

## THE BENEFIT OF USING PROJECT-BASED LEARNING

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### ABSTRACT

This paper will reveal the effectiveness of using Project-Based Learning (PBL), not as a teaching trend, but as a necessity that will change generations. It is believed that through this method, students acquire a deeper knowledge through active exploration of real-world challenges and problems rather than essay and exam based on traditional classroom learning. The driving question is:

- What is PBL's (Project-based learning) impact on promoting active learning and life skills (group collaboration, critical thinking, problem solving) in pre-university education students?

The sample consisted of teachers, pupils and parents from eleven schools involved in the survey and interviews with six principals of the lower secondary schools of Tirana. The survey included 386 students, 346 teachers and 136 parents. The main method used in this study is mainly quantitative and also supported by qualitative approaches.

**Keywords:** Project-based learning, learning method, students' achievements, learning motivation, life skills.

### INTRODUCTION

Project-based learning is one of the method that is rapidly expanding through all elementary and high schools in Albania. Over the 5 past years, PBL has become an integral part of the curriculum. PBL is mentioned in the "Normative Provisions of Pre-University Education" in the Article/72.

Based on the "Guidelines for issuing the annual grade and the annual average grade for the class 24 IV-IX" of 08.04.2014 with protocol number 2479, work with projects take 10% of the value of the final grade.

With the introduction of the new curriculum and the introduction of the "Guidelines for the Development of the New Curriculum in Lower Secondary Education Grades VI-IX" (2017) and the "New Curriculum Development Guide to High Schools" (2016) , the work with projects is included in the student portfolio and take 20% of the total value of the final grade.

Despite the effort to introduce the project based learning method in the curriculum and evaluation formula, the low percentage (10% or 20%) leads to the opinion that PBL is not given the right attention from the educational system. Project based learning looks intimidating to many teachers who work within prescribed traditional curriculums. It seems like quite a stretch to get there from where their teaching methods currently stand. But it doesn't have to be as all-encompassing as you might imagine, and the changes you make don't need to be drastic. This study aims to change the approach to dealing with PBL not as a teaching trend, but as a necessity. This method will help students develop skills for living in a

knowledge-based, highly technological society. The old-school model of passively learning facts and reciting them out of context is no longer sufficient to prepare students to survive in today's world.

## LITERATURE REVIEW

This research will be based on several education theories that put the students and the teachers in the center of the attention to facilitate the process. Learning theories tell us the proper ways and strategies for effective, productive, and purposeful teaching. Unlike traditional theories that emphasized that the brain is an empty deposit that needs to be filled with new knowledge, this theory (the new one) is based on building knowledge based on previous experiences.

Jean Piaget Theory's (Woolfolk 2011: 324-328,335-345) (Conjunctive Constructivism) for Child Development and Learning.

This theory articulates that children learn by creating "mind maps" or "schemes" that are multiplied and adapted to how they will understand the environment. According to Piaget every experience and interaction has an impact on development in early childhood. Through a series of stages, Piaget proposed four stages of cognitive development:

- Sensorimotor stage – 0-2 years: imitation, memory and thought begin to be utilized.
- Preoperational stage- 2-7 years: language development and recognizing symbolic form.
- Concrete operational stage- 7-11 years: able to solve hands-on problems logically.
- Formal operational stage- 11-15 years : able to solve abstract problems in a logical way.

To apply Jean Piaget's theories in the classroom, the University of Arkansas suggests these six steps to structure preoperational development:

1. Use concrete props and visual aids whenever possible.
2. Make instructions relatively short, using actions as well as words.
3. Do not expect the students to consistently see the world from someone else's point of view.
4. Be sensitive to the possibility that students may have different meanings for the same word or different words for the same meaning. Students may also expect everyone to understand words they have invented.
5. Give children a great deal of hands-on practice with the skills that serve as building blocks for more complex skills like reading comprehension.
6. Provide a wide range of experiences in order to build a foundation for concept learning and language.

Another theory came from Soviet psychologist Lev Vygotsky, and it's a theory that is especially helpful for teachers in the classroom. His theory of "Cognitive Development" focuses on the social aspect of learning and the need for support in the learning process. Lev Vygotsky's concept of the zone of proximal development is based on the idea that development is defined both by what a child can do independently and by what the child can do when assisted by an adult or more competent peer (Daniels, 1995; Wertsch, 1991). Knowing both levels of Vygotsky's zone is useful for teachers, for these levels indicate where the child is at a given moment as well as where the child is going.

Another author who contributed to the theory of learning is Jerome Bruner, who founded the "Constructivist Theory" which emphasizes the fact that "children remember the things

better if they discover them by themselves and strongly support the philosophy of project based learning.(PBL).

Albert Bandura is one of the supporter of the project based learning as well. His “Social Learning Theory” states that people learn behavior from their environment through observation, imitation, and modeling. "Most of human behavior is constantly taught through modeling". Bandura.A (1967 pg 22)

Gardner's motto is : "Help Students Find Their Potential!"

Teaching is one of the most difficult things to do because it is all about dealing with human minds. Gardner is the founder of the “Theory of Multiple Intelligences”. Human minds receive information in different ways according to different backgrounds and experiences. From here comes the importance of studying the different kinds of intelligences through which a human being receives, decodes, understands, applies, and analyzes information. In order to be successful in teaching, a teacher has to improve their abilities to address all students’ thinking as different as they may be. According to Gardner, an intelligence must fulfill eight criteria: potential for brain isolation by brain damage, place in evolutionary history, presence of core operations, susceptibility to encoding (symbolic expression), a distinct developmental progression, the existence of savants, prodigies and other exceptional people, and support from experimental psychology and psychometric findings. What makes the “Multiple Intelligences Theory” strong and useful in a classroom is the fact that it can be used for any subject and at any level. Each student comes to a classroom as an individual who has developed a different type of intelligence. This means that each student has their own intelligence superiorities and weaknesses.

### **Project Based Learning (PBL) and its features:**

Too many students especially those furthest from opportunity are unprepared for the modern economy and the challenges of the 21st century. Project-based learning is a method in which students work together to explore real-life issues and problems, using problem-solving strategies and various resources in order to produce a final product. This method prepares students for academic, personal, and career success, and readies young people to rise to the challenges of their lives and the world they will inherit. According to Dayna Laur (2013) and April Smith (2018) the elements that make up a project are the following:

#### **❖ Significant content**

“There is a distinction between coverage and deep learning” writes Suzie Boss. While it may be true that a teacher cannot ‘cover’ it all with PBL, projects can and should emphasize important knowledge and concepts related to standards. Rather than passive interaction with content, PBL challenges students to interact with, to challenge with depth, and to think critically about content. The choice of topic is very important. Significant content should also include Literacy Standards for Reading, Writing, Listening and Speaking. Reading and writing for information and making claims using evidence from informational text are not only fairly easy to build into PBL but they should be what every teacher, no matter the content area, is shifting to in their classroom. These Literacy Standards are the responsibility of ALL teachers

#### **❖ 21st century powers.**

Powers such as problem solving, critical thinking, co-operation, creativity, communication are essential competencies for the times we are living. All these skills

should be explained to the students between the project structure. These cross-curricular skills designed to develop the pre-university curriculum will be explained below.

❖ **Deep observation.**

Students should deepen their research into the topic they will explore

❖ **The driving question**

The important part is that there is an overarching question that your students are going to answer through in-depth inquiry. A good driving question will capture the project's focus, be easy to understand, and provide a sense of challenge. All the activities will combine to help provide an answer to this question. If you can look up the answer in one quick Internet search, the question isn't complex enough.

❖ **Voice and choice.**

The teacher should allow the students to make their own decisions, but that does not mean doing what they want, but they must be the ones to choose the final product. Allow students some voice and choice. You don't have to relinquish control; that comes from good class management. This is how students become invested in a project. Wouldn't it be great if each child could set their own learning path and style on which they march down to success? Yup, but since we live in the real world, you have to do age-appropriate gradual release and guide students towards what you want.

❖ **Criticism and review.**

Reflection helps students get feedback about what they have done and in the future to improve their work. Often times this step is neglected or rushed. High quality, impressive work is often the result of multiple iterations and authentic feedback. The teacher, along with peers, participates in a cycle of review and coaching, rather than consternation.

❖ **Take notes**

Students should take notes during the project time and saving them. The presentation of the final product in most cases should be made out of the classroom, even outside the school, before a comprehensible audience ( Smith .A, (2018; 14-16).

## **Project cycle**

Everything has a cycle and so does the project. The project based learning has its own cycle, which begins with the creation of a problem situation, with the design of a plan that includes defining the problem and project products, project implementation schedule, implementation of the project, monitoring and evaluation.

Project based learning has the following features:

1. A cycle that has a beginning and a conclusion within a set timeframe.
2. Students are required to find a solution or strategy to solve the problem,
3. Students should produce a result in the form of a report or design,
4. Sometime students choose the problem situation themselves from a predetermined list. It is most often seen as a teaching technique in a particular curriculum area.
5. Knowledge acquired in the classroom is applied in practice. Students are not consumers of information, but are its producers

## Methodology

This paper is based on the quantitative method supported and the qualitative approach. The study focused on the lower secondary (VI-IX) schools of the city Tirana. The survey was conducted in 11 9-year schools of the city of Tirana. In the research was attended by 346 teachers and 386 students, 136 parents and 6 interviews school directors. The student sample was selected in accordance with the design study and with the method and type of implementation, correlational study. Schools were selected participating and ongoing for each selected school was included all students. The school population includes all 9-year public schools of secondary education low (VI-IX of the city of Tirana (n = 66). The data collection process was carried out by the author of the study by being assisted by school directors and teachers in which questionnaires were conducted. The research was conducted on the basis of two research methods, quantitative, questionnaires addressed to students, parents and teachers and qualitative methods conducted through six-interviews school leaders, three of which belonged to the urban area and three to the periurban area

## RESULTS

Results of crossed tables

Below we will see the results of the crossed tables

**Table nr.1:** Pearson Chi-Square Values of Chi-Square Tests .The influence of PBL on student motivation-student correspondents.

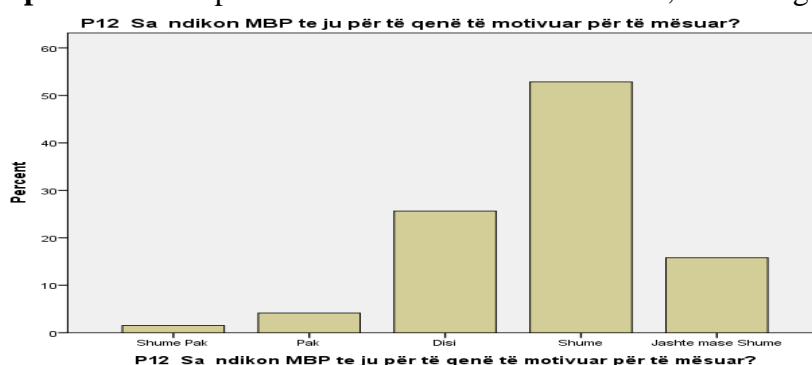
### Chi-Square Tests

	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Square	100.975 <sup>a</sup>	40	.000
Likelihood Ratio	113.077	40	.000
Linear-by-Linear Association	3.058	1	.080
N of Valid Cases	386		

a. 29 cells (52.7%) have expected counts less than 5. The minimum expected count is 26.

In the table we see that the Pearson Chi-Square shows the values of Chi-Square Tests for the relationship between variables PLB Impact-Student Motivation, according to the students, results that the value of Pearson Chi Square is 100,975 and Asymp. Sig. (2 sided) is .000. This shows that the relationship between variables Impact of PBL - student motivation by students is a statistically significant relationship.

**Graphic nr.16:** Impact of PBL-motivation of students, according to students.



**Table nr.2:** Pearson Chi-Square values of crossed tables (Chi-Square Tests) urban / peri-urban areas-Working in groups during PBL (student respondents).**Chi-Square Tests**

	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Square	5.019 <sup>a</sup>	2	.081
Likelihood Ratio	5.073	2	.079
Linear-by-Linear Association	4.832	1	.028
N of Valid Cases	386		

Results showing the table for the Pearson Chi-Square values of Chi-Square Tests for interrelationships between urban / periurban area variables -Women working in MBPs by students results that the value of Pearson Chi Square is 5019 and Asymp . Sig. (2 sided) is .081. Likelihood Ratio is in the 5073 and Asymp values. Sig. (2 sided) is .079

This shows that the relationship between urban / periurban area variables-Working in groups during MBP by students is statistically significant relationship.

**Table nr.3:** Pearson Chi-Square values of Chi-Square Tests Changes in grades during MBP application and PBL impact on life skills - according to students.**Chi-Square Tests**

	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Square	67.251 <sup>a</sup>	8	.000
Likelihood Ratio	50.407	8	.000
Linear-by-Linear Association	43.889	1	.000
N of Valid Cases	386		

Based on Pearson Chi-Square values of Chi-Square Tests for relationship Changes in grades during PBL application and PBL impact on life skills - according to students it turns out that the value of Pearson Chi Square is 67251 and Asymp. Sig. (2 sided) is .000. This shows that



the relationship between the variables Changes in grades when applying PBL and PBL Impact on Life Skills - Pearson Chi-Square Values of Chi-Square Tests by Students is Statistically Significant Relationships

Following interviews with principals, three of the schools included in the urban area and three of the schools that are included in the peri-urban area:

***Question 1 During the time you have run this school, are you and your staff trained by Tirana Educational Institute or Regional Educational Directorate of Tirana , or have you organized internal training on project-based learning.***

Almost 90% of the interviewers claimed that they were never trained by the mentioned institutions (TEI or REDT).The rest 10% of the interviewers argued that training is not necessary as information on this can be found abundant on the internet or on foreign books.

***Question 2 In the quarterly or annual analysis of the directorship with the teachers staff, how much is the quality of project-based learning realization?***

For the 92% of the interviewers this is a minor problem since the school's problems are bigger that we don't have time to think about it at this point. The new curriculum has prevented teachers to work with evidence, correction of student files and other bureaucracies. The rest 8% of interviewers argued that the issues addressed in the analysis is the quality of project-based learning as a method that fully engages students in the investigation in which they collaborate and share ideas , learn to perform in front of friends and a wide audience and produce a real product.

## DISCUSSION

***Q1 What are the main concerns that students experience when applying PBL?*** Most teachers thought and listed a number of concerns students that they have encountered when applying PBL.

Here are some of their concerns:

- ✓ The use of unsafe resources for the materials
- ✓ Not fully understanding the material,only copy and paste it.
- ✓ High budget and costs needed for the projects
- ✓ Classrooms can be very noisy while students use PBL

### For students

***Question 1. What do you understand by project-based learning?***

***Explain the definition of PBL.***

In this question, 130 students have given the definition that LBP is project-based lesson, without being clear in the definition, while 28 of them or 7.3% of the students stated that they do not know any definitions. Below we present how the remaining respondents have defined the PBL:

1. PBL is a comprehensive learning approach, within which students plan, implement and evaluate projects.
2. It is a method in which a student explores and processes information about a particular subject.
3. A method based on a teacher-student collaboration

**Q2 In your opinion, what are the main concerns that appear during the development of PBL?**

During the implementation of project-based learning in our schools, there are a number of difficulties and obstacles. Below are some of the student's concerns:

- Difficulty in selecting the material, as the internet gives variety of information but is often not appropriate.
- 1% in the rating is unjustified for the great work done during the application of PBL.
- Not all members of the group are responsible for the assigned tasks.
- Inadequate use of time by group members.

**CONCLUSIONS**

At the conclusion of the work we can say:

- ✓ PBL affects life skills (group collaboration, student motivation, active teacher etc.)
- ✓ Teachers with more than 25 years of work are less interested and informed about how to apply PBL in class.
- ✓ From the quantitative analysis it was noted that female gender is more interested in applying the PBL in the classroom and making qualitative efforts in this direction.
- ✓ PBL creates creativity and teaches us many things that we can not learn from the books.
- ✓ MBP engages in the process and those students who do a lot of school shortages and are not actively involved during traditional teaching days
- ✓ MBP motivates the student in research - research and problem solving.

At the conclusion of the research we can also give some recommendations regarding the implementation of PBL and its development in the first schools as a process where there is a need for improvement

1. Continue work on incorporating a larger sample into such a research in order to eliminate eventual dilemmas about the results of this research
2. PBL should absorb more than 10% of student assessment
3. Greater attention should be paid to educational policies to turn PBL into indispensability in Albanian education

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