

PROJECT-BASED LEARNING: IMPACT AND CHALLENGES

** Prof. Dr. Cindrella D'Mello*

** Professor, St. Teresa's Institute of Education, Santacruz (W), Mumbai-54.*

Abstract:

Project-Based Learning (PBL) represents a significant paradigm shift in educational methodology. Moving away from rote memorization and standardized testing, PBL immerses learners in complex, real-world projects that necessitate the application of theoretical knowledge to practical problem-solving. The study aimed at studying the impact and challenges of Project-based Learning. The findings of the study revealed that the Project Based Learning (PBL) has clear benefits, offering practical skills and fostering critical thinking and collaboration through hands-on projects. It engages students, making learning more relevant and meaningful. However, challenges like managing time effectively and stress and anxiety caused in the teacher trainees require attention. The approach enhances student skills and prepares them for real-world scenarios, yet it demands careful considerations to tackle time management issues and guarantee stress free environment while using this approach.

Key Words: *Project-based Learning, Impact and Challenges*

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Introduction:

Project Based Learning (PBL) is a teaching method in which students gain knowledge and skills by working for an extended period to investigate and respond to an authentic, engaging, and complex question, problem, or challenge. It is a teaching method in which students learn by actively engaging in real-world and personally meaningful projects. Instead of listening to lectures and taking tests, they go through a process of investigating meaningful questions, creating tangible products, and presenting their findings to authentic audiences.

John Dewey is recognized as one of the early proponents of project-based education or at least its principles through his idea of "learning by doing". In *My Pedagogical Creed* (1897) Dewey enumerated his beliefs including the view that "the teacher is not in the school to impose certain ideas or to form certain habits in the child, but is there as a member of the community to select the influences which shall affect the child and to assist him in properly responding to these". For this reason, he promoted the so-called

expressive or constructive activities as the centre of correlation. Educational research has advanced this idea of teaching and learning into a methodology known as "project-based learning".

William Heard Kilpatrick built on the theory of Dewey, who was his teacher, and introduced the project method as a component of Dewey's problem method of teaching. Kilpatrick endorsed project-based learning in his 1918 essay *The Project Method*, calling for "whole-hearted purposeful activity proceeding in a social environment". The essay was immediately lauded by progressive educators.

Some scholars (e.g. James G. Greeno) also associated project-based learning with Jean Piaget's "situated learning" perspective and constructivist theories.

Piaget advocated an idea of learning that does not focus on memorization. Within his theory, project-based learning is considered a method that engages students to invent and to view learning as a process with a future instead of acquiring knowledge bases as a matter of fact.

Further developments to project-based education as a pedagogy later drew from the experience- and perception-based theories on education proposed by theorists such as Jan Comenius, Johann Heinrich Pestalozzi, and Maria Montessori, among others

Why project-based learning matters?

Educators face constant pressure to prepare students for a world that demands more than content memorization. The traditional model of input-output learning leaves students equipped with facts but lacking the ability to apply knowledge in messy, real-world contexts. When educators understand what is project-based learning and implement it effectively, they can address this gap directly by developing competencies that transfer beyond your classroom walls.

- **Deeper learning and retention**

Students remember 80% of what they do versus 20% of what they read and 10% of what they hear, according to research on learning retention. PBL capitalizes on this by making students active participants in constructing their understanding rather than passive recipients of information.

- **Building essential skills employer's demand**

PBL develops the critical competencies that standardized tests ignore but workplaces require. The students practice collaboration on multi-week projects, learning to navigate team dynamics, resolve conflicts, and leverage diverse strengths. They develop communication skills by presenting to real audiences, refine critical thinking through iterative problem-solving, and build resilience when initial solutions fail. These transferable skills matter more in students' future careers than memorizing dates or formulas, giving your instruction practical relevance that extends far beyond graduation day.

Operational Definition of the Terms:

Project-based Learning: Project-based learning refers to any programmatic or instructional

approach that utilizes multifaceted projects as a central organizing strategy for educating students

Aim of the Study :

To Study the impact and challenges of Project-based Learning on the teacher-trainees.

Objectives of the Study :

- 1) To study the impact of Project-based Learning on teacher-trainees.
- 2) To study the challenges faced by the teacher-trainees in Project-based Learning.

Methodology of the Study :

The researcher has used Descriptive and Survey Method to carry out the research.

Sample- The sample for the present study included 84 teacher-trainees pursuing the 2-year B.Ed. course in St. Teresa's Institute of Education, Santacruz west.

Sampling Technique—Convenience sampling technique was used as the sampling technique for the present study.

Tool-The researcher prepared a two-point Rating scale containing 14 items and having Agree/Disagree as options to assess the impact of Project-based Learning.

Data Collection: The data for the present study was collected through a google form.

Findings of the Study:

- **Impact of Project-Based Learning**

1. 95.2 % of teacher-trainees felt that the projects tackle authentic problems/challenges relevant to students' lives and the wider world.
2. All the teacher-trainees felt that active, hands-on work leads to better knowledge retention and application while working on a project.
3. 96.4 % teacher-trainees agreed that Project-based learning connects learning to real-world issues and student interests which boosts motivation .
4. 98.8% teacher-trainees felt that Project Based Learning can develop critical thinking,

creativity, communication, and collaboration skills essential for modern life.

5. 96.5 % teacher-trainees agreed that projects bridge theory and practice, preparing them for future academic and professional demands.
 6. 95.2 % teacher-trainees felt that Project-based Learning accommodated different learning styles through varied tasks and exploration.
 7. 95.2 % teacher-trainees agreed that Project-based Learning encourages self-management, discipline, and problem-solving.
 8. 95.2 % teacher-trainees felt that working in groups to solve problems builds teamwork and presentation skills while working on a project.
 9. Around 95.2 % teacher-trainees agreed that Project-based Learning can become unfocused or disorganized if not well-structured.
 10. 97.6 % teacher-trainees agreed that Project-based Learning encourages self-reliance, responsibility, and self-evaluation as students manage projects.
 11. 95.2 % teacher-trainees agreed that the Project Based learning provides opportunity to engage in deep, sustained research and investigation, not just short tasks.
- **Challenges of Project-Based Learning**
 1. 86.9% teacher-trainees projects submission deadlines created stress and anxiety.
 2. 79.8 % teacher-trainees agreed that at times projects can be lengthy, making them hard to fit into packed schedules.
 3. 88.1 % teacher-trainees felt that Project-based Learning can be time-consuming, and some students might struggle with time management or fear making mistakes.

Conclusion:

Project-based learning has numerous benefits to the implementation of its strategies in the classroom – including a greater depth of understanding of concepts,

a broader knowledge base, improved communication, and interpersonal/social skills, enhanced leadership skills, increased creativity, and improved writing skills. The pedagogical practice is also linked to conversations revolving around equitable instruction, as it presents opportunities to provide learning experiences that are "equitable, relevant, and meaningful to each and every student while supporting the development of not only students' academic learning, but also their social, emotional, and identity development."

On the other hand, project-based learning caution against negative outcomes primarily in projects that become unfocused, as underdeveloped assignments or lessons may result in the waste of class time and inability to achieve the learning objectives. Since Project-based learning revolves around student autonomy, student's self-motivation, and ability to balance work time both inside and outside of school are imperative to a successful project and teachers may be challenged to present students with sufficient time, flexibility, and resources to be successful. Furthermore, "Keeping these complex projects on track while attending to students' individual learning needs...requires artful teaching, as well as industrial-strength project management.

References:

1. *Bender, William N. (2012). Project-Based Learning: Differentiating Instruction for the 21st Century. Thousand Oaks, CA: Corwin Press. p. 42. ISBN 978-1-4522-7927-5.*
2. *John Dewey, Education and Experience, 1938/1997. New York. Touchstone.*
3. *Beckett, Gulbahar; Slater, Tammy (2019). Global Perspectives on Project-Based Language Learning, Teaching, and Assessment: Key Approaches, Technology Tools, and Frameworks. Oxon: Routledge. ISBN 978-0-429-78695-2.*

4. Ravitch, Diane (2001). *Left back: A century of battles over school reform*. Simon & Schuster. p. 178f. ISBN 978-0-7432-0326-5.
5. Pondiscio, Robert (2010). "Edutopian vision". *Education Next*. Vol. 10, no. 3. ISSN 1539-9664.
6. Greeno, J. G. (2006). *Learning in activity*. In R. K. Sawyer (Ed.), *The Cambridge handbook of the learning sciences* (pp. 79-96). New York: Cambridge University Press.
7. Sarrazin, Natalie R. (2018). *Problem-Based Learning in the College Music Classroom*. Routledge. ISBN 978-1-351-26522-5.
8. Tawfik, Andrew A.; Gishbaugher, Jaclyn J.; Gatewood, Jessica; Arrington, T. Logan (2021-08-17). "How K-12 Teachers Adapt Problem-Based Learning Over Time". *Interdisciplinary Journal of Problem-Based Learning*. 15 (1). . ISSN 1541-5015.
9. Miller, Andrew. "Edutopia". © 2013 The George Lucas Educational Foundation. Retrieved 22 October 2013.
10. Image by Mikael Häggström, MD, using source images by various authors. *Source for useful context in problem-based learning: Mark A Albanese, Laura C Dast (2013-1022). Understanding Medical Education - Problem-based learning.*
11. Sawyer, R. K. (2006) *The Cambridge Handbook of the Learning Sciences*. New York: Cambridge University Press.
12. Farmer, Rachel; Greene, NaKayla; Perry, Kristen H; Jong, Cindy (2019-11-11). "Environmental Explorations: Integrating Project-Based Learning and Civic Engagement Through an Afterschool Program". *Journal of Educational Research and Practice*. ISSN 2167-8693.

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