PROBLEM-BASED PEDAGOGY IMPACTS ON YOUNG TEACHERS' LEARNING OUTCOMES

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ABSTRACT

PBL is gaining prominence as an alternative teaching strategy in higher education institutions. This study aims to understand university students' perspectives on the implementation of Problem-Based Learning (PBL) in their academic settings. The study uses quantitative method of data collection and analysis. The survey was conducted among N=150 young teachers in Shaheed Benazir Bhutto University Shaheed Benazirabad. Data analysis was carried out through SPSS. The findings reveal that most of respondent agree with the Problem based learning have impact on young teachers involvement in learning activities. While PBL appears to have several educational advantages such as increased young teachers engagement, critical thinking, creative skills, management skills, problem solving skills and leadership skills. It also presents challenges like being time-consuming. Therefore, a flexible pedagogical approach blending traditional methods with PBL is recommended. The study suggests a need for faculty development in PBL methods to address the gap in teacher expertise and the challenges in PBL implementation.

Keywords: Problem-Based Learning, PBL, Young teacher Perspectives, University Education, Pedagogical Flexibility

INTRODUCTION

The development of postsecondary education has gone through a tremendous transformation that has been primarily guided by the ideas of the liberal tradition. The significance of developing critical analytical skills and an aptitude for problem-solving is highlighted by this tradition, which places a strong emphasis on the matter (Zehra, Lashari & Naz, 2023). Problem-Based Learning (PBL) is a pedagogical paradigm that has been the focal point of extensive academic conversation owing to its revolutionary attitude on the assimilation of information (Tan, 2021). This pedagogical paradigm is at the center of this educational transition that is now taking place. PBL is a novel alternative to more traditional approaches to education because it places an emphasis on resolving problems that really occur in the real world from the beginning of the learning process (Lee & Jo, 2023;). Raichel (2022) argued PBS method like this not only places academic discourse inside relevant real-world settings, but it

also functions as an incentive, energizing students to immerse themselves in the subject matter and embark on solution-oriented quests. The problem-based learning (PBL) is interactive approach to instill in students a thorough understanding of the subject matter at hand (Cebesoy & Rundgren, 2023). This is accomplished by setting students the task of navigating complex issues, which in turn strengthens their analytical abilities and ability to solve problems.

Despite the fact that PBL has garnered an increasing amount of support from the academic community all around the world, its incorporation and the impact it has had in certain geographic locations have not been well investigated (Ahmed, Lashari & Golo, 2023). If we look at Pakistan as an example, we can see that the educational atmosphere of that country is closely woven with the cultural, socioeconomic, and political tapestry of the country (Fidan, & Tuncel, 2019). As one delves further, the province of Sindh,

which is distinguished by its diverse student demographics and a multitude of institutional barriers, emerges as a fertile field for examining the complexities involved with the implementation of PBL (Lee & Jo, 2023; Noorani & Lashari, 2023). This is because Sindh is home to a large number of educational institutions. In spite of the potential benefits of PBL in enhancing the quality of undergraduate teaching in Sindh, there is a striking lack of comprehensive study relevant to this field. This gap in knowledge has been there for quite some time (Hung, Jonassen, & Liu, 2008; Rehman, Lashari & Abbas, 2023). To be more specific, there is a scarcity of scholarly studies of the modes of problem-based learning (PBL) interaction by student scholars in Sindhi institutions, the challenges they face, and their evaluations of the efficacy of this instructional approach (Lashari et al., 2023). Because there is such a gap in academic literature, there is an even greater need for an in-depth investigation of the applicability, advantages, and possible restrictions of problem-based learning (PBL) within the context of Sindh's one-of-a-kind sociocultural and educational environment.

RESEARCH OBJECTIVES

To find out the effect of problem based learning on young teachers' involvement in learning activities.
To assess the benefits of problem based learning in implementing classrooms environment.

RESEARCH QUESTIONS

How does problem-based learning influence the involvement of young teachers in learningactivities?
How do young teachers' benefit from problem-based learning when implementing a classrooms environment?

LITERATURE REVIEW

Over the course of the last few decades, the field of education has been witness to a plethora of pedagogical developments, each of which aimed to improve the learning experience and results for students (Fayaz et al., 2023). According to Tan, (2021) the Problem-Based Learning, often known as PBL, is an example of this kind of paradigm that has received considerable attention in the academic community. Students are encouraged to participate in critical thinking, problem-solving, and self-directed learning (Lashari et al, 2023) via the use of real-world issues as a backdrop (Savery, 2006). Project-based learning (PBL) has its roots in the constructivist approach to education.

Throughout much of the course of human history, the most common form of instructional delivery was the standard lecture. In this approach, knowledge was often seen as a collection of facts that had to be passed down from the instructor to the student. Dewey (1938) claimed that for education to be successful, it must be based on real-life experiences that stimulate thought and create true knowledge. However Lee, (2022) explored that, the order for education to be effective, it must be founded in real-life experiences. This viewpoint created the groundwork for more immersive and student-centered learning techniques, such as project-based learning (Hmelo-Silver, 2004). PBL is a classic example of such an approach.

The practice of problem-based learning (PBL) may be traced back to the medical education programs that were offered throughout the 1960s at McMaster University in Canada (Barrows & Tamblyn, 1980). An alternative to the conventional educational model was sought for by educators at McMaster University in order to meet the problem of adequately educating medical students for the intricacies of actual medical practice (Mooman, Ali & Lashari, 2023). They envisioned a system in which students would learn by tackling real-life medical issues, bringing both theory and hands-on experience in the process (Fayaz et al., 2023b). This pioneering method served as the basis for what we now refer to as PBL (Process-Based Learning).

Learning always starts with a problem whether it's done in a PBL setting. The students are given a situation or case that does not have an obvious answer, and they often work together in groups to find a solution to the problem (Cebesoy & Rundgren, 2023). They start on a voyage of inquiry, which is guided by a facilitator, during which they seek information, ask questions, and finally arrive at a solution or a better knowledge of the subject at hand (Dolmans, De Grave, Wolfhagen, & Van Der Vleuten, 2005). This method not only provides students with information (Noorani & Lashari, 2023) but also helps them refine abilities such as critical thinking, cooperation, and communication, which

are very useful in the workplace of the 21st century (Bell, 2010).

METHODOLOGY

This research study used a quantitative method. The positivist paradigm, which believed that reality was objective and could be measured and understood by empirical observation and logical analysis, served as its foundation. The unique nature of the research topic and the aims of the study were taken into consideration while making the decision to lean toward a quantitative research design for this particular investigation. Although gaining qualitative insights into the experiences and perspectives of young teachers had unquestionably been beneficial, the major purpose of this exercise was to quantify and compare accomplishments, which made quantitative data an absolute need.

The target population for this study comprises young teacher enrolled in the Shaheed Benazir Bhutto university Shaheed Benazirabad.

Sample Size

A sample of N=150 young teacher was randomly selected from Education department of the Shaheed Benazir Bhutto university Shaheed Benazirabad.

Sampling Technique

A quota sampling technique was employed to ensure representation from batch 19, 20 and 21 batch young teachers' of education department.
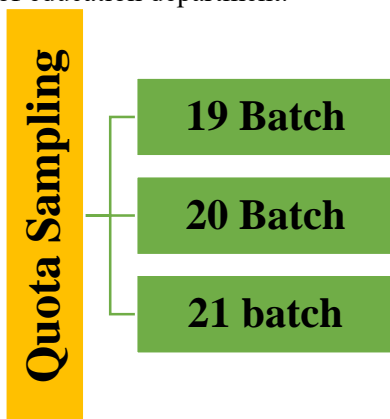
Survey Instrument

A closed-ended questionnaire was developed as the primary instrument for data collection. The questionnaire was designed to be concise, clear, and easy for respondents to complete. The questionnaire

adapted from Ulkarr Satarova study conducted 2021 and Erdal Senocak, 2009.

DATA ANALYSIS

SPSS was used to analyze the quantitative data. Mean , mode and regression analysis was carried out to analyze the data for robust findings of the study. To ensure the validity of the questionnaire it was reviewed by experts in the field of education to ensure its validity. The reliability of the instrument was measured by SPSS. As per standard the standard reliability of the instrument was Cronbach alpha greater than .7 which is considered as reliable (Ahmed, Lashari & Golo, 2023)

Variables	Items	Cronbach's Alpha
Involvement of young teachers	09	.786
Benefits of PBL	10	.888

Results

This study provides an in-depth analysis of the data collected through a structured questionnaire aimed at assessing young teachers' on Problem-Based Learning (PBL). A series of statistical analyses have been performed using SPSS, including Descriptive Statistics, Reliability Statistics, Regression analysis and T-test. Each section will present the findings, their interpretation, and implications for the broader study.

Table 1

Gender

	Frequency	Percent
Male	81	54.0
Female	69	46.0
Total	150	100.0

Table 1 presents the frequency and percentage distribution of the participants based on gender. Out of 150 total respondents, 81 (54%) are female, and 69 (46%) are male. This shows that the sample has a fairly balanced gender distribution, although there is a slightly higher representation of females. The balanced nature of the sample allows for a meaningful comparison of male and female students' achievements and experiences in the problem-based learning environment.

Table 2

Semesters of respondents

Frequency		Percent
Batch 19	63	42.0
Batch 20	67	44.7
Batch 21	20	13.3
Total	150	100.0

According to table 2 reveal that out of the N=150 respondents are participate from different batch 20 and most of respondent n=67 (44.7%) participates from batch 19, n=63 (42.0%) respondent participate from batch 21, n=20 (13.3%) respondent participates.

Table: 3

Descriptive Analysis of the PBL impacts on learning

s.no	Questionnaire	S.D	D	N	A	S.A
1	I feel that PBL has enhanced my academic achievements compared to traditional learning methods.	29	25	18	39	39
2	The PBL approach has made me more engaged and active in my learning process.	32	28	35	27	28
3	I believe that PBL has improved my critical thinking and problemsolving skills.	22	31	36	34	27
4	The real-world problems presented in PBL sessions are relevant to my field of study.	31	28	30	28	33
5	I feel more prepared for professional challenges due to my experiences with PBL.	26	26	28	43	27
6	The PBL confuse students understanding of the lectures provided within this module.	32	25	17	38	38
7	PBL get more time of students.	32	29	35	27	27
8	This method make students uninteresting from learning.	25	31	35	33	26
9	PBL technique helps students to develop decision making power in him/her.	27	26	31	31	35

Results highlighted most of the participants agreed with items and it is concluded that their responses are in Favor of a Problem-based learning environment having a positive impact on young teachers' academic achievement.

Table: 4

Descriptive Analysis of the benefits of problem based learning in implementing classrooms environment.

S.No	Questionnaire	S.D	D	N	A	S.A
10	PBL is a predominant method used in my courses at the university.	28	37	32	25	28
11	Most of my academic achievements have been influenced by the PBL approach.	27	31	33	23	36
12	I often encounter PBL scenarios in my coursework and assignments.	19	38	38	22	33
13	My instructors frequently incorporate PBL methods in their teaching.	25	30	31	36	28
14	PBL has been a significant factor in my academic successes at the university.	31	34	26	30	29
15	PBL helped me learn to obtain information from a variety of sources.	33	23	32	34	28
16	17. I am comfortable with working in groups.	30	28	36	29	27

17	I feel comfortable sharing information with others.	30	29	29	30	32
18	I feel comfortable in asking help from others.	27	30	37	29	27
19	I can evaluate new information and reassess my knowledge.	29	32	24	37	28

Results highlighted most of the participants agreed with items and it is concluded that their responses are in Favour of the benefits of problem-based learning in implementing a classrooms environment.

DISCUSSION

The results of the study are interesting. The percentage of the results show interesting results of the study. 19 items to assess the the young teachers achievement with the problem-based learning environment. The instrument consisted of five likert scale and 19 items with responses recroded. The maximum items were in favour of Problem based learning eneviornment. Gathered data expose a general young teacher's bias ranging from neutral to favorable towards PBL, although with significant variations in heir views concerning different aspects of this educational approach. The descriptive statistics indicate a mild tendency among young teachers to recognize PBL's value for academic growth, but there's a spectrum of opinions surrounding this notion.

The purpose of this study was to investigate the thoughts and feelings that university young teachers have towards the implementation of Problem-Based Learning (PBL) in their respective learning environments. In order to collect data, a detailed questionnaire was sent, and this information was then subjected to further examination using a variety of statistical approaches, such as descriptive statistics, reliability statistics and regression analysis. This chapter's goal is to provide a full examination of the results that were provided in the previous chapter, which can be found here.

The descriptive statistics showed that Young teachers had generally neutral to favorable impressions of PBL, with mean values hanging around the middlepoint of the 5-point Likert scale for most questions. This was discovered by analyzing the responses to the descriptive statistics questions. However, these average scores conceal a more widespread distribution than what is shown by the standard deviations, which were often located around Based on these data, it can be deduced that while PBL has lukewarm support overall, there is a wide variety of perspectives held by young teachers. The values of skewness and kurtosis were quite modest, which indicated that the replies were distributed in a symmetrical manner. This apathy might be an indication of the variety of teaching approaches used at the institution, or it could be a reflection of the young teachers' overall unfamiliarity with or ambivalence towards the PBL methodology.

One of the aspects of the descriptive statistics that equipped my curiosity in particular was the fact that gender-related questions were rather neutral, with mean values near to 3.0. The findings imply that both male and female students consider PBL to be equally useful or difficult, which suggests that the instructional strategy is gender-neutral in terms of its efficacy and reception. The wider conversation about gender equality and diversity in education may find this discovery to be noteworthy.

Another important finding is that the questions on the questionnaire pertaining to academic achievement and critical thinking had mean scores that were somewhat higher than the threshold that represents neutrality. This might imply that the majority of the young teachers think that PBL has favorably benefited their academic progress, even if the effect is minor in nature. In an academic environment that is becoming more competitive, even seemingly little advantages may have a big impact.

Even though the beneficial features of PBL, such as greater involvement in learning activities, critical thinking, creative skills, management skills, problem solving skills and leadership skills. There are evidence that PBL might be time-consuming and sometimes perplexing for young teachers. This is despite the fact that the positive aspects of PBL are understood. Therefore, in order to meet the varied preferences and requirements of young teachers, teachers may need to consider adopting a blended

approach that combines problem-based learning with more conventional instructional strategies. In addition, the results of the survey indicate that not all teachers are considered to have appropriate training in PBL approaches. This shows that there is a potential for faculty development programs to be useful in this area.

It is essential to keep in mind that the scope of this research was restricted to a particular institution, which may not be indicative of student demographics in other educational settings. In further research, in order to get a more holistic understanding of the usefulness of PBL, it may be necessary to engage a number of distinct institutions, as well as a number of distinct educational levels. In addition, the survey did not dive into the causes underlying the students' opinions, which was disappointing. Methods based on qualitative research might provide better insights into this topic.

The outcomes of this study shed light on the intricate and multi-dimensional character of the perspectives that students have with regard to PBL. Educators need to recognize that there are obstacles to overcome, despite the fact that the strategy seems to have great potential for boosting academic success and student engagement. The research highlights the need of using a flexible and hybrid instructional approach in the classroom, one that draws on the advantages of both problem-based learning and more conventional teaching techniques. It is vital that we critically analyze and modify teaching approaches in order to better meet the needs and preferences of the student population, all while retaining academic rigor and inclusion as education continues to change in the 21st century. It is imperative that we do this because it is imperative that education continue to evolve.

PBL, or problem-based learning, is a type of active learning that motivates students to reflect carefully and take ownership of their education. By carefully simulating circumstances that students would encounter in the real world, PBL helps keep students interested and motivated. PBL may be a successful strategy for encouraging students to develop a "need to know" mentality by structuring their learning around important objectives. PBL has been demonstrated to enhance students' comprehension of fundamental ideas, promote deep and creative

learning, and foster the development of their interpersonal and collaborative abilities.

PBL boosts students' self-regulation and collaboration and increases their excitement for learning (Duda et al, 2019). The study also revealed that students' participation in learning is significantly influenced by the quality of their interactions with their professors. PBL is an effective teaching strategy that can boost motivation, engagement, and academic performance in students by giving them opportunities for real-world problem-solving, encouraging self-control and teamwork, and improving the rapport between them and their teachers.

Real-world issues are used as the foundation for learning in the student-centered teaching strategy known as problem-based learning (PBL). Students that engage in PBL can improve their problem-solving abilities, multidisciplinary knowledge, and long-term memory. By giving students the chance to engage in genuine problem-solving procedures, PBL may also promote self-control and collaboration, strengthen the rapport between students and teachers, and increase student motivation.

According to a Tan, (2021), project-based learning (PBL) 1 final grades and peer evaluation grades are positively correlated. In peer grades and final grades, female students outperformed male students, according to the research 1. The study, however, did not offer convincing evidence to support the disparities discovered. Student-centered instruction and problem-based learning have a significant impact on academic attainment (Lee, 2022). The study found that student-centered teaching and problem-based learning may account for a sizable portion of the variance in academic performance levels, demonstrating their efficacy in raising academic accomplishment. In conclusion, while there is proof that female students perform better than male students in PBL, further research is needed.

Finding genuine issues that function well with PBL is one of the obstacles in implementing PBL. Recognizing your ignorance, Getting familiar with PBL Accepting real failure maybe performing worse on tests, unprepared students, unprepared teachers, Time-consuming evaluation, varying degrees of relevance and applicability, and difficulty letting go of control to act as a facilitator, encouraging the

students to ask the correct questions rather than providing them with answers

CONCLUSION

The study introduces problem-based learning (PBL) as a student-centered teaching method that uses real-world problems as the basis for learning. The study mentions two studies that support the effectiveness of PBL in improving academic performance, problem-solving skills, and student motivation. The study also mentions that female students tend to perform better than male students in PBL, but the reasons for this are unclear and need further research. The study lists some of the challenges in implementing PBL, such as finding suitable problems, accepting uncertainty and failure, preparing learners and teachers, and evaluating the outcomes.

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