

# Developing New Life Skills through Project-Based Learning in Modern Schools

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## Abstract

*As modern schools move to adopt more projects through new approaches, project-based learning appears as a method that disengages new modes and practices in the teaching/learning cycle. Today, this method has gained greater popularity in the educational sphere as many schools implement it as a tool to develop students' learning and promote their competencies through exploring, creating, and constructing solutions to problems. By using project-based learning in schools to engage learners in life-long activities, teachers tend to exhibit an important opportunity to develop new skills. At the heart of these skills, the community of practice stands as self-directed learning in implementing project-based learning, which aims to promote the efficiency of twenty-first-century leaders within schools.*

*This paper examines important life skills that many schools wish to incorporate to develop new attitudes within and outside school life by adopting project-based learning. It attempts to show the challenges of such implementation and how life skills progress. Hence, the paper adopts a meta-analysis technique, whereby a special examination of the various studies that have already been conducted comes up with conclusions. Because of its diagnostic nature, this method allows the researcher to explore some pitfalls that provide potential opportunities for alternative conclusions that need to be adopted in structured approaches. The major conclusions drawn from this paper are qualitatively discussed.*

**Keywords:** Community of Practice, Life Skills, Meta-Synthesis, Project-Based Learning, Self-Directed Learning

## Introduction

Introducing project-based learning (PBL) in schools has brought about a new teaching and learning cycle method that has long denied old approaches, mainly dealing with traditional teacher-centred instruction. Unlike old methods, which handle how learners were barely given tasks outside the classroom that can be translated into real-life activities, self-directed learning approaches go with the inclusion of the learners' autonomy that generates their practical phase after graduation. With such evidence, substantial learning skills can be introduced mainly by PBL as a remedial factor to bridge the gap between theory and practice [1].

To this, Bagheri et al. (2013) argue that PBL as a teaching technique could be a natural extension of many existing educational

technology courses by providing opportunities for growing students' basic skills, such as self-directed learning skills (p.17). Additionally, they assert that the importance of essential skills, such as self-directed skills, as important twenty-first-century skills, have highlighted the effect of PBL on enhancing self-directed skills, which mainly shows a huge difference between self-directed learning and old methods. This is a way to question how PBL has long been implemented to yield many positive results.

The role of the teacher towards learners in this approach, Archetti (2012) maintains, is substantial, arguing that there is a specific teacher motivation which tends to lead students to self-directed learning that is critically set to fit their learning and engaging in problem-solving which reflects the practice of everyday sit-

uation. However, more support is needed for the superiority of PBL over traditional curricula (p.2). The value of PBL in helping students learn new concepts is highly understood as a real-life scenario that positions learners as a top priority in this cycle. Harris (2015) argues that this helps them gain a deeper understanding of learning (p.1). However, as this approach is more than just “doing projects” as much as it is more than a simple “real-life” experiential activity, it seems to experience a resurgence of interest in most schools based upon a need to educate them in response to the changes in global industries. Following this, Harris maintains that many believe that PBL is not a mere classroom instructional strategy but a means to redirect the instructional approach to teach the skills needed to prepare students for the modern global economy [2].

### **Purpose**

This study examines how to develop various life skills through implementing project-based learning in class as an essential method in the teaching/learning process. Hence, a body of literature review about the different styles of its integration will develop a framework that reveals the learning outcomes which bring the community of practice as an example and as a result of students’ self-directed learning as well as an outcome of many competencies as life-long learning products.

### **Research Questions**

1. What are the effective ways to better implement PBL in the learning process?
2. How does self-directed learning develop the community of practice?
3. What are the most common implications of this approach in schools?

### **Methodology**

Writing this paper means gathering data using an essential study of related works by digging into a different education-linked database to search for appropriate articles and books. This literature review focuses on developing life skills through project-based learning to generate new learning outcomes. As this study aims to increase the learner’s satisfaction by adopting this method, this comprehensive study frames selected literature that can be categorised within the frames of meta-analysis and meta-synthesis.

I intend to conduct a meta-analysis by getting the findings from different works on the same subject and analysing them using standardised procedures. Patterns and relationships in the meta-analysis, Urquhart (2010) argues, are detected through conclusions and associated with a deductive research approach. However, because meta-synthesis incorporates the assessed and interpreted results of several qualitative research projects, it is predicated on non-statistical methods. Accordingly, Walsh and Downe (2005) contend that a meta-synthesis literature review is conducted when following the inductive research approach [3].

Thus, this paper is a meta-synthesis of current scholarly articles, where no further ethical considerations are required. Yet, this method helps combine qualitative data to frame new alternative readings of the incorporation of PBL in the modern school culture as a new educational leadership style, mainly through an explanatory theory of its integration.

### **Literature Review: Introducing PBL as an Effective Learning Practice**

The implementation of PBL hlearningbody of literature that traces the early stages of old approaches to teaching and learning to this method's new modes and practices. This literature also shows the evolution of the teacher’s encounter with this approach and its perspectives and challenges. Harris (2015) argues that the professional development of projects’ implementations has always been associated with incorporating new skills through an instructional method that uses projects as the central focus of instruction in various disciplines where learners plan a set of prescribed outcomes (p.21).

The implementation of this approach has turned lucid with the teachers’ philosophy to respond to the challenges of this new approach with the idea to bring them to twenty-first-century skills as compared to their past teaching practices, exploring, thus, the efficacy of PBL as an instructional strategy compared to other kinds of instructional approaches. This urges Harris (2015) to differentiate between PBL and problem-based learning by showing the former as an instructional method that uses projects as the central focus of learning in a variety of disciplines and the other as an instructional approach where learners get a more carefully planned path toward a set of outcomes [4].

According to Bagheri et al. (2013), problem-based learning not only reinforces the cooperation among learners in performing group work but also reiterates individual and independent learning, providing learners with individualistic, social, and cooperative skills (p.18). Unlike PBL, this approach, Bagheri et al. maintain, emphasises applying technological tools, manual forces, and physical movements by allowing the learners to apply the previously learned materials in their real-life situations and occupational areas. For them, this method is an instructional method that creates conditions under which students' self-directed learning can be promoted because it enables students to recognise their learning needs, identify objectives, search resources, answer their questions, and share their knowledge with others autonomously.

The study of the differences between the two models highlights some characteristics that establish clear boundaries between this approach to learning and others. Martínez (2019) contends that establishing a project in both methods tends to raise questions linked to some authentic phenomenon or one on the situation that mostly guides the project (p. 3). Accordingly, he comments that learners develop complex tasks with high autonomy and decision-making, actively solving the initial question through cooperative development. Martínez (2019) asserts that creating one or various products or devices results from attempts to respond to the initial question and the students’ reflection. Helle, Tynjälä, and Olkinuora (2006) contend that what seems to be engaging in the fostering of subject matter understanding and inquiry skills is the new professional requirements which result from the learners’ expanded professional skills that he describes as “Features of project-based learning relevant to cognitive psychology” which refers to the motives that are relevant to pedagogy, cognitive psychology, and motivation (p. 290) [5].

Following this dichotomy, Helle et al. (2006) maintain that PBL, and experiential learning are rather abstract conceptualisations

of learning, where the notions of work-based and service-learning are more concrete, and the only condition of work-based learning is that learning can be linked to work practice (p.296). Consequently, they argue that the various types of PBL and work-based learning overlap as learning takes place in project studies, which are closely linked to the work role. In contrast, service learning, on the other hand, uses community service to promote student learning and development. They assert that project work is divided among learners, but the aim is to construct a shared outcome; thus, PBL engages both cooperative and collaborative elements, in which a project task is usually planned so that it cannot be performed without the joint efforts of the participants [6].

It is very important to mention that Helle et al. (2006) contend that the concept of PBL has some similarities with the notion of building knowledge where “learning” as an activity is directed to developmental structures, whereas “knowledge building” is directed at improving knowledge objects (p. 296). They believe learning is assumed to occur through mental tools such as concepts and theories. At the same time, the students’ attention is not directed to the development of cognitive structures but to the productive activity of making meaning, through which PBL can be described as involving both vertical and horizontal learning (p.292).

They also assume that whether it is vertical or horizontal learning, this highly matters concerning the learning focused upon and supported. Similarly, the quality of learning is set by the fact that the learner can determine systems knowledge. Accordingly, Yam and Rossini (2010) assume that providing students with appropriate goals from the outset is imperative to help them understand the importance of the project, just as the PBL approach engages students in discovering meaningful questions through a series of collaborative investigation activities (p.3). Learners ask questions, collaborate in designing their investigation activities, collect and analyse data, share ideas, draw conclusions, and create final products [8].

They assert that by giving control to the students, their opportunity to utilise prior knowledge and experience in finding solutions to problems grows bigger. At the same time, teachers play important roles in motivating them and creating a conducive classroom environment for their learning (p.4). According to

Yam and Rossini (2010), the continuous endeavour of teachers to motivate learners’ understanding of the PBL process is highly substantial in establishing enough learning competencies (p.5) [9].

### The Implementation of Project-Based Learning in Education

Along with incorporating PBL, teachers vary in their approach according to the adequate philosophy of the activities’ contexts. Goodman and Stivers (2010) argue that some teachers extensively use PBL as their instructional method, while others use it frequently, as projects vary in length, from several days to several weeks. In this context, they maintain that PBL can be effective at all grade levels and subjects in alternative programs. As with any teaching method, they assert that PBL can be used effectively or ineffectively.

At its best, PBL, they reiterate, can be an interesting learning experience by getting them through a context for a relevant learning community to promote achievement, self-mastery, and contribution. Thuan (2018) notes that this leads to a learner-centred approach, which highlights the considerable results of the PBL successful integration if the integration process responds to some criteria that Wrigley (1998) sums up as selecting, planning, researching, and products-making that are authored through three stages beginning in the classroom, moving out into the world, and returning to the classroom (p.331). Papandreu (1994) introduces a model that illustrates the process of project work in six steps, which starts with preparation and planning and ends up with evaluation, just as shown in the following steps:

- **Step 1 Preparation:** in this period, the teacher introduces the topic to the students and asks them to discuss and ask questions.
- **Step 2 Planning:** in this period, the teacher and the students determine the mode for collecting and analysing information, and different works are assigned.
- **Step 3 Research:** in this part, the students work individually or in groups to gather information from different sources.
- **Step 4 Conclusions:** the students draw conclusions based on their analysis of the collected data.
- **Step 5 Presentation:** the students should present their final product to the class.
- **Step 6 Evaluation:** the teacher comments on the student’s endeavours and efforts in this part.

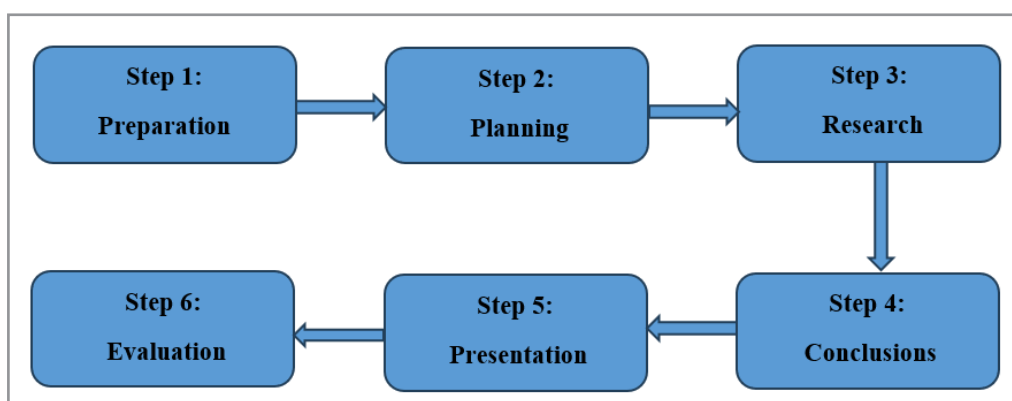


Figure 1: Process of project work (Papandreu, 1994).

It is noted that the processing of projects along with PBL integration has been set as a system of skill transferability with various learning outcomes practices. From the early stages to its realisation, the different steps of this method translate into a smooth transition that highlights the central position of the learner [10].

The successful implementation of PBL has always centred the learner as a top priority in the learning process to create tangible results to respond to their learning, mainly dealing with problems and challenges. Goodman and Silver (2010) contend that PBL focuses on the learners as the matrix of the learning process, while the teacher is the facilitator of activities that match most real-world tasks. This encourages interdisciplinary perspectives and enables learners to play diverse roles and build expertise that is applicable beyond a single well-defined and allows a range and diversity of outcomes open to multiple solutions rather than a single correct response obtained by applying predefined rules and procedures.

Meanwhile, the successful orchestration of all the features of PBL can only be advanced by the teacher's intentions to develop various elements to manage multiple resources, information sources, learning contexts, participants, time, tasks, and arrangements. Tamim and Grant (2011) argue that teachers manage projects in large classrooms, maintain the engagement of all students, and balance the investigative aspect of the project and the interpretation of reflective activities. (p.453) [11-15].

They stress the fact that to retain such success in the implementation of PBL, splendid collaborative work is needed by asserting that it is essential for teachers to create a classroom culture of collaboration, where students feel responsible for helping each other and of iteration, where they expect to make mistakes to learn from them. By the same token, they claim that it is important to create a classroom environment that develops a constructive view of error, especially since students might defeat the project's learning goals if they worry about failing more than succeeding.

### **The Effect of Project-Based Learning Strategy on Self-directed Learning Skills**

Many researchers, Thuan (2018) argues, have defined the benefits of PBL, which range from the development of language skills up to the enhancement of students' personal growth, as a project that integrates the four language skills and requires the use of a variety of activities (p. 332). Because learners engage in important communication to complete authentic activities in contexts, they, he argues, use language in a relatively natural context and participate in meaningful activities that require practical language use in activities mainly designed to develop learners' thinking and problem-solving skills, which are important in out-of-school contexts, and to foster learning to learn.

Adopting PBL, he adds, provides learners with opportunities for the natural integration of language skills in which they develop metacognitive skills because, for him, a project is an activity that includes various individual and cooperative tasks. To this, and along with learners' development of their confidence, this project tends to evaluate and promote their communicative skills that reduce their communicative anxiety through the incorpo-

ration of tasks such as problem-solving, negotiating, and other interpersonal skills, which they have identified by learners as necessary for living successful lives.

These new learning outcomes have introduced real-life skills that identify their self-directed learning by providing further group interactions that generate better performance. Through this strategy, Bagheri et al. (2013) maintain that learners' strategy perceptions are more actively involved in exploration, which helps them better understand the course concepts in self-regulation learning (p.17). In response to this growing body of academic development of this method, an Intel Teach Program study (2012) sums up a wide range of benefits to both learners and teachers (p. 5) [16].

For students, this study claims that learners take greater responsibility for their learning by developing complex skills, such as higher-order thinking, problem-solving, collaborating, and communicating due to increased attendance, growth in self-reliance, and improved attitudes toward learning, mainly from the authenticity of the experience. As for the benefits for teachers, this claims that besides enhancing professionalism and collaboration among colleagues and opportunities to build relationships with students, teachers who find a model that accommodates diverse learners by introducing a more comprehensive range of learning opportunities into the classroom figure out that students, who benefit most from PBL, tend to be those for whom traditional instructional methods and approaches are not effective.

Similarly, PBL positively impacts academic performance with a range of motivational aspects of learning, just as the results are mixed, or on the acquisition of cross-cutting skills, where evidence is scarce. In such performance, Martínez (2019) maintains that PBL is more effective than programs based on student feedback, promoting metacognition and self-regulation of learning, and personalised tutorials (p.12). He concludes that the causal evidence is scarce but points to a slightly positive impact on learning. In contrast, evidence from quasi-experimental studies is more abundant and shows a positive and medium impact on learning. He adds that a positive effect can occur both on conceptual and procedural knowledge about content, and some studies emphasise the possibility of students integrating conceptual knowledge applied through PBL [17].

### **Implementing Life Skills through PBL**

Developing life skills through PBL, for Jalinus, Nabawi, and Mardin (2017), targets abilities, the power of understanding, work habits, attitudes, and appreciation with encompassing knowledge as a high priority to make progress on a valuable and productive basis (p. 252). They better use this kind of learning as vocational learning because it is designed to develop such skills by including qualifications related to a particular profession, art, or employment, which mainly provide the necessary training and appropriate skills and technical knowledge. To this, learners can exercise a profession, art, or activity independently of their training level, even though, they assert, the training program also contains elements of general education.

Also, this type of learning is an essential element in education that provides the kind of professional knowledge and skills that attribute professional adequacy to the trainee. In this context,



Harris (2015) contends that the value of PBL is that it allows the student the opportunity for feedback and revision and an emphasis on technology that opens up the learning environment to different learning styles and interests, which may boost pupils' enthusiasm for and contentment with their education (p. 35). He explains that what makes this approach unique is the basics of its layout. Learners, for him, are often out of their seats, working in groups with various materials at different stages of learning, with other standards and skills at different times (p.34). Accordingly, this is a decidedly different approach than the traditional classroom through which one might imagine students sitting in rows, learning the same content in the same way, at the same time.

One of the objectives of using PBL in education to develop learners' life skills is to borrow concepts from the outside world and train learners to familiarise them with real-world situations and contexts. Yam and Rossini (2010) give an example of a property course that can be introduced to students in the first year in the university because this course needs to meet a broad range of objectives, in addition to courses that are typically taken by most students later on in their program offered as electives (p. 6) [18].

As this course aims to create a plan to introduce learners to tertiary education, to provide them with an environment where they develop strong peer groups and have an opportunity to meet with members of the property profession and property industry, it needs to deliver a significant body of knowledge, as well as meeting other graduate qualities. They assert that this course goes through many steps which lead to the considerable fulfilment of life skills that can be labelled as follows:

1. First, a significant body of knowledge contains a broad introduction to the various aspects of property, including legal, social, economic, and physical aspects, as well as basic valuation principles and practice with an understanding of national and international valuation standards.
2. Second, students begin their long road to discovering how to be lifelong learners more than any other first-year course in large classes. It should assist students in developing a more adult learning style, demonstrating to them how to tackle the study's issues and challenges and equipping them with a variety of tools and experiences to meet obstacles on a personal level.
3. Third, a significant development in the students' ability as effective problem solvers. As the course is designed using a PBL approach, students are set a major assignment, which they work at progressively across the semester, and this major assignment requires them to engage with the material. The assignment involves a real-world problem for each student, which requires them to find a property, describe and assess it against each of the major aspects of the property, and produce a simple valuation using at least two valuation approaches. This involves collecting primary and secondary data, analysing this, and reporting in a client-focused manner.
4. Fourth, an improved ability to work as a collaborative team to solve workshop problems and then transfer this to an autonomous environment to solve their project.
5. Fifth, a grasp of ethical and professional standards is required in all personal interactions and in dealing with any data they collect. They must also work within the necessary valuation standards and ethics.

6. Sixth, with better written and diagrammatic communication skills, they enhance their ability to draw plans and diagrams, communicate with a client using effective figures and charts, and improve professional written communication.
7. Seventh, comparing local and international valuation standards and practices enables students to see a global perspective.

Along these stages, the processing of a project in this method moves from knowledge to practice. The style of life-long learning is defined by the learners' ability to collaborate successfully in developing the learning outcomes.

A similar way to translate life skills through various tasks is the one introduced by The Buck Institute (2019) as The Edge Academy's Bee Project, which mainly focuses on showing learners essential skills and knowledge derived from key concepts at the heart of academic subjects. The idea of this project is for learners to spend a year learning about the history of bees and researching how honeybees are dying by identifying invasive species in the hive. To go through this, the study indicates learners built two brood boxes and two honey supers and assembled forty frames where they raised money and purchased a nucleus colony of bees by constructing an electric fence to keep out bears around the bee yard and inspected and monitored the hive for two years in the spring and fall.

As a rationale for this project, which is focused on an open-ended question that learners understand and find intriguing, learners are engaged in an extended process of asking questions, developing answers, and using resources. Also, to build competencies valuable for today's world, learners must understand concepts, gain knowledge, and apply skills to answer the driving question and create project products. The study asserts that as learners make some choices about the products to be created, the project tends to include processes to use feedback to consider additions and changes that lead to high-quality products.

### **Promoting a Community of Practice through Collaborative Curriculum**

One approach that has advanced PBL to put various skills into action is developing the community of practice in the education sphere. It has emphasized the relational aspects of learning within communities of practice in contrast to the individualist assumptions of conventional theories. It can be assumed, however, that PBL is one of the approaches that hastens the process of understanding the conditions that can affect the emergence of a community of practice within the development of learning.

According to Coto and Dirckinck-Holmfeld (2008), the concept of communities of practice together with project methodologies can be used as an effective model for the teacher's professional development as it offers a shift of focus from formal training to learning in practice, where learning in practice is a participatory process that involves doing, becoming, and belonging, not simply acquiring (p. 59). They find out that this design fosters a culture of problem orientation, projects, collaborative learning, and sharing knowledge, including fostering relationships between teacher participants, exploration of a domain of knowledge in which learners share an interest, and the development of innovative practices that support the change and further learn-

ing. The project, they speculate, envisions that teacher participants form a self-sustaining community of practice within which they improve their pedagogical and technological knowledge by connecting and learning from each other, discussing common problems and issues, sharing good practices, and collaborating on projects. This invites us to raise the question about the utility of community practice in learning development.

The concept of the community of practice, which took a circuitous route to the field of education, McDonald and Cater-Steel (2016) assert, was initially developed as part of a research program whose purpose was to rethink learning for an education audience and whose aim was to inspect and reconsider the assumptions about learning that underlie current school design (vii). Suppose the concept was first taken up by organisations outside of education, in business, government, healthcare, and international development. In that case, these two scholars assert, it has had a long and notably diverse career, both as part of a social learning theory and as an approach to enabling learning. Meanwhile, Coto and Dirckinck-Holmfeld (2008) contend this concept comes from theories based on learning as social participation, which refers to the process of social learning that occurs when people with a common interest collaborate (p. 55).

Therefore, as advanced by these two writers, the idea of a community of practice is a very old and well-practised concept that has become increasingly well-known through research (p.4). Lave and Wenger (1991) argue that learning cannot happen with the transmission of facts in the master/apprentice relationship; instead, learning occurs within a community of apprentices and more experienced workers. Therefore, this concept of a community of practice has its theoretical roots in the psychology of socialization, which covers a wide range of fields, including business, industry, health, and education, whose ideas have continued to grow and be developed.

In conceptualising this method as an approach to the development of learning through projects, McDonald and Cater-Steel (2016) claim that the theory has gone through three phases, where each transition builds on the prior phase but involves a figure-ground switch (p. viii). In the first phase, they argue that the concept of the community of practice was derived from studies of apprenticeship in various contexts because what was common across these contexts was that learning a practice entailed becoming a member of the community that possessed that practice. It is like, as they maintain, you start at the periphery and gradually move toward full membership over time; that is, in that phase of the theory, the existence of the community and its practice is taken as given, and learning is theorised as an in-bound trajectory into that community.

In the second phase, for them, the community of practice needs to be taken as given. Still, it is viewed as an emergent structure resulting from a learning partnership over time because this is a figure-ground shift from the first phase in the sense that, rather than the community defining learning, a learning that represents the community. As in this second phase, where the approach has been adopted in many organisations across sectors, they explain, a question arose about whether you could intentionally start or cultivate a community of practice to support learning.

Here, new issues are brought up about the relationship between communities of practice and organisational hierarchies, as well as active nurturing and leadership in forming and maintaining communities of practice. In the third phase, they state that the community remained the primary focus for analysing and building social learning potential, even if it was always evident that communities of practice exist in a wider landscape of diverse practices (p. viii). They assume that in this phase, learning capability depends as much on what happens at the boundaries between communities of practice as it does on the learning inside them [19].

Learning in a landscape, they continue, involves two related but distinct processes; the first one happens in communities of practice where learners define and develop specific forms of competence, while the second happens to the broader landscape of practice; this includes many communities and practices in which membership or competence can be claimed through some levels of knowledgeability. Along with this method, the learning process has been empirically refined as it generates discrepancies between such methods and the intended design of tasks that can be implemented through PBL. One of the skills that can be developed from these tasks is the ability of the learner to be qualified to integrate with the public sphere. Hence, real-world tasks shape the major learning outcomes that can characterise most learning soft skills in modern school life.

### Recommendations and Implications

Several conclusions can be drawn from this paper. It is important to mention that PBL can only be achieved through the substantial role of the teacher, who primarily considers the main aims of any course and caters to its success for the benefit of lifelong learners. PBL with context-based tasks tends to develop learners' understanding and make them more autonomous, mainly through implementing group activities. El Bakkali (2020) contends that instructors should also try to provide some feedback on the procedure and final product of the learning outcome while utilising PBL, primarily concentrating on the work of the students.

Using the same gesture, he states that time appears to be a crucial component of this implementation and that it influences whether activities are completed successfully or not, paying particular attention to the amount of time allocated for submission. Therefore, it seems that PBL implementation is more successful in creating a collaborative and interactive environment where students may apply what they have learned to their professional lives.

As PBL is based on constructivist characteristics, teachers can introduce their vision of learning outcomes that can be brought through the learning process. Adding to this, this approach is prone to allow learners to develop considerable thinking skills by using their knowledge construction, which targets multiple perspectives. Also, it is important to note that there are many positive points along with the incorporation of PBL, which targets the learners' academic performance. On the other hand, learners are offered the opportunity to engage in projects through enough materials to raise their motivation, develop and get through enough qualities, and acquire knowledge. In this regard, according to Aksela and Haatainen (2019), one goal of PBL's introduction is to support teachers' professionalism and teamwork while also boosting students' self-reliance.

This is primarily with students who gain deeper subject-matter knowledge and skills as well as a sense of commitment to and ownership over their education (p. 11). Accordingly, and due to their motivation, learners have developed such eagerness to attend classes with the ability to develop an expectation of their outcome, which, in turn, supports their attitude and effort. Accordingly, learners accept the responsibility for the results and learning outcomes because sometimes tasks might appear time-consuming and challenging [20].

### Limitations

Along with implementing PBL, some limitations crop up to the surface as major problems in this process. The teachers don't fully integrate PBL to its full potential since they should know more about it and are less conscious of its constructivist nature (El Bakkali 2020, p. 147). The majority of teachers also require further exposure to this approach's processing. According to Tamim and Grant (2011), teachers' desires to use constructivist methodologies on the one hand, and their levels of success in striking a balance between curricular and assessment needs on the other, are reflected in their work (p. 459) [21].

They assert that teachers should be encouraged to become initiators along the PBL implementation, which can be regarded as a continuum stage. To this, they argue that to use this method, the development of a project needs to be central in the curriculum as learners tend to engage with the main concepts and constructs. Accordingly, some teachers resist student-driven learning because they see it as giving up class control, especially teachers with minimum practice on PBL. Accordingly, Aksela and Haatainen (2019) argue that following the implementation of PBL, teachers tend to confuse inquiry-based instruction with other activities in the class, which shows their failure to motivate learners to work in collaborative teams and, as a result, overcoming student's resistance to deploying critical thinking (p.11). Another problem rises as a significant difficulty in the incorporation of PBL is the learners' adaptability to the processing of this method.

Learners' development of projects requires enough critical thinking skills and other skills, and learners with such transferable skills would fail to catch up or achieve a high level of success in their projects. Also, the time slot allotted for processing projects appears to be a major problem, which shows the learner's insufficient autonomy and understanding of the processing of tasks.

### Conclusions

Following the incorporation of PBL, we can deduce that some advantages and challenges can be designed to determine the different stages of this method. It is also indispensable to note that this method changes the teacher's way of dealing with projects and contextual tasks. Also, it helps them highlight the learners' way of developing their critical thinking skills. Additionally, the teacher's pedagogical development should be developed while working with the learners, other teachers, and collaborators in online instruction and training [22].

Accordingly, teachers should deepen their understanding of this method and develop their skills in teaching practices through continuous and collaborative phases along with their academic careers. It is also important to mention that learning is shared

through workshops for best projects and best teaching practices, with the idea of working on interactive learning as part of a community reaching beyond the limits of their school culture.

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