

Chapter 63: Using PBL to develop 21-century skills

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Chapter One:

Introduction

Project-based learning (PBL) is a student-centered approach that provides opportunities for students to learn by working on real-world and meaningful projects. PBL helps students to be actively engaged to collaborate, create, analyze, and solve complex problems. PBL helps students to acquire skills and gain knowledge by working for an extended period of time analyzing, creating, evaluating their learning, and completing tasks on their projects. “Projectbased learning (PBL) is a learning method based on constructivism (Hmelo-Silver, 2004),” which was first proposed by John Dewey at the end of the 1890s (Douglas and Stack, 2010).

Dewey’s philosophy was child-centered and introduced real-life situations and contexts into the school environment. His ideas were further developed by Kilpatrick in the early 1900s in his book *The Project Method* (1918)” (Habók and Nagy, 2016, p. 1).

Annotated Bibliography

Tsiplakides, I., & Fragoulis, I. (2009). Project-based learning in the teaching of English as a foreign language in Greek primary schools: From theory to practice. *English Language Teaching*, 2(3). doi:10.5539/elt.v2n3p113

The article talks about project-based learning. PBL is a teaching method that helps students to acquire skills and knowledge using experiential learning as the processing of experience and transforming the way of thinking and changing attitudes. Learners participate in activities that enable them to have practical experience. Project-based learning helps to provide opportunities for students to develop their confidence and independence, increase self-esteem, and a positive attitude. The role of the teacher in the PBL method is as a guide, advisor, coordinator, and facilitator. The implementation of PBL methods requires following general stages starting with speculation, designing the project activities, conducting the project activities, and evaluating.

Chapter Two:

Research Methods

Definitions of 21st Century Skills

The term 21st-century skills indicate learning dispositions and comprise skills that required to succeed nowadays. The following list provides a brief illustration of 21st-century skills.

“(CT) CRITICAL THINKING SKILLS refer to students being able to analyze complex problems, investigate questions for which there are no clear answers, evaluate different points of view or sources of information, and draw appropriate conclusions based on evidence and reasoning.

(CO) **COLLABORATION SKILLS** refer to students being able to work together to solve problems or answer questions, to work effectively and respectfully in teams to accomplish a common goal and to assume shared responsibility for completing a task.

(CM) **COMMUNICATION SKILLS** refer to students being able to organize their thoughts, data and findings and share these effectively through a variety of media, as well as orally and in writing.

(CR) **CREATIVITY AND INNOVATION SKILLS** refer to students being able to generate and refine solutions to complex problems or tasks based on synthesis, analysis and then combining or presenting what they have learned in new and original ways.

(S) **SELF-DIRECTION SKILLS** refer to students being able to take responsibility for their learning by identifying topics to pursue and processes for their own learning, and being able to review their own work and respond to feedback.

(U) **USING TECHNOLOGY AS A TOOL FOR LEARNING** refers to students being able to manage their learning and produce products using appropriate information and communication technologies.”(Ravitz, et al., 2012, p. 3)

Teacher role in project-based learning

I observed classes with teachers who use PBL where they assume different roles based on students’ needs, such as a guide, consultant, advisor, and facilitator of learning. I noticed that the teachers designed the plan carefully with students and allowed them to discover their interests. Asking students to begin with the end in mind while planning for the project is one of the strategies that I noticed. After completing the planning, teachers managed the tasks by having students organize the activities, schedules, and find resources. Assessing students by formative assessment helps the teacher to adapt the plan and provide support for the learners. Therefore, using summative assessment, peer assessment of teamwork, and individual work in the end of the project can lead a critical role for teachers to assess the student’s work.

Benefits of using PBL in classroom

I asked the teachers about the benefits they noticed while using PBL. They said that using PBL helps students to connect with content and increase their knowledge of a topic. Also, it helps students to develop cooperative learning skills, and improve student's achievement. Additionally, it helps students to improve their research skills, promote critical thinking and communication skills. “In addition, students demonstrate increased self-esteem, and positive attitudes toward learning (Stoller, 2006:27). Students’ autonomy is enhanced (Skehan, 1998), especially when they are actively engaged in project planning (e.g. choice of topic).

Impact on students

“PBL blends content mastery, meaningful work, and personal connection to create powerful learning experiences, in terms of both academic achievement and students’ personal growth.” Here are just some of the ways that PBL transforms student's educational experiences:

Engaged hearts and minds.

Students actively engage with PBL projects that provide real-world relevance for learning.

Students can solve problems that are important to them and their communities.

Deeper learning

PBL leads to deeper understanding and greater retention of content knowledge. Students are better able to apply what they know to new situations.

Exposure to adults and careers

Students interact with adults, businesses and organizations, and their community, and can develop career interests.

A sense of purpose

A great project can be transformative for students. Seeing a real-world impact gives them a sense of agency and purpose.

Success skills

Students gain skills valuable in today's workplace and in life, such as how to take initiative, work responsibly, solve problems, collaborate in teams, and communicate ideas.

Rewarding teacher relationships

Teachers work closely with active, engaged students doing meaningful work, and share in the rediscovered joy of learning.

Creativity and technology

Students enjoy using a spectrum of technology tools from research and collaboration through product creation and presentation. (Buck institute for education, PBL works, 2019)

Discussion

There is some concern related to Project-based learning method such as a lack of student engagement. In this case, letting students have choices and making learning more personal could help them to be more engaged in the learning process. Some students are not used to active learning. By making learning hands-on, students can learn better by doing. Teachers can involve students by actively encouraging them to work on the tasks to learn by doing. Problems in groups dynamic. It could be challenging to keep all students working in groups actively, but some solutions could help, such as making groups small, assigning roles and tasks for each member in the group, and evaluate each student in the group individually. (McCarthy, 2019) **Summary**

Nowadays, enhancing 21st-century skills is more important than ever before. Applying PBL in classes would help to enhance 21st-century skills and allow learners to succeed in school work and life. PBL is widely used in the US high school, which obviously helps many students to improve their communication, collaboration, critical thinking, and creativity skills. Using PBL in my home school will improve students' learning experience and develop their critical thinking, communication skills, collaboration, and creativity skills.

Chapter Three:

Recommendations

During the immersion phase, I noticed in Central High School that most of the teachers are using PBL during classes. I asked them about their experience with using this method and they mentioned that using PBL in their classes helped their students to develop their teamwork

skills, interpersonal skills and promote deep learning. Using PBL in my home school will make the learning process more enjoyable, and it will encourage greater understanding which will develop lifelong learning skills.

School Implementation Plan

Starting to use PBL in my classes will help me to learn to adapt to this method in my home school. After using this method in my classes, I will make notes of the benefits and the challenges that occurred. Then, it would be beneficial to provide workshops for teachers in my school to explain in detail how to use PBL effectively. As Astawa (2017) points out steps to implement PBL in classroom, “Firstly, the learners and teacher make an agreement and decision about the theme or topic of the project and the method of solving the problem. Secondly, students design the project by enquiring information related to the project, the plan, and the objective of the project. Thirdly, the students collect analyzed and organized data to answer the problems or the tasks. They create the project based on the application of the knowledge they achieve through the process of enquiring. Fourthly, the students define the essential point of the project and plan the presentation method. Fifth, the students design the presentation by analyzing and completing the essential information about the project. Next, the students present their project by using their communicative skills. Finally, the students evaluate their learning. Though these steps, students are trained to become an active and creative thinker and are involved in collaborative learning to work on the group project”. I would use those steps in classroom to implementing the PBL.

Participants / Audience

I will start using this method in my classes to examine the benefits of using PBL and to discover the challenges that may happen. After that, I will provide workshops for my colleagues explaining the procedures and the benefits of using PBL in the classroom.

Key Players / Support Needed

Using Project-based learning requires teachers and students to use technology effectively. Teachers and students will use computers and have internet access to search and collect information about their projects. Future Gate and Google Drive will be used to access files and folders and to complete the project’s tasks. Also, Google docs will be used to help students to collect information about their topic and to have feedback on their work.

Timeline

Using PBL required investing time and effort during the year. Applying PBL in the classroom needs a semester-long to help students be immersed in their projects. I am planning to use this method in the first semester next year. Moreover, I will keep working on the PBL in the second semester, and I will work with students to improve the learning process during the semester.

Materials

Having internet access, computers, and One Drive access will be important to search and collect information and to have feedback. All those tools are available in school which will support using PBL. I will work with students using those tools to facilitate learning.

Estimated cost

The cost of my project will be only investing time and effort in using the PBL method in classes because all tools are available in school. Also, providing workshops for my colleagues would be costless since we have all the basic tools in school.

Location and scope

I will start in my class to use PBL and with my students in the first semester. Also, I will present a workshop for my colleagues. Additionally, I will plan to do workshops in the school district in the second year to assist other teachers in using PBL in their classes.

Presentations / visuals

I will present my project in workshops for teachers in school, and I will do a presentation to convey the experience I learned about PBL in US school. Besides, I will share with the participants in the workshop handouts, references about PBL, and practical plans to use this method in the classes.

References

- [1] Artini, L. P., Nitiasih, P. K., & Astawa, N. S. (2017). Project-based Learning Activities and EFL Students' Productive Skills in English. *Journal of Language Teaching and Research*, 8(6), 1147. doi:10.17507/jltr.0806.16
- [2] Habók, H.A., & Nagy, J. A., In-service teachers' perceptions of project-based learning (2016)
Kovalyova, Y., Soboleva, A.V., & Kerimkulov, A.T. (2016). Project Based Learning in Teaching Communication Skills in English as a Foreign Language to Engineering Students)
- [3] McCarthy, J. (2019, October 23). 3 Common PBL Problems-and Solutions. Retrieved July 01, 2020, from <https://www.edutopia.org/article/3-common-pbl-problems-and-solutions>
- [4] PBLWorks. (n.d.). Retrieved July 01, 2020, from <https://www.pblworks.org/>
- [5] Tsiplakides, I., & Fragoulis, I. (2009). Project-based learning in the teaching of English as a foreign language in Greek primary schools: From theory to practice. *English Language Teaching*, 2(3). doi:10.5539/elt.v2n3p113.