits that project work enables students to

incorporate their language skills in natural learning context. In problem-based learning classroom, students can work cooperatively with peers to solve complex real life problems through which they can construct knowledge, make reasoning, inferences, and judgments, interact with peers, make self-assessment, and self-reflect on his own learning (Campbell, 2014). Through the learning process of PBL, students need to use their skills of the target language when they work in peers on a project work. This can motivate them through interaction and communication, and thinking critically (Sawamura, 2010). They can stimulate their metacognitive skills through engaging through cooperative learning activities such planning, questioning, as they can collect, analyze, and report data through oral and written discourse using their research planning (Beckett, 2002).

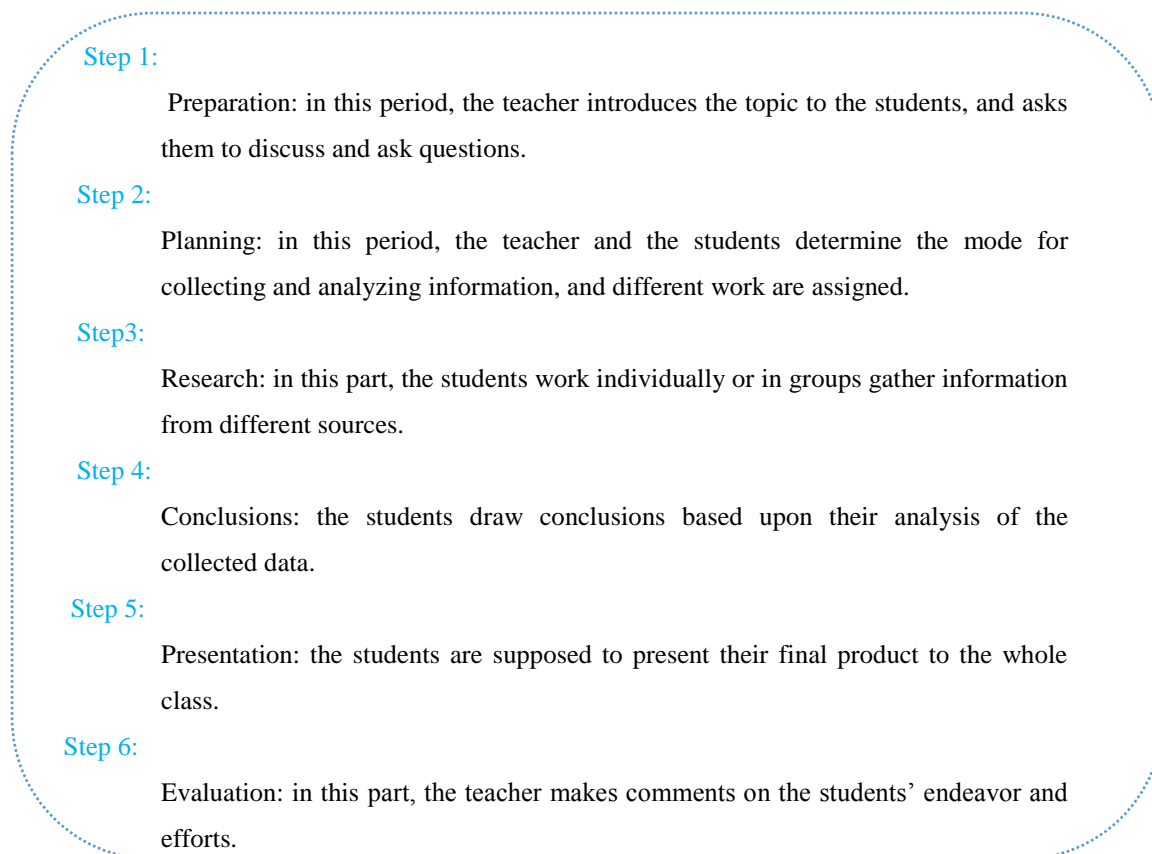


Figure 3. Project-based Learning Process (Papandreou, 1994)

On the other hand, (Stein, 1995) claims that project work incorporates collaborative group work, debating, discussion, peer questioning, and problem solving which prove to be essential for raising students' critical thinking skills. Yet, Farouk (2016) asserts that PBL can allow students to develop their critical evaluation skills and skills of analysis and synthesis. The learning process of project-based learning in the classroom may require the teacher's role in guiding and supervising students during the project work (Chinn, 2007). This will enable students to engage in a series of stages in the process through which they can raise their cognitive ability and critical thinking competency (cited in Bell, 2010). Teachers should also give adequate chance for students to control and reflect on their own learning. They can share the responsibility of learning, and agree on one shared learning goal (Helle et al, 2006). According to Thomas (2000), project work can involve a set of features shown in Figure 4.

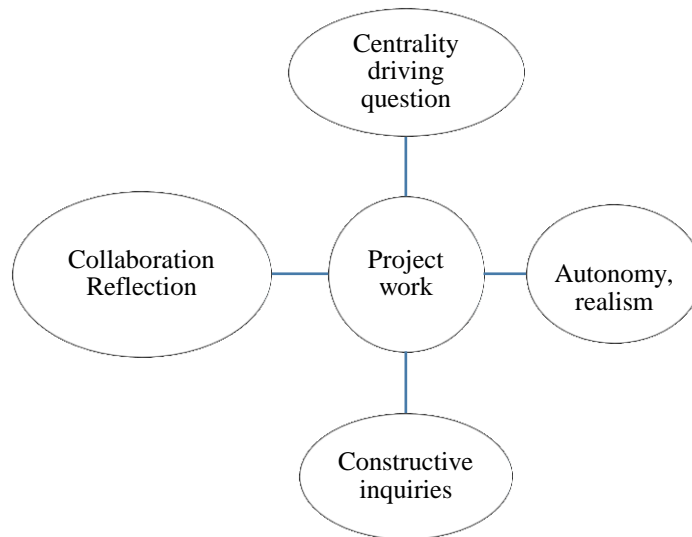


Figure 4. Characteristics of Project-based Work (cited in Kwon, et al, 2014 & Patton, 2012)

## Method

In order to gather the data we need to achieve the objectives of this study, the researcher conducted an empirical research at ENS of Laghouat with second grade students. The sample represents half of the population, it is composed of 32 students who represent the treatment sample or the EG. They were taught a poem and asked to work in groups, using cooperative learning strategies in class. After the lecture is done by the teacher which took four sessions, a classroom observation was prepared to evaluate and to gather information in order to answer and validate the research questions of the study. The researcher has opted for particular research tools for the sake of gaining enough and appropriate data in the investigation of both teaching students through the project-based instruction and improving students' critical thinking skills in the classroom. Therefore, using a true experimental design, we tempted to be conducive to the rigidity of the research design and lead to adequate interpretation of the findings.

Observation tool proves to be efficient for answering research questions and contributes to understanding a phenomenon for many researchers. The observation process can enable researchers to obtain essential information for drawing inferences and making decisions. Occasionally, Creswell (2002) believes that observation is the best research tool which provides adequate understanding of the obstacle between teaching and learning in the language learning classroom. As he argues that, the observation can build the profile of the teacher and contribute to his professional growth when the researcher acts as a teacher (observer) at the same time. Observation can help the researcher to reflect the authentic learning environment and enable them be aware about what is truly going on in the classroom. Bryman (2012) argued that the data elicited from classroom observation is more reliable in timing and frequency. As Cohen et al. (2010) admit that "researchers formulate systematic rules for observing and recording of individual behavior and a schedule or coding scheme are used to structure the observations" (cited in Papandreou, 1994).



## Results and Discussion

In order to prove the validity of the research tool, the observation was made in the classroom to elicit data after the lecture set for the treatment sample. The researcher tempted to use inductive analysis for analyzing the required data. The observation was conducted to evaluate the students' experience with the project work and cooperative learning activities. In total, 32 students were observed (EG= 32); the lectures took 90 minutes long. The researcher was observing the attitudes and behaviors of the students in the class and recording that to the observation sheet.

The researcher used five statements about students' attitudes and critical thinking competency in class to complete the observation sheet, each statement was scored on a tape of 4 (Excellent, good, adequate, poor) to 1. Therefore, the highest possible score was 5 on any one statement during the four sessions. One each statement, the researcher circled one number (from 1 to 4) with the average mark of 3 on any statement.

Table 1. Students Average Score Sessions

	Session1	Session2	Session3	Session4
Statement1	2	4	5	5
Statement2	2	5	5	5
Statement3	2	3	5	5
Statement4	3	4	5	5
Statement4	4	5	5	5
Average group	3.60	4.50	5.00	5.00
Mean session				

The data from Table 1 revealed that the students' critical thinking competency on session 1 was 75% with a score less than 5 as the highest score, while in session 2, it was 82% with less than the highest score 5 too. In session 3 and 4, the overall CT competency of the whole group was scoring less 5, as the highest average score with percentage of 100%.

The total percentage of the overall group of students' competency and level of motivation in the treatment sample was estimated by 91.5% with an overall average session score of 4.58 <5 as average session score (see Table 2). Based on the above data and information elicited from the observation sheet obtained by the researcher, we can advocate that the level of the students' CT competency increases when they are familiarized with project work activities and cooperative learning tasks in the classroom.

Table 2. Overall Critical Thinking Competency Scores in the Treatment Sample

Total of average score on 4 session	18.3(out of 10, the highest score)
Overall average group score/session	4.58<5 (91.5%)

The scores of the EG students' level of reasoning, inferences, and judgment making in accomplishing tasks through project work in class on each session are revealed in the following graph. The data from Table 1 revealed that the students' CT competency of the overall class on session 1 was 3.60 with a score less than 5. In session 2, the overall competency level of the class in EG was scoring less than 25 with a percentage of 90%, while in session 3 and 4, the average score was 5 which is the highest Mean score with a percentage of 100%.

Based on the above data elicited from the observation sheet and obtained by the researcher, we can argue that the level of the students' critical thinking competency which is represented through analyzing, synthesizing, evaluating, making reasoning, inferences, judgments during a project-based work developed when they are familiarized with cooperative learning work, peer questioning, and discussion, and debating during their lesson set. The findings are interpreting through inductive analysis in the following graph which represents the development of students' CT skills from session 1 till session 4 with affirming the role of group work, role-play activities, peer assessment, interacting and debating, and peer questioning in promoting the students' level of critical thinking skills and therefore their critical thinking competency (see Figure 5).

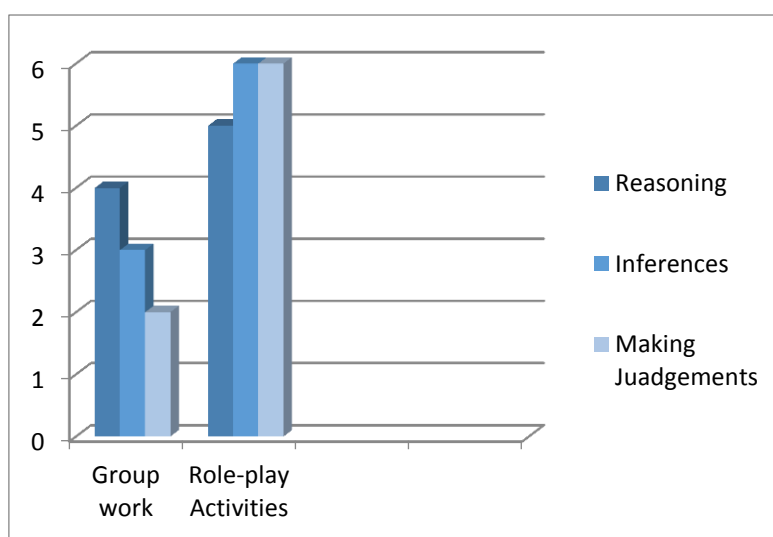


Figure 5. Level of Students' Reasoning, Inference, and Making Judgments

The main objective of the study was to investigate the use of project-based learning in the ELT classroom. The researcher used quantitative and qualitative research design through which data are gathered, analyzed, and interpreted with a classroom observation. The statistical measurement which was used to analyze the data collected with observation was percentage. Therefore, classroom observation was described and interpreted, and data analysis was based on summarizing and synthesizing the data for achieving the findings and conclusions of the study.

## Conclusion

This main aim of the study was to examine the use of project-based learning instruction in teaching literature in an EFL class. Indeed, through observation; real information on what was going on in the class has been detected

and through observing the students' attitudes and responses. In planning critical thinking tasks in the ELT classroom, teachers may implement various strategies or incorporate multiple methods appropriate to their language tasks. Achieving critical thinking ability requires teachers' high intervention and competence. With the use of project work, students can be encouraged to be self-directed by making questioning assumptions, thinking critically, debating, and exchanging opinions. Engaging students in project work can stimulate students' critical thinking competency and provide them with meaningful discussions and debates which will typically result in self-directed learning.

The results of the study proved that most students have been aware of incorporating project work methods to their classroom tasks. The study provided valuable data about the significance of fostering students to be competent in thinking critically in their language class. The analysis of both qualitative and quantitative data signified that the majority of the students are aware of project work activities which they have learned in prior language contexts. Also, the highest mean scores regarding making reasoning, judgments, thinking critically, and inferences revealed that most students are adjusted with project work activities without having further feedback or guidance of the teacher. Regarding the question of the research, the findings proved that learning through project work can to some extent help students produce a high task performance, as they should be more aware of the ways of learning effectively in order to stimulate critical thinking competency.

The findings also demonstrated that the students of the sample group perceived the learning task as highly effective and fundamental. They have been directed to applying their meta-cognitive and critical thinking skills which helped them pursue high level of understanding of the task as interpreted in level of average scores of the group. The study resulted in the fact that debating, peer work, peer questioning, and interaction all contributed to increasing the level of critical thinking competence of learners which typically led to self-guided learning. Students should also make practice and efforts to train themselves in writing pieces by incorporating all what they have learned in grammar classes; as their grammatical awareness proved to be deeply related to the quality of their writing.

## **Recommendations**

Regardless of the methods used to promote students' critical thinking, educationalists should be aware of certain factors which may prevent students from thinking critically. Among those factors is the student's disposition to think critically which is highly required. Also, students in the EFL classroom should be encouraged to be ready to learn, ask questions, and not accept everything they receive such as acquiring new information or receiving criticism. Students' thinking can be developed through continuous practice and evaluation using practical and appropriate learning strategies.

Hence, it is yet consistent to claim that critical thinking skills can be fostered and encouraged in most language classes and in the ELT classroom in particular by educationalists in higher education. Although this disposition may not be developed in all educational streams, critical thinking may not be reflected in higher college education, educationalists may still be inquisitive to incorporate further teaching strategies to increase the

critical thinking abilities of students and use them in order to encourage long life learning. Therefore, further research may foreground the diverse barriers or obstacles which can block the process of critical thinking such as lack of training, lack of resources, limited language proficiency, and time constraints. These may intrigue to impede the learning environment and tools which contribute to guarantee the achievement of students' critical thinking. Further, actively engaging students in project-based learning yet can foster students' critical thinking development with the teacher's intervention by leading their thinking process in the classroom. Hence, the findings of the study tempted to be highly effective compared to other research findings in the field which proved the high benefit of project-based learning in higher education. The study has set the agenda for future research in further research fields such as learning strategies, assessment and evaluation in the ELT classroom, and provides various practical implications for teachers and independent learners to achieve self-directed learning in a language class.

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