USING PROJECT-BASED LEARNING TO DEVELOP 21ST CENTURY SKILLS

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Rezumat: *Învăţarea bazată pe proiecte, apărută la sfârşitul secolului al XIX-lea sub influenţa cercetărilor lui Piaget în domeniul psihologiei dezvoltării, se bazează pe ideea că un individ îşi construieşte cunoştinţele pe baza experienţei. Spre deosebire de sala de clasă standard cu care suntem obişnuiţi şi în care majoritatea dintre noi s-a instruit, "sala de clasă" în care se desfăşoară învăţarea bazată pe proiecte, este orientată spre elevi, oferind atât spaţiul cât şi contextul în care pot colabora şi explora probleme şi provocări din lumea care-i înconjoară. Este o abordare complet diferită a învăţării, deoarece în loc să se transmită informaţii, se favorizează procesele de cercetare, interogare şi cooperare activă la soluţionarea unei provocări sau probleme.*

Cuvinte-cheie: *învăţare bazată pe proiecte, provocare, problemă, competenţe pentru secolul al XXI-lea.*

Introduction. In the 21st century, students are challenged not only to learn a variety of school subjects but also to be able to apply their knowledge to solve real-life problems. That is why current education standards emphasize the importance of forming student's core skills, often called 21st century skills. Project-Based Learning (PBL) is an innovative approach to learning that teaches a multitude of strategies critical for success in the twenty-first century. Students drive their own learning through inquiry, as well as work collaboratively to research and create projects that reflect their knowledge. PBL helps to develop students' critical thinking, communication, collaboration and creativity.

1. The concept of the 21st century skills. The term "21st century skills" is generally used to refer to certain core competencies such as collaboration, digital literacy, critical thinking, and problem-solving that advocates believe schools need to teach to help students thrive in today's world. The basic idea is that students in the 21st century need to be taught different skills than those learned by students in the 20th century, and that the skills they learn should reflect the specific demands that will be placed upon them in a complex, competitive, knowledge-based, information-age, technology-driven economy and society. Currently, there is no single widely-accepted definition of the term "21st century skills" given the diversities of experts dealing with this term such as educationalist, employers, teachers and higher education institutions. However, researchers concluded that 21st century skills can be grouped into four broad categories: (i) ways of thinking; (ii) ways of working; (iii) tools for working; and (iv) skills for living in the world [4, p.4]. Within these categories, they identified ten skills as encapsulating all others and accommodating all approaches. In particular, problem-solving, and ICT operations and concepts, are mentioned by most of the experts; communication, collaboration, and information literacy (the ability to mine new information and interact constructively with it) are also listed frequently.

Ways of thinking	Ways of working	Tools for working	Living in the world
creativity and innovation	communication	information literacy	life and career
critical thinking	collaboration	media literacy	personal and social responsibility
decision making		ICT literacy	initiative
learning to learn			flexibility
			adaptability
			leadership
			self-direction

Table 1.1. *Categories of 21st century skills.*

2. The concept of project-based learning. According to Bell, project-based learning as "a student-driven, teacher-facilitated approach to learning" [2, p. 39]. Students pursue knowledge by

asking questions that have stirred their natural curiosity. They come up with a question and conduct their research under the teacher's supervision. It is essential to ensure that students choose the question or problem on their own, otherwise they would not have the necessary motivation to carry out the work. The problem is discussed and approved by the teacher. Students with similar interests or ideas may form teams; this would enhance their cooperation and communication skills. At the same time, individual learning styles and preferences should be taken into account. Students' discoveries are publicly shared with a selected audience. The public presentation is a crucial element of project-based learning, since it requires students to develop such skills as synthesis and analysis, presentation skills, public speaking, self-confidence, teamwork, etc. It should be noted that PBL is not an additional activity to support learning, it is the learning itself since it requires students to read, write, count, analyze, compare and contrast, create products and present them, all of these are key elements in the school curriculum. Moreover, many of the problems chosen by the students are science-based or originate from current social problems. Thus, PBL ensures better understanding of the topic, deeper learning, higher-level reading and increased motivation to learn. The practice shows that PBL helps learners become independent thinkers and learners.

The main components of PBL include an authentic problem, a driving question, inquiry, collaboration, a public product and reflective practices. In order for students to successfully meet the challenge required by PBL work in their classes, they need to effectively make use of 21st century skills.

In the educational environment, 21st century skills are often referred to as the 4C's of learning and are actively involved in the school curriculum [2, p.3]. Teachers are encouraged to provide tasks that stimulate the 4C's that are so necessary to prepare them for real life.

2.1. Stages of Project Based Learning. As a rule, PBL is a well-planned process and has to go through several stages, which are presented in *Table no. 2.1* and described below in greater detail.

Initiation
- Present an issue
- Analyse the issue

Planning
- Define the problem of the project (scope)
- Brainstorm for solutions
- Critically analyse each solution
- Develop an action plan

Implementation
- Assign roles and tasks
- Perform the tasks (collaboratively or individually)
- Make changes on spot (if necessary)
- Publicly present the results

Closure
- Analyse project and team results
- Students assess their results (srengths and weaknesses)
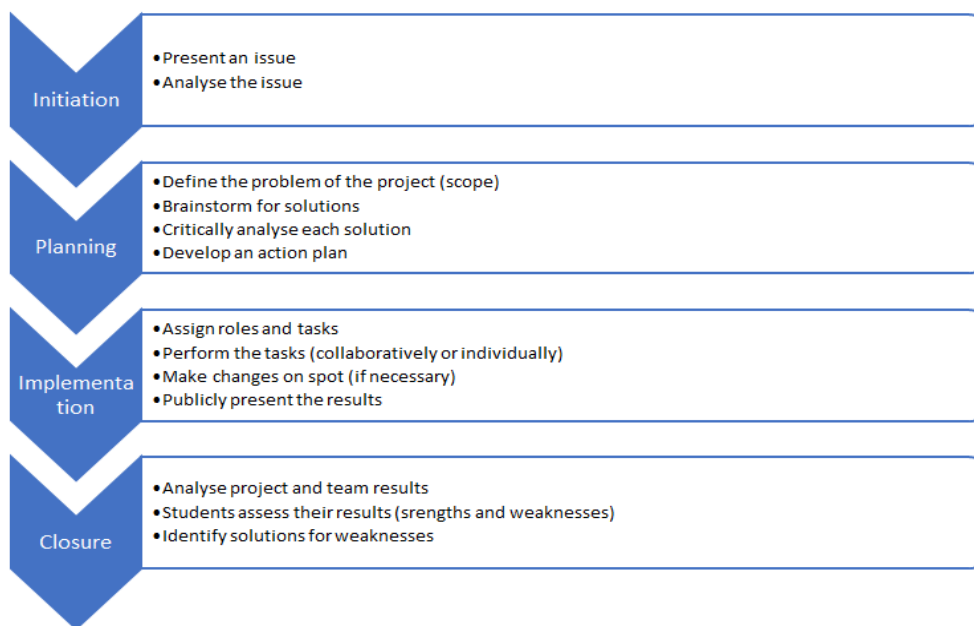- Identify solutions for weaknesses

Table no. 2.1. Stages of Project Based Learning

1. Presenting a significant issue. At this stage, the teacher is the central actor who presents the information in such a way as to stir the students' interest to develop their project. The teacher can use a variety of methods, i.e., using a video recording, or perhaps bringing in certain experts. The issue discussed should be relevant to the students and inspire them to conduct inquiries. 2. Analyzing the existing condition. At this stage, the teacher invites and facilitates the students to analyze the issue presented in the previous stage. It is recommended that students use SWOT analysis, identifying the *Strengths,*

Weaknesses, Opportunities, and *Threats*. Another possible strategy for this stage can be *Six Thinking Hats* developed by Edward de Bono [3, p. 380]. The analysis should be adjusted to the students' skills and abilities. 3. Planning the project. At this stage, the students are asked to identify the project that they want to work on. The students should be given the chance to develop their own plan according to their visions, understanding of the issue and their abilities. The teacher should encourage them to develop, discuss and implement their own ideas. The students carefully plan all their activities and assign people responsible for each step of the project. 4. Project implementation. The students put in practice the plan they have made. Depending on the project type, they may complete their work individually or work together. They are motivated to work individually, and when they need to collaborate, they should be encouraged to learn to communicate better. 5. Presenting the project results. At this stage, the students are asked to publicly share their results, demonstrating presentation and public speaking skills. 6. Project reporting. Students report on the process of the project implementation. The main emphasize of this stage is to make students assess their work, identify what they made well and what needs improvement. All the stages of Project Based Learning are important and should be carefully designed and discussed with students. It is crucial that students take an active part in all of the stages, otherwise the PBL becomes a formality. In PBL the class becomes student-centered, the teacher being only a guide, helping students to discover their skills (leadership, planning, thinking creatively and critically, building up arguments, working with data, looking for and analyzing information, assigning roles, verifying the execution of tasks, keeping up with deadlines, etc.).

3. Practical application of Project Based Learning. The PBL method was put into practice by a group of 15 Moldovan teachers, who teach English to high school students aged 15- 19. For this purpose, we used the *English Language and Culture Festival,* sponsored by the U.S Department of State in Moldova, which provided for the implementation of 6 activities, each having the common goal to enhance students' communicative and collaboration competences and share American values. Each activity was organized by a project member in cooperation with school teachers. To implement the activities students were recruited with the help of regional Specialists for Education and Youth, of the regions targeted by the project, as well as by teachers of English. The activities were held once a month, on Saturdays. The goal of the project was to raise awareness of cultural diversity among Moldovan learners of the English language by offering them a platform to enhance their 21st century skills. The project team proposed for implementation a range of activities, each of them could be regarded as a separate project. In this publication, I shall refer to the *Thanksgiving Trivia Game*, which consisted of several stages. The participants were given a month for preparation and they had to comply with several requirements. The school team should include 4-5 members, one them being the captain. The team worked together with a trainer – their teacher, whose role was to guide the learners in their preparation and to keep in touch with the project implementation team, informing it of the issues faced by the students. The game itself consisted of three stages.

3.1. Poster presentation. The students had to develop and publicly present a team poster, dedicated to Thanksgiving. The product was a digital poster (designed with canva.com, piktochart.com, or any other web tool), which should contain the following elements: (i) name of the team related to a Thanksgiving fact (from history, leisure, or any Thanksgiving symbol) (to be explained by the presenters); (ii) the motto of the team (to be explained by the presenters); (iii) presentation of a historical fact that is related to Thanksgiving. Points were given for the design and originality of the poster, as well as for the manner of presentation. To implement this activity, the students had to carry out some research (individually), then they had to come together and present their findings, after which they plan and design their poster and presentation. Good planning and communication skills are essential for a successful organization of the work. Students communicated online, using ICT, additionally, they had to master a digital platform that allowed them to design and present a poster. Students had to assign roles and share responsibilities. They also had deadlines to keep.

3.2. Trivia quiz on Thanksgiving (team game played on Kahoot platform) was the second stage of the contest. The participants had to answer various questions about the origins, history and traditions of Thanksgiving. The game provided for individual participation. To prepare for this stage, students had to work on their own under the guidance of their trainer and to demonstrate their cultural knowledge. A phone with Internet connection was necessary for participation. The participants were referred to

resources that they could use for preparation. Teachers helped them, by referring them to various sources and making different quizzes to check their readiness for the general competition. This stage of the project develops students' responsibility, self-direction and the ability to learn by themselves.

3.3. Captain's battle. This final activity aimed at verifying participants' knowledge about the most iconic monuments of the USA. A phone with Internet connection was required. To become ready for this stage, the captain had to prepare very seriously, as well as the entire team had to cooperate and help him/her to prepare and to show his/her best.

When the teams passed through all of the stages, their results were summed up and the winners were announced. The entire activity was carried out online because of the Covid-19 pandemic restrictions. The online environment proved to be an additional source of difficulty, as participants encountered many technical issues. However, gradually, they coped with the technical issues, sharing solutions and learning from each other. The poster presentation stage displayed a variety of products created by students, which revealed their collaboration skills, designing abilities, public speaking skills and creativity.

4. Reflections on the project results. The final stage of the project was reflection and analysis, each team had a discussion with their trainer, outlining their strengths and weaknesses. It should be mentioned that students were self-critical and openly spoke of the elements that according to them were not good enough. They came up with updated and modified variants of their poster presentations, asked how they could improve their public speaking skills to achieve a better result. They also went through the quiz questions, wishing to find out the correct answers to the questions that they failed to answer. They did additional readings, trying to find the information they needed to correctly answer the questions. All in all, they did all that work that a foreign language teacher would like their students to do, but they usually would not do it. If we are to identify what skills were used by the students while implementing the project activities, we would find out that most of the skills were widely used by the students and most importantly, students were the main actors in the implementation of the project, the teacher was just assisting and providing counseling if needed. The element of competition increased students' motivation, making them to work extra hours. In fact, I consider that PBL takes the students out of the classroom, as they work and communicate not only during their classes but also after classes, finding possibilities to collaborate even remotely. Digital skills is another element that was developed and improved throughout the project implementation. Both students and teachers were in the situation when they had to find the tools to originally design and present their products.

To conclude, I would like to mention that the implementation of the *English Language and Culture* project can be considered a variant of PBL, since it does not exactly fit into the lifecycle of the traditional PBL. However, while working on it, we went though all of the stages and witnessed the beneficial effect of it on our students. We saw an increased motivation to learn and to become better on behalf of the students, we also saw the teachers' enthusiasm and readiness to face challenges, working together with their students, often learning from them. It should also be mentioned that thanks to the project, three teachers applied for and were awarded their didactic degrees (first and superior), which required participation in a project and presentation of their results.

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