

The Project Work Pedagogy as a Means of Constructing Knowledge for Learners of the Secondary Level in Algerian Schools.

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Abstract:

This research attempts to clarify practical issues regarding the competency-based system by providing a tangible example of the project-based learning approach, which was initially implemented in English teaching and learning at the secondary level beginning in 2004. The study demonstrates how students can build their own knowledge by utilizing the project work approach that was included in the recently implemented CBC curriculum. It goes on to explain the usage of project work in the context of the English as a Foreign Language curriculum and how teachers might offer it to students as a technique of building knowledge.

Keywords: Project work; Competency-based Approach; Constructivism; Cognitivism; Problem Solving.

I- Introduction:

The teaching of foreign languages in its current state is perceived by the student as enigmatic, despite the diversity and advancement in the field of research surrounding teaching and learning in general and the area of teaching and learning foreign languages in particular. The reason for this is that learning involves the learner's use of totally implicit mental processes and procedures.

Since it was introduced during the 2002 educational reforms, practitioners of the new competency-based program have encountered challenges while teaching languages, particularly with regard to the writing skill. The CBA seeks to build the learner's competency in "**know how to do**" (**capabilities**) and "**know how to be**" (**attitudes**), i.e., to make them competent users of English in real life situations. The secondary level English teaching policy places equal emphasis on helping students become proficient communicators as well as helping them become involved in the learning process to solve problems they may encounter in their daily lives, make decisions, and assess their own work. As a result, the objective of teaching English has become **learner-centered**, as opposed to the previous **teacher-centered** approach, which was authoritative in nature.

In this regard, the implementation of the Competency-Based Approach to teach English as a foreign language focused on the ability of learners to take on the role of genuine actors in their own learning processes and to feel more autonomous, Nunan (1995) believed that "second language will proceed most efficiently if learners are allowed to develop and exercise autonomy". This method is called "project work," and its main objective is to prepare a tangible work, whether individually or in groups, with an emphasis on integrating previously acquired prerequisite knowledge in a new context.

Considering this background and the fact that the English language program in Algerian secondary schools emphasizes that learners should construct their own knowledge through the project work strategy introduced in the recently adopted Competency-Based Approach Curriculum, the study aims to explain the use of this project work as a means of knowledge construction as it was introduced in the program of English Foreign Language teaching.

1. History of Project Work Pedagogy:

The project is one of the common teaching methods. It is typically viewed as a means of helping pupils develop their autonomy and responsibility as well as their social and democratic behavioral patterns. The project method has its roots in the progressive education movement of the United States, which may be traced back to the 19th-century writings of John Dewey and Francis W. Parker. The domains of industrial arts and agriculture gave rise to the idea of project-based classroom instruction for general education, which was first implemented in primary schools before spreading to all grade levels. The project approach was first developed to address "real-world" problems with measurable, observable outcomes. However, it was swiftly taken up and expanded to include any student-interested initiative, no matter how brief or insignificant.

Evaluating the project method's efficacy has proven challenging due to its vague definition. However, the "method" developed into the "current" educational paradigm for all students in all subject areas, often failing to meet the demands of educators, learners, and society at large. The term "project method" was replaced to characterize school practices with "child-centeredness" and the activity curriculum. Teachers now use problem-based learning to teach students in the twenty-first century.

The concept of the "project" method originated from the architectural and engineering education movement in Italy during the late 16th century. The history of the project method unfolds in five distinct phases:

- 1. 1590-1765:** Emergence of project work in architectural schools across Europe.
- 2. 1765-1880:** Establishment of the project as a regular teaching method, with its adoption in American educational settings.
- 3. 1880-1915:** Integration of project-based work in manual training and general public schools.
- 4. 1915-1965:** Redefinition of the project method and its reintroduction from America to Europe.
- 5. 1965-today:** Renewed interest in the project idea, marking the third wave of its global dissemination.

With the implementation of Competency-Based Approach since 2003 in Algerian curriculum, teachers and learners have become acquainted with this new strategy. The method's primary goal is to engage learners in activities throughout their learning process in order to create a tangible outcome.

2. Definition of Project Work:

Important research work has been undertaken in attempt to define “project work” or “project based learning”. For a group of researchers such as (Jones, Rasmussen, & Moffitt, 1997; Thomas, Mergendoller, & Michaelson, 1999) see project work as complex tasks based on challenging questions or problems that require learners in design, problem solving, decision making or investigative activities, giving students the opportunity to work autonomously over a period of time and culminate in realistic products or presentations.

The CBA initiated by the Ministry of National Education gave another definition. It shares almost the same ideas as the aforementioned one:

« Un projet est un ensemble de taches plus au moins complexes, dans lesquelles l'apprenant s'implique avec ses camarades avec l'aide de son enseignant ». (O.N.P.S, 2005, p. 9).

Based on these two definitions, we can say that project work is a process-based learning activity that necessitates the use of learners' mental skills such as planning, monitoring, analyzing, and evaluating. It also requires the use of social skills since it calls for learner- learner and learner-teacher interaction types. It is a constructive- based activity.

3. The Pedagogy of Project Work in the Competency-Based Curriculum:

"Project work" or **"project-based learning"** is recognized as a distinctive feature within the "Competency-Based Curriculum," seamlessly integrated into the learning strategy. Project realization allows for the visible and tangible implementation of all the curriculum's stated teaching and learning objectives. It is an approach (activity) that focuses entirely on the learner.

When referring to the general outlines of the Competency-Based Curriculum (CBC), the primary emphasis of this approach is to centralize the learner in the learning process. It strives to equip the learner with mechanisms that transform education into an active process rather than a mere reception of knowledge.

The key features of teaching English as a foreign language (EFL) using the CBC project work pedagogy are based on the following concepts:

4. Project Work is Constructivist:

This concept is related mainly to three famous theorists who are (Bruner 1966, Vygotsky, 1978 and J. Piaget, 1973).

Constructivism is summarized by Perkins (1991, p. 20) as: "Knowledge is actively constructed by learners as they are trying to make sense of their experiences, learners form, elaborate and test candidate mental structures until a satisfactory one emerges".

As a result, when creating project work (a tangible artifact), brochures, news bulletins, and other materials, students must apply previously acquired knowledge to a new context while emphasizing their own experiences. Piaget (Roy Killen, 2006, p. 5) stresses the utility of environment in the developing knowledge. He sees that an individual constructs his understanding of the world through interaction with the environment that triggers assimilation. Vygotsky (1978), for his turn assumes that learning and development of the individuals cannot be achieved without reference to the social and cultural context in which these concepts are embedded. For him learning is a social negotiation of meaning.

Snowman and Biechler suggested (Roy Killen, 2006) four principles of constructivism:

a- Any knowledge is not received passively but is actively constructed by the learner. Meaningful learning is the creation of knowledge structures from personal experience.

b- Knowledge is the outcome of personal interpretation of experiences, one person's knowledge can never be totally transferred to another.

c- The cultures to which people belong influence their view of the world around them and, therefore, influence what they learn.

d- Construction of ideas is aided by systematic, open minded discussion and debate.

In this context, collaborative approaches such as working in pairs or groups, and seeking help outside the class, contribute to learners' autonomy, reducing dependence on the teacher. Thus, Cooperative learning can be defined as small groups working together to solve problems or achieve common goals.

The emphasis on guiding learners through independent problem-solving or collaboration with more capable peers is crucial. This guidance, termed "scaffolding," supports learners in their work. Cooperative learning not only enhances academic achievement but also fosters social skills, preparing learners to face challenges in their life experiences. The growing emphasis on group learning is attributed to societal changes, including an increased focus on teamwork in the business sector.

Project work aims to foster learners' autonomy. Its goal is to make a lifelong learner by progressively becoming independent of the instructor's direction and intervention in his learning process.

The CBA approach, employing project-based learning strategies, targets the development of learner autonomy as a primary learning objective. This is accomplished through the acquisition of linguistic and procedural behaviors, enabling the expression of personal ideas. Autonomy should be perceived not merely as an outcome but as a process facilitating learners in achieving educational goals. Autonomy as "the ability to take charge of one's own learning," indicates that learners engage in tasks that foster independence from their teacher while seeking supportive tools as scaffolding. Decision-making in learning is important and autonomy occurs when learners are responsible for all decisions related to learning and their implementation.

Individuals are both producers and products of society, and independent learning gains strength from the belief in developing long-term learner strategies applicable in situations where a teacher may not be readily available. Looking at the curricular objectives, we can see that the development of the competencies of "**know how to do**" and "**know how to be**" should be the top priorities when it comes to teaching and studying the English language.

Learning should now be viewed as an action-oriented process that helps students accomplish their learning objectives under the direction of their teacher, rather than as a matter of teacher dominance and student reception.

The outcome of the aforementioned concepts is that project work increases students' knowledge, and this cannot happen without the ability of people of the same environment to interchange influencing cultures. Building meaningful connections between previously acquired and new information and experiences is therefore necessary for understanding.

5. Project Work Focus on Cognitive Skills:

Cognition, as defined by the Oxford dictionary, refers to knowing, perceiving, or conceiving as an act or faculty distinct from emotion and volition. This definition underscores that learning's primary objectives include knowledge acquisition and the development of mental thinking skills.

Cognitive styles in learning were defined as,

“cognitive and physiological behaviours that serve as relatively stable indicators of how learners perceive, interact with, and respond to the learning environment.” (Keefe, 1982, p. 44).

Cognitive styles are based on the idea that each person has a unique distinctive learning style. People's responses to learning situations are reflected in their distinct cognitive styles. For example, while some people enjoy working in groups, others prefer to work alone. Before finishing a task, some of them prefer to plan it out in great detail, while others prefer to do it quickly, and so on.

When it comes to cognitive skills, The CBA emphasizes the integration of Bloom's taxonomy (1964) into the teaching and learning process. This taxonomy aims to develop the intellectual skills of learners and is divided into six stages, or categories, according to Bloom. These are listed from the simplest to the most complex or from the lowest level to the highest.

These cognitive domains are: **knowledge**, which involves merely retrieving or remembering information through assigned tasks; **understanding** (comprehension), which involves interpreting, translating, and comprehending the meaning of structures and meanings; **application**, which calls for applying the information obtained to address a particular class of problems; **analysis**, which entails breaking down concepts into their component parts for easier understanding; **synthesis**, which is the process of bringing disparate ideas together into a cohesive whole; and **evaluation**, which allows students to evaluate, assess, and express their opinions. In order to put these principles into practice, students must develop the so-called "savoir faire" competency in the syllabus. This is done by using their skills to make the learning task more practical than it formerly was, allowing students to learn how to learn before mastering language content. (Bloom, 1956).

6. Project Work is Problem Solving:

As previously discussed in the explanations of constructivism and the cognitive approach, one of the main goals of making the teaching and learning process more student-centered in terms of fusing experiences and critical thinking skills for knowledge acquisition is to involve students in activities that allow them to construct knowledge with the scaffolding that is provided (working collaboratively, in pairs, or with tutor support).

(Schneiderman, Borkowski, Alavi, & Norman, 1998) stated that problem solving approach has constructivism roots. They view that '**problem solving**' enhances learning by engaging learners

in problematic situations which require individual's thinking skills, making a plan for the collection of data and then arriving to the outcome. (Schneiderman et al, 1998).

A problem-solving activity involves presenting learners with a controversial issue or social problem, prompting them to find solutions. This task is designed to enhance thinking skills, as problems stimulate cognitive engagement, and learning occurs through thinking. Problem-solving not only assists learners in addressing challenges assigned by the teacher but also aims to equip them with the ability to tackle various problems they may encounter in their future lives.

Problem solving entails posing significant, contextualized, real-world situations. It involves providing learners with resources, guidance, and instructions as they develop both content knowledge and problem-solving skills.

As a matter of fact, "problem solving" ought to be understood as an additional educational goal that advances human skills like reasoning, analysis, and synthesis rather than as a set of assignments to be completed within a curriculum.

7. Project Work Focus on ICT Technology:

Many researchers support the idea that incorporating technology into the classroom can improve student autonomy and collaboration while also increasing motivation and information comprehension.

In the new syllabus, technological tools are referred to as "Information Communication Technology (ICT)," and this term is integrated within the competency of "know how to do". ICT encompasses the use of computers, data shows, CDs, and notably, the internet in the learning process.

(Krajcik et al., 1998) uses the term “**scaffolding**” to refer to “support” for collaborative learning. He considers this support as a way of making the environment more authentic to students by providing access to data and information, expanding interaction and collaboration with others via networks.

Indeed, Information Communication Technology (ICT) has the potential to enhance cognitive skills. Learners can leverage their abilities to search, apply, analyze, synthesize, and evaluate data, transforming it into something new and personalized. ICT facilitates an interactive and dynamic learning environment that encourages active engagement and the application of cognitive abilities.

Technology can assist since it provides strong support for key PBL components including student autonomy, group projects, and scaffolding.

8. Project Work Main Features:

Key characteristics of project work are summarized as follows:

- Centrality in Curriculum: Projects are integral to the curriculum, not peripheral. Instructions are based on the content and typology of the topic, and learners grasp disciplinary concepts through the project, not as a supplementary task.
- Time Frame: Projects require a considerable period for completion, extending up to one year depending on learning and teaching circumstances.
- Driving Question: They should feature a central question that engages learners in constructive tasks involving inquiry, knowledge building, and resolution.
- Student-Centered and Collaborative: Projects are student-centered and emphasize collaborative learning. They afford more autonomy, choice, and responsibility to students.
- Real-world Issues: Projects address authentic world issues and impact life skills such as self-management, group processes, and problem-solving.
- Interdisciplinary Nature: Projects are interdisciplinary, allowing students to apply knowledge gained in other subjects within the context of the project.
- Utilization of Cognitive Tools: Cognitive tools, especially technological ones like Information Communication Technology (ICT), are integrated into project work.

9. Project Work Process:

To complete a project, cognitive and metacognitive skills must be activated. This indicates that there are various phases to the ultimate product, requiring cooperation from the teacher and students.

Project work steps are in accordance with the competency based method. They are:

- Step 1: Theme Choice:

The teacher and students decide on a project theme together. The theme ought to be grounded in real-world issues, adaptable to the learners' shifting requirements, and appropriate for their level.

- Step 2: Final Outcome Determination:

Teachers and students collaborate to decide which kinds of tools will be used in the project theme. For example, a debate, a written report, a survey, a theatrical production, etc.

- Step3: Project Structure:

Following the selection of the project's theme and ultimate goal, the instructor and students collaborate to develop the project's specifics, which serve as a roadmap from the first activity to the project's completion. Students think about their roles, duties, and cooperative work groups in this step. At this point, the teacher gets the students ready for the language, skill, and strategy

requirements related to obtaining information. Students are prepared to gather data through techniques like library searches, letter writing, and interviews.

- Step 4: Data Collection and Analysis:

At this point, students must become proficient in the language, skills, and strategies required to collect, analyze, and synthesize the data they have gathered from various sources. Students are given assignments that entail categorizing, making comparisons, and using graphic organizers like time lines and charts to help them become proficient in these areas on their own. Depending on the kinds of information gathered and the methods used to get it (such as recorded interviews, brochures obtained in response to letters of solicitation, library research, and note-taking), many training sessions may need to be scheduled.

- Step 5: Project Presentation and Evaluation:

Students display their projects' final outcomes. Students consider the language they have learned and the topics they have acquired throughout the assignment in this final section. Students are also invited to provide suggestions for improving projects that are similar in the future. Teachers provide students feedback on their language and content learning at this point.

10. Project Work Benefits:

Project-based learning offers various benefits:

- It enhances students' motivation by actively engaging them in their own learning process.
- Project-based learning contributes to the improvement of students' problem-solving abilities and higher-order thinking skills, aligning with the goal of fostering cognitive development, as discussed earlier.
- It also offers chances for interdisciplinary learning by having students apply the content of several topic areas over the project's various phases.
- PBL assists students in gaining practical skills such as effective teamwork, decision-making, initiative, and problem-solving in complicated situations.
- Students can concentrate on their learning process and track their progress if they are required to write a meta-report or develop a self-evaluation of the project after it has been completed. Students who self-evaluate feel more accomplished and are further encouraged to take responsibility for their own learning.
- It facilitates the distribution of results to larger audiences by recording the learning process, with all the related advantages.

- Project work is challenging to plan and execute.

- The success of PBL heavily relies on the scaffolding provided to students to facilitate learning how to learn.

- Both indirect and direct evidence suggests that PBL is a more popular method than other instructional strategies, with both students and teachers perceiving it as beneficial and effective.

- Some evidence indicates that, compared to other learning methods, PBL enhances the quality of students' learning, improving their ability to apply acquired knowledge to novel problems.

- There is substantial evidence supporting the effectiveness of PBL in teaching students complex processes such as planning, communicating, problem-solving, and decision-making, although there is a lack of comparison with other methods.

II- Conclusion:

This paper has discussed the project-based learning task pedagogy that the Competency-Based Curriculum (CBA) implemented. It has provided examples of how the competency-based approach is used to teach English as a foreign language (EFL). As a result, the primary goal of project-based learning was described as a process as well as an outcome. A process-based learning activity that calls for the use of learners' mental abilities in planning, monitoring, analyzing, and evaluating. It also has an outcome component, meaning that learners must create a tangible item within a set time frame at the end of the didactic unit. For example, students might be required to make a brochure, an ethical reminder for the school, a picture of a well-known person, and so on, either alone, in couples, or in groups.

As a result, this study has attempted to demonstrate the guiding concepts for project work implementation. In essence, CBA advises that tasks be completed in a constructive manner, allowing students to improve their knowledge by concentrating on what they already know. Usually, these final global tasks, also called integration situations, are real, problem-solving tasks that call for developing higher order cognitive abilities like reasoning.

Finally, this article recommends that educators make a real effort to create project-based learning sequences by adhering to the instructions provided at the start of each unit. Competency-based educators are necessary to help students mobilize their meta-cognitive and cognitive skills because the final outcome passes through several stages that call for cooperation from both instructors and learners.

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