



RESEARCH ARTICLE

Section: *Literature, Linguistics & Criticism*

An exploratory study on Project-Based Learning (PBL) in tertiary ESL classrooms in India: Teachers' insights on adoption and challenges

A. Meera^{1*} , T. Shrimathy Venkatalakshmi¹, K. Denish Raja Durai² & S. Kavita Singh¹¹Department of English, Anna University, Chennai, India²Department of English, Vellore Institute of Technology (VIT), Vellore, India*Correspondence: meeraanbu06@gmail.com or denish.raja@vit.ac.in**ABSTRACT**

Project-Based learning (PBL) has gained significance in English as a Second Language (ESL) education due to its efficacy in real time language acquisition. This study explores the ESL teachers' perceptions of PBL, emphasising its implementation, impact, challenges and training at the tertiary level particularly engineering colleges in Tamil Nadu, India. Data were collected through questionnaire from 75 ESL teachers from engineering colleges. Further, to corroborate the questionnaire results, interviews were conducted with 15 teachers. The findings show that the ESL teachers show a positive attitude towards PBL however there exists a gap between knowledge and practice due to many challenges like large class size, rigid curriculum and limited proficiency students. Teachers emphasised the positive impacts in the teaching learning process. They also stressed the need for teachers training, institutional support for effective integration PBL in ESL classrooms.

KEYWORDS: challenges, engineering colleges, implementation, Project-Based Learning (PBL), training, tertiary ESL teachers

Research Journal in Advanced Humanities

Volume 6, Issue 3, 2025

ISSN: 2708-5945 (Print)

ISSN: 2708-5953 (Online)

ARTICLE HISTORY

Submitted: 29 May 2025

Accepted: 19 July 2025

Published: 11 September 2025

HOW TO CITE

Meera, A., Venkatalakshmi, T. S. ., Raja Durai, K. D. ., & Singh, S. K. . (2025). An exploratory study on Project-Based Learning (PBL) in tertiary ESL classrooms in India: Teachers' insights on adoption and challenges. *Research Journal in Advanced Humanities*, 6(3). <https://doi.org/10.58256/t5z63r21>



Published in Nairobi, Kenya by Royallite Global, an imprint of Royallite Publishers Limited

© 2025 The Author(s). This is an open Access article distributed under the terms of the Creative Commons Attribution License (<http://creativecommons.org/licenses/by/4.0/>), which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

1. Introduction

A gradual and consistent shift from teacher centred learning to student centred learning has become apparent in India and global education system. Factor such as cultural and educational contexts, demands of the dynamic workforce, technological advancements, pedagogical research contributed to this shift. In the Indian context, where diverse linguistic, cultural, social and schooling background coexist, a student-centred approach is paramount. This approach helps to bridge the gap between such diversity and unique backgrounds. Acknowledging this shift, National Education Policy (NEP) 2020, India's first education policy of the 21st century aims to transform education by making it more comprehensive, flexible and interdisciplinary. By aligning education with real-world needs, NEP 2020 aims to foster holistic development and to support competent individuals ready for diverse professional environments.

The rapid changes in the global workforce demands the higher education institutions in India to remodel and energise their approaches to develop students' 21st century skills in terms of cognitive, imaginative, and emotional intelligence. This need is further emphasized in the realm of English language learning, where proficiency in English is essential for effective communication, gaining knowledge, advancing academically, and enhancing career prospects. The recent policy brief by NITI Aayog (2025) on expanding quality higher education highlighted that inadequate English language proficiency is a key factor hindering employability among graduates from higher education institutions. The brief also featured the primary role of these institutions to improve English and foreign language skills and it is important to address the issue by prioritising their language proficiency to achieve the goals of NEP 2020. Hence, higher education institutions are steadily integrating approaches to address the dire necessity to augment the employability of students and to make education more relevant, interactive and application oriented.

One approach that caters these needs is Project Based Learning (PBL) which emphasises engaged learning through investigation and doing real-world projects. Many higher education institutions in India have started incorporating PBL into engineering education to enhance students' technical knowledge and its application, rebuilding and collaboration across various engineering disciplines. Nevertheless, its adoption in English language classrooms within the engineering institutions is uncertain and underexplored. For successful adoption of any pedagogical approach, teachers as prime facilitators of learning and heart of the learning process (NEP 2020) play a significant role. In India, English is considered as the second language (ESL) where it is taught and learnt through different methodologies from the primary to the tertiary level of education. This study aims to explore and understand teachers' perception of Project-Based Learning (PBL), its implementation, impact on the language performance of learners, challenges faced by teachers and training and institutional support to integrate PBL in ESL classrooms in engineering institutions particularly Tamil Nadu, India.

2. Review of Literature

2.1 Defining Project-Based Learning (PBL)

Project-based learning (PBL) has long been a part of educational tradition (Grant, 2002; Merkhham et al., 2003). It is "an approach for student-centered experiential learning in authentic contexts" (Slater & Beckett, 2024). The term "project" applied in the EFL context was originally put forwarded by Diane L Fried-Booth (1990, p.8). Fried-Booth (2010) stated "project-based learning is student-centered and driven by the need to create an end-product. However, it is the route to achieving the end-product that makes project work worthwhile". Katz and Chard (2000) define Project-based learning (PBL) as an effective approach that encourages students to take an active role in the learning process by allowing them to choose the topics of their interest. It stimulates them to question, analyse, develop theories, use different tools. They also highlight that project provides opportunity to apply the skills in real and meaningful contexts. It "capitalizes on their proficiencies" and enables the students to keep them engaged and take responsibilities.

Project-Based Learning (PBL) is defined as a "programmatic or instructional approach that utilizes multifaceted projects as a central organizing strategy for educating students". (Great Schools Partnership, n.d., para. 1). Thomas (2000) states that Project-Based learning (PBL) is a "model that organizes learning around project". To highlight the distinctiveness of Project-Based Learning (PBL), he identified five criteria. The first criterion emphasises that in PBL, project is the primary teaching method, where students gain knowledge through projects. Secondly, PBL projects focus on a driving question which must be facilitated to learn the key

tenets of a discipline. Thirdly, PBL projects should encourage students to investigate, build knowledge and solve problems. Next, it should motivate students to take responsibility and encourage student autonomy. Lastly, projects must be meaningful and experiential.

1.2 Understanding the difference between ‘Doing Projects’ and ‘Project Based Learning’

According to PBLWorks (n.d.), Project-Based Learning (PBL) takes a different approach than standalone traditional projects in several ways. Projects are extension tasks that are assigned at the end of the unit and focuses on product. While Projects are integral part of Project-Based Learning (PBL), nevertheless in PBL greater focus is placed on the learning process than the outcome. Projects are often teacher directed while PBL encourages student inquiry. Projects are often confined within the classroom whereas PBL has a real-world application and it is shared beyond the classroom. Project-Based Learning (PBL) often encourages students to collaborate unlike projects that can be done alone.

1.3 Role of Teachers and Students

According to Bell (2010), “Project-Based Learning (PBL) is a student-driven, teacher-facilitated approach to learning”. This definition emphasises the active roles of learners and the teachers. In PBL, the student’s role changes from “recipient of information” to “maker of meaning” and the teacher’s role shifts from “content expert” to “supportive coach” when students undertake project work. (Fleming, 2000). Katz and Chard (2000) in their study, highlight the role of the teacher as “consultative than instructional”. The teacher must be available for the students and facilitate learning in a conducive environment by mentoring and guiding the students’ progress. As the teacher observes the students’ activities, the teacher must identify the students’ needs and address them. TeachThought. (n.d.) explains another key difference in the teacher’s responsibility. While doing projects, the teacher takes part only at the end of the project work while in PBL, the teacher takes part throughout the learning process as a facilitator.

1.4 Implementation of PBL

Papandreou (1994) emphasizes that each project results from a set of activities carried out by students, with these activities systematised into a procedure featuring specific stages. Papandreou presents a six-step model for project work:



Figure1: Papandreou’s six step model for project work

Firstly, the topic is introduced to the students by the teachers; encourage them to engage in discussions and raise questions. Then, students and the teacher work together to decide on data collection, analysis techniques,

and task allocation. The students collect information from various sources independently or as a team. The students review the collected data and derive a conclusion. In the presentation phase, students are required to display their accomplished task to the entire batch of students. Lastly, the teacher provides feedback on their performance after the presentation as part of the evaluation.

Allan and Stoller (2005) outlines a ten-step approach to create a project in a EFL context. This framework is designed to help both teachers and learners for successful implementation of projects and to enhance the positive outcomes of the project work. The Figure 2 below shows the overview of the stage involved.

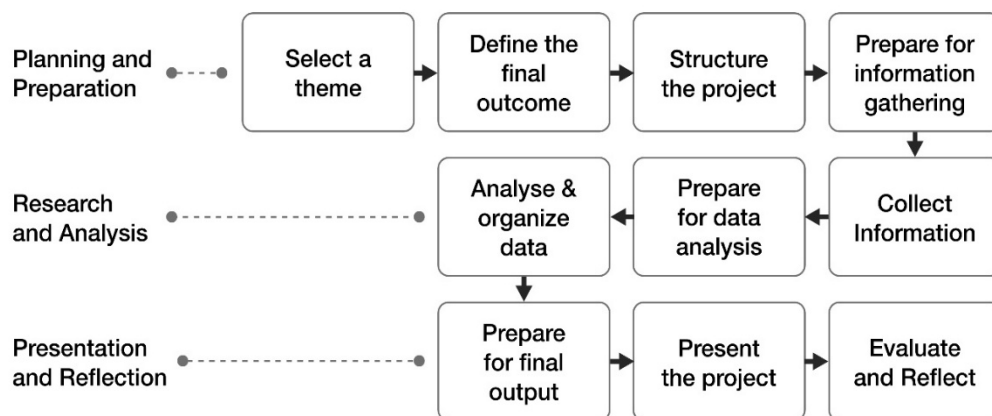


Figure 2: Allan and Stoller's ten step approach

Initially, after discussions, both the students and the instructor consent on a project theme and then identify the targeted outcome. Following that students and the instructor collaboratively outline the project. The instructor then assists students to identify and develop their linguistic requirements for gathering information from various sources, after which they gather data. As they proceed, the instructor aids students to fulfil the linguistic requirements to assemble and analyse data. Students then compile and assess the collected information. The instructor again guides students for the linguistic requirements to present the final product. At the end, students present the final product and they assess the project. These steps provide a concise and structured model to use PBL in English language classrooms and guides students and teachers through the important stages of a project. To ensure the effective implementation of Project-Based Learning (PBL), it is essential to assess the progress and learning approaches of students. Harris (2015) in his study on implementation of PBL, highlights a new perspective to assessment of learning. He states, "assessment that takes place in project-based learning experiences is authentically generated". A performance evaluation on team improvement, an assessment of subject knowledge, or a presentation at the end to share the outcomes of the project are some of the approaches to testing in PBL. Therefore, students are evaluated using different criteria in the project-based learning classroom. He also points out that reflective assessment, team evaluation, process, and project evaluation are all considered as authentic assessments. He also emphasises the use of rubrics in a PBL classroom, "rubrics measure the breadth of content and standards and the process of getting the content and standards". In PBL, assessments can be conducted through various approaches such as "portfolio, observation, self-assessment, peer assessment, and teacher feedback". (Mai, H., & Trang, N, 2022). Moss, Van Duzer and Carol (1998) agree that projects are well suited for evaluating both language skills and employability skills.

1.5 Impacts of PBL

This section enlists some important findings from select empirical studies on Project Based Learning (PBL) and its impact in English language learners across the world. These studies have been arranged chronologically for better understanding.

Table 1: A report on empirical studies on impacts of Project Based Learning (PBL)

Study	Description	Findings
Shafaei & Rahim (2015)	Iran: The study to explore how learners of English acquire contemporary vocabulary by adopting Project-Based Learning (PBL). Also examine the impact on vocabulary recollection and retention. Included EFL students aged 16-18. (n=49)	Experimental group taught using PBL showed a considerable enhancement in their vocabulary recall and retention rate. Exposure to these words and providing a contextually diverse environment enhanced the learning.
Kovalyova, Soboleva & Kerimkulov (2016)	Russia: A study to understand the application of PBL to teach communication skills to engineering students in EFL setting. (n=12)	Learners acquired new vocabulary, improvement in grammar, significant progress in reading and writing. Also helped them to use technology to design presentations and make videos.
Mafruudloh & Fitriati (2020)	Indonesia: A study to explore the application of PBL in English class and its effect on speaking aptitude. Samples were management students. (n=25)	PBL has a significant optimistic effect to students' functional discourse. Also promoted creativity and team work.
Lu (2021)	China: A study to teach English writing to university students integrating PBL with the pedagogical model of Analysis, Design, Development, Implementation and Evaluation (ADDIE) (n=36)	Significantly improved students' writing skills through collecting information, discussion, collaboration and practical application. Stressed teacher's role in providing feedback, encouraging and helping students to acquire writing skills.
Puangpunsri (2021)	Thailand: The study focused on integration of PBL in an EFL classroom and its impact language and 21 st century skills. The participants were young adult learners. Data collected through feedback after a 15 weeks course. (n=104)	Positive impact of PBL includes fostering conducive environment, expands learning opportunities and encourages student participation. PBL supports use of language skills in day-to-day life and enhancing their confidence while communicating.
Chi (2023)	Vietnam: A study to evaluate the benefits of PBL in an ESP course- English for Business (EB) (15 weeks) at a university. Data was collected through classroom observation and interviews. (n=30)	Adopting PBL in the EB course is apparently effective in the context of individual growth, career development and community engagement. Also showed in improvement in knowledge and language acquisition.
Stevkovska (2023)	Macedonia: To study the implementation of PBL in English for Academic Purposes (EAP) and English for Specific Purposes (ESP) courses to enhance critical reading skills of students in English at a university (n=80)	Showed improvement in their English skills, academic vocabulary, field-specific terminology. Improved reading skills were acquired through activities and were engaged in real- world projects.
Kilanava (2024)	Georgia: A study to explore the integration PBL to develop research writing among young adult students at university. Also aimed to study the impact of PBL on their writing competence and effectiveness. (n=120)	Notable improvements in composition, unity, comprehension and reasoning. Consistent feedback and revision promoted improvement in writing skills.

Teachers face various challenges when they implement PBL in their classrooms. Harris (2015) in his study investigated the teachers' perceived challenges they face during the implementation of PBL. Some of the highlighted challenges in the study included insufficient duration to implement PBL, setback in fulfilling the standards, issues in choosing the standardized test and assessing the project, organizational structure that are not conducive to integrate PBL, implementing the project within the institution's timeline and resistance to collaborate and co-teach, lack of appropriate professional development.

Habok and Nagy (2016) in their study analysed teachers' perception on PBL and found many challenges including inexperience with the PBL methodology, overload of tasks and time constraints for developing, implementing PBL, monitoring group activities, monitoring acquisition of skills along with language development. Mai and Trang (2022) investigated the reality and challenges of PBL and highlighted curriculum-related difficulties such as restricted timeframe, lack of clear and detailed instruction and unavailable of evaluation rubric for PBL implementation; learner challenges such as heterogeneity in classroom, diversity in interests and learning styles, deficit resources and lack of skills to work collaboratively and complete a task; and issues faced by teachers include lack of expertise in adopting methods like PBL, unanticipated shift in their role, shortened schedule to aid students, and managing large number of students.

Tamim and Grant (2013) expressed that teachers of PBL have to be motivated, willing to accept new ideas in their teaching practices, and ultimately allow for flexibility in planning. Teachers who embrace PBL to attain the maximum potential require relevant training and professional development on implementing, designing, planning, assessing PBL; provide appropriate resources to them.

1.6 PBL in English language instruction in India

Zaidi (2014) conducted a study among young learners (14-16 years of age) to understand the effectiveness of PBL through English Access Micro-Scholarship Program in India. The study highlighted that exposure to authentic materials aided students develop their English language skills while working on their project. It has confirmed PBL is an effective means to teach English and aided students become independent learners through collaboration and critical thinking. Khan and Mohakud (2016) conducted evaluative research to understand the teachers' beliefs towards effectiveness of Project-Based Learning (PBL) in West Bengal. The study showed that most teachers were overwhelmingly positive towards PBL and found that there is no change in attitude of teachers in terms of gender, age, habitat and discipline. Gupta and Gupta (2021) conducted a comprehensive study on integrating PBL among faculty members in technical institutions and proposed several recommendations at three levels: institutional, faculty, and student. Suggestions such as developing policy and guideline documents, establishing strong industry academia partnership, training of teachers, and at the student level to take an active role in collaborative and meaningful learning.

Ezhilarasi and Mohanraj (2023) implemented a unique model Kumaraguru Project Based Learning (KPBL) Framework at Kumaraguru College of Technology, India to offer practical learning with real-world problems to the tertiary level students. During the process, students collaborated in small groups, identified the problem, studied and analysed the problem and arrived at solutions under the guidance of the mentor. The outcome of the KPBL model clearly demonstrated the meaningful engagement and better performance of the students. Over the years, students published research papers, completed projects, developed prototypes and filed patents. It is evident that KPBL has been influential in transforming education among young graduates.

The existing literature and research evidence highlighting Project-Based Learning (PBL), its implementation, benefits, impact on English language acquisition, challenges and training across the globe is extensive, however, research within the Indian higher education system in the realm of ESL landscape remain limited. Exploring the ESL teachers' perception in technical institutions particularly engineering colleges on the integration of PBL and its impact would significantly contribute to the corpus of research and provide valuable insights to enhance English language instruction across the country.

3. Objective of the Study

The overarching objective of the study is to explore and understand the English language teachers' perspective on Project Based Learning (PBL), its implementation and its impact in their ESL classroom within engineering colleges. The study attempts to address the following research questions.

1. To what extent are teachers aware of Project Based Learning (PBL)?
2. How do teachers integrate PBL in their ESL classrooms?
3. What benefits of PBL in the teaching- learning process have teachers observed?
4. What challenges do students/ teachers face when using PBL in their ESL classroom?
5. What support do teachers receive for implementing PBL from the institutions?

4. Research Methodology

1.1 Research Design and Setting

This study employs an exploratory research design to investigate the ESL teachers' perception of Project Based Learning (PBL) in higher education, particularly in engineering colleges in Tamil Nadu, India. It also aims to explore and understand the level of awareness among the ESL teachers, its implementation, perceived impacts on language learning and challenges they face in their language classrooms. This study focuses on technical institutions in Tamil Nadu because Project-Based Learning (PBL) is still an emerging approach in ESL classrooms within these institutions. Furthermore, Tamil Nadu was selected as the focus of this study because it has a large number of engineering colleges where English is taught as a second language which can provide valuable insights. The researcher collected data pertaining to the study from ESL teachers in engineering colleges located in rural, semi-urban and urban areas in Tamil Nadu in India.

1.2 Research participants and Sampling

The study is on ESL teachers at the tertiary level particularly engineering colleges in Tamil Nadu, India. A purposive sampling was specifically employed to select teachers who have experience in ESL teaching within engineering colleges to ensure that participants have relevant knowledge and experience related to PBL. These teachers are involved in English language teaching therefore they can provide deep insights on PBL. The sample included 75 ESL teachers from different engineering colleges across the state of Tamil Nadu. To maintain universality of the sample, teachers from rural, semi-urban and urban areas were chosen for the study. They have varied years of teaching experience, institutional backgrounds and levels of familiarity with PBL. Participants were informed about the study's purpose and gave their voluntary consent to take part in the study. Furthermore, the names of the participants and their details remain confidential and all the data collected for the study were anonymized to protect privacy of the participant.

1.3 Data collection tools

1.3.1 Questionnaire

A structured questionnaire was developed to measure the familiarity and perception of PBL among ESL teachers. It included both Likert- scale items to measure teachers' attitude and experience with PBL and close- ended questions to collect descriptive insights on challenges that they face, institutional support and training. To ensure clarity and relevance of the question items, the questionnaire was pilot-tested with a small group of ESL teachers. Additionally, for validity of the questionnaire, it was reviewed by two experts in the field of English language teaching. Based on the feedback from the pilot study and reviews, changes were made to ensure that the questionnaire is comprehensive and aligned with the study's objective. The questionnaire was tested using Cronbach's Alpha test and the coefficient was found to be as high as 0.89 indicating strong internal consistency. The final questionnaire covered five themes with demographic questions and 31 questions, consisting of Likert-scale items (1 - Strongly Disagree, 2 - Disagree, 3 - Neutral, 4 - Agree, 5 - Strongly Agree) and few close ended questions. The themes are beliefs and attitude towards PBL, use of PBL in ESL classroom, impact of PBL on teaching and learning, challenges, training and support for PBL in ESL classrooms. For this study, 18 statements were chosen and analysed.

1.3.2 Semi-Structured interviews

Semi-structured interviews were conducted with 15 teachers. Teachers were selected based on their level of experience using PBL, as responded in the questionnaire. Teachers who rated their experience as advanced (2), intermediate (7) and beginner (6) were selected for the interview to explore the in-depth personal experiences with PBL, its implementation, perceived impacts on teaching learning process, challenges, strategies to overcome

the challenges and institutional support. A thematic analysis approach was used to examine the interview data systematically. This method was employed to explore the in-depth commonalities and differences among ESL teachers' experiences and perceptions. The analysis was conducted through coding and categorizing their responses into major themes, which emerged from the interview. The interviews were audio recorded with the consent of the participants and transcribed for analysis.

1.4 Data Analysis Tool

This study employs both quantitative and qualitative methods to analyse the collected data and to understand the perception of ESL teachers on Project Based Learning (PBL). The researchers have used descriptive statistics and MS-Excel to analyse the data from the questionnaire. The questionnaire had Likert-scale statements so most statements were analyzed using mean and standard deviation to summarize the data. The responses from the interviews were analyzed using thematic analysis to identify common patterns and interpret the identified themes.

The questionnaire consisted of 18 Likert-scale statements where the values range from 1 to 5. Since the distribution of responses was non-uniform, the mean value intervals were redefined with equal ranges of 0.8 each. This adjustment in the range was done to establish statistical validity and to determine a consistent interpretation of the data. The table given below (Table 2) shows the revised range intervals for interpreting the mean values derived from the responses of the ESL teachers.

Table 2: Revised range of mean values

Likert-scale interpretation	Frequency	Range of mean values
1	Strongly Disagree	1.0- 1.80
2	Disagree	1.81- 2.60
3	Neutral	2.61- 3.40
4	Agree	3.41- 4.20
5	Strongly Agree	4.21- 5.00

5. Results and Discussion

5.1 Analysis of the data collected from questionnaire

The study included 75 ESL teachers from engineering colleges in Tamil Nadu and the Figure 3 below shows the demographic details of the ESL teachers.

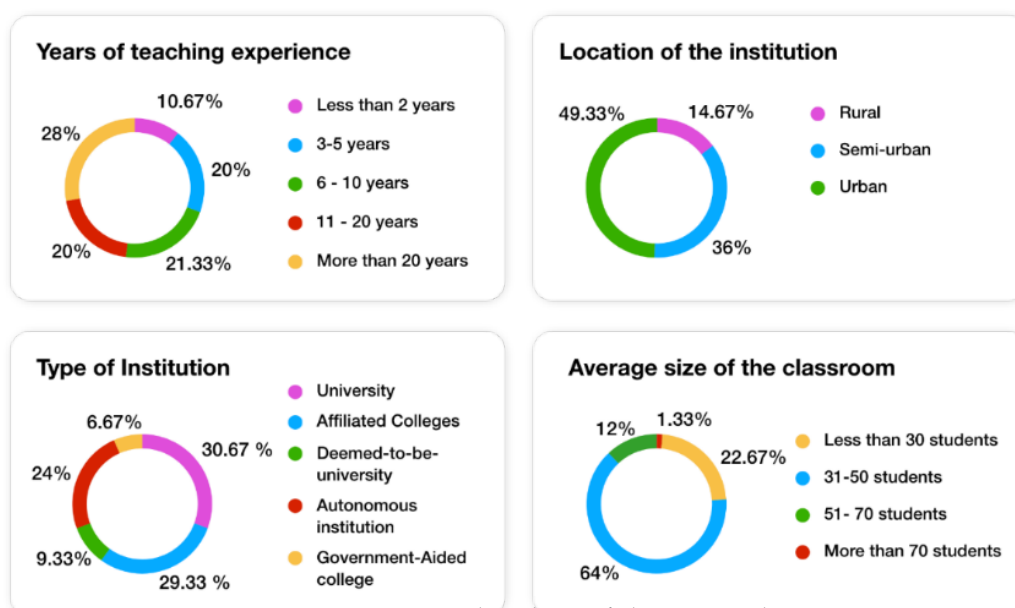


Figure 3: Demographic data of the respondents

5.1.1 Beliefs and attitude towards Project Based Learning (PBL)

The first cluster of statements on beliefs and attitude towards Project based learning (PBL) are as follows:

1. I am familiar with Project Based Learning (PBL).
2. I understand how Project-Based Learning (PBL) differs from traditional teaching methods and doing projects.
3. Project-Based Learning (PBL) is an effective approach for teaching English as a Second Language (ESL) at the tertiary level.
4. I am familiar with the strategies to design and implement PBL in an ESL classroom.

The Figure 4 presents the graphical representation of the distribution of the responses to each statement for the first cluster in the form of a stacked chart.

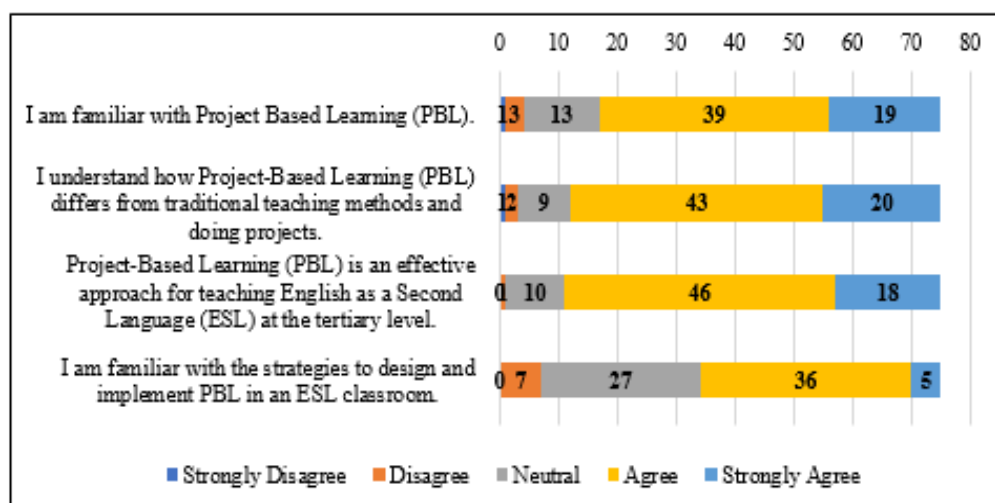


Figure 4: Distribution of responses for the first cluster

To analyze the results of questionnaire, we examined the mean values and interpreted them based on the revised range provided in Table 1. The table for each cluster provides the statistical summary with the mean scores, standard deviation and their corresponding interpretations. It also includes the percentage of responses for each frequency category in the questionnaire: Strongly Disagree, Disagree, Neutral, Agree and Strongly Agree.

Table 3: Statistical Summary of the first cluster

Statement	Strongly disagree (1)	Disagree (2)	Neutral (3)	Agree (4)	Strongly agree (5)	Mean Score	SD	Interpretation
S1	1.33%	4.00%	17.33%	52.00%	25.33%	3.96	0.84	Agree
S2	1.33%	2.66%	12.00%	57.33%	26.66%	4.05	0.78	Agree
S3	0%	1.33%	13.33%	61.33%	24.00%	4.08	0.65	Agree
S4	0%	9.33%	36.00%	48.00%	6.66%	3.52	0.75	Agree

The responses indicate an overall positive attitude towards PBL with variations in familiarity and confidence in implementation strategies. The first statement S1 assessed the familiarity among ESL teachers in engineering colleges where majority of respondents agreed (77.33%) with a mean score of 3.96 confirming high level of familiarity and standard deviation (SD) of 0.84 indicating moderate variation in responses. Minor fraction of ESL teachers (5.33%) still lack adequate exposure to PBL. The second statement S2 examined teachers understanding of how PBL differs from traditional teaching methods and doing projects. 84% ESL teachers agreed and the mean score of 4.05 and SD= 0.78 indicates the common consensus among respondents.

The following statement S3 explored the perceived effectiveness of PBL in teaching English as a second language (ESL) at the tertiary level. A notable 85.33% of respondents agreed with the highest mean score of

4.08 and low variation SD of 0.65. None of the respondents strongly disagreed, only 1.33% disagreed which reinforces that PBL positively impacts ESL learning. The statement S4 addressed the teachers' familiarity with strategies to design and implement PBL in ESL classroom where 54.66% respondents agreed and a mean score of 3.52 (SD=0.75) indicate moderate familiarity. A notable 36.66% remained neutral and 9.33% disagreed suggesting that some teachers lack practical experience.

5.1.2 Use of Project based Learning (PBL) in ESL classroom

The following statements were included in the questionnaire on the use of Project Based Learning (PBL) in ESL classroom.

5. How often do you use PBL to teach English language skills in your ESL classroom?
6. I feel that PBL aligns well with the existing ESL syllabus and objectives.
7. I help students set goals and manage their time during PBL activities.
8. I encourage collaboration, monitor progress, and provide feedback during PBL projects.
9. How often do you incorporate technology tools to support teaching and learning in PBL activities?
10. I have clear rubrics available for assessing PBL projects.

The Figure 5 presents the graphical representation of the distribution of the responses (second cluster) on the use of PBL in ESL classroom.

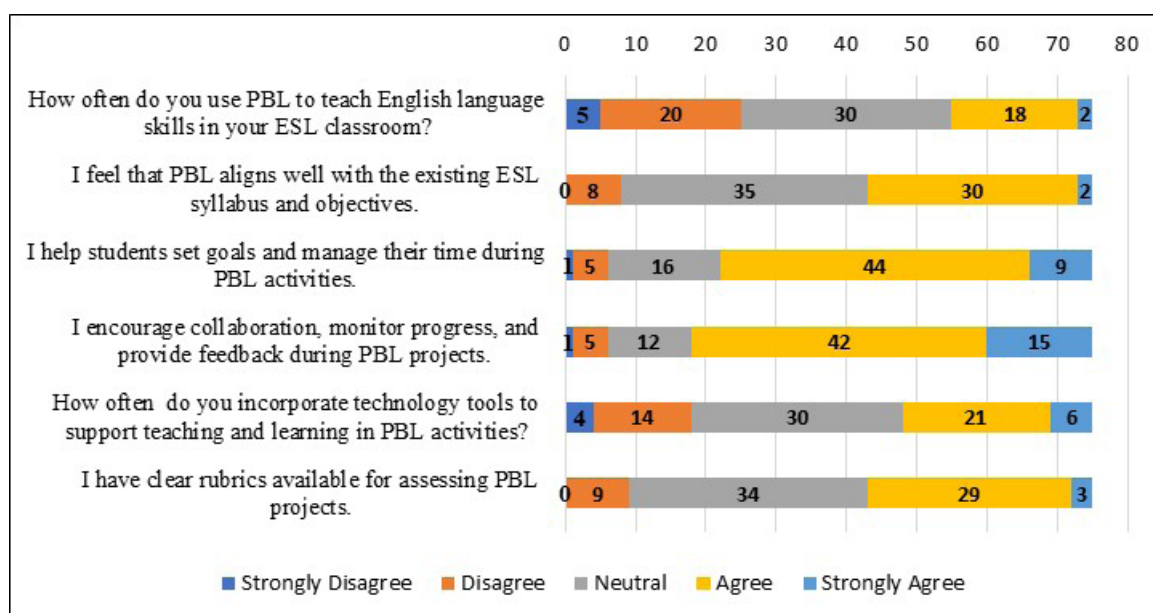


Figure 5: Distribution of responses for the second cluster

The Table 4 below shows the summary of the responses for the second cluster, with mean and SD. It also provides the interpretation based on the revised range provided in Table 1.

Table 4: Statistical Summary of the second cluster

Statement	Strongly disagree (1)	Disagree (2)	Neutral (3)	Agree (4)	Strongly agree (5)	Mean Score	SD	Interpretation
S5	6.66%	26.66%	40.00%	24.00%	2.66%	2.89	0.93	Sometimes
S6	0%	10.66%	46.66%	40.00%	2.66%	3.34	0.70	Neutral
S7	1.33%	6.66%	21.33%	58.66%	12.00%	3.73	0.81	Agree
S8	1.33%	6.66%	16.00%	56.00%	20.00%	4.42	1.06	Strongly Agree

S9	5.33%	18.66%	40.00%	28.00%	8.00%	3.14	0.99	Sometimes
S10	0%	12.00%	45.33%	38.66%	4.00%	3.34	0.74	Neutral

Question (S5) on the frequency of PBL usage in ESL classroom received a mean score of 2.89 and SD 0.93 indicating that PBL is used only sometimes in ESL classroom and variability in teachers' adoption of PBL. Only 26.66% of teachers responded sometimes, a significant proportion of 40% remained neutral and 33.32% of respondents used PBL occasionally or never used it clearly indicating that the implementation is inconsistent. A significant portion of respondents (46.66%) were neutral about whether PBL aligns well with the existing ESL syllabus and objectives while 40% agreed. The mean score 3.34 and SD 0.70 suggest that teachers are divided and there is uncertainty among ESL teachers.

The statements S7 and S8 focussed on the role of teachers. A majority of ESL teachers of 70.66% agreed with mean score of 3.73 and SD 0.81 indicate a positive trend that they help students set goals and manage their time. Teachers strongly agreed (Mean= 4.42) that they encourage collaboration, monitor progress and provide feedback during ESL activities. This underscores the active role of teachers which are critical for successful implementation of PBL. However, with high SD of 1.06 suggest variability in the extent to which teachers engage in these practices.

The incorporation of technology tools in PBL activities (S9) received a mean score of 3.14 with SD 0.99 indicating that technology is incorporated into PBL sometimes and 40% remained neutral indicating the limited use of technology. 45.33% of ESL teachers expressed neutrality (Mean score =3.34) regarding the availability of clear rubrics for assessing PBL projects (S10). The moderate SD 0.74 suggest that assessment remains a challenge for many teachers.

5.1.3 Impact of Project Based Learning (PBL) on teaching and learning

The following statements are on the impact of Project Based Learning (PBL) on both teaching practices and students learning outcomes in ESL classroom.

11. PBL helps me focus on guiding students rather than just delivering content.
12. Implementing PBL in my teaching enhances my ability to integrate real-world scenarios and problem-solving into my lessons
13. PBL enhances student engagement and collaboration.
14. PBL helps students apply language skills in practical, real-world contexts

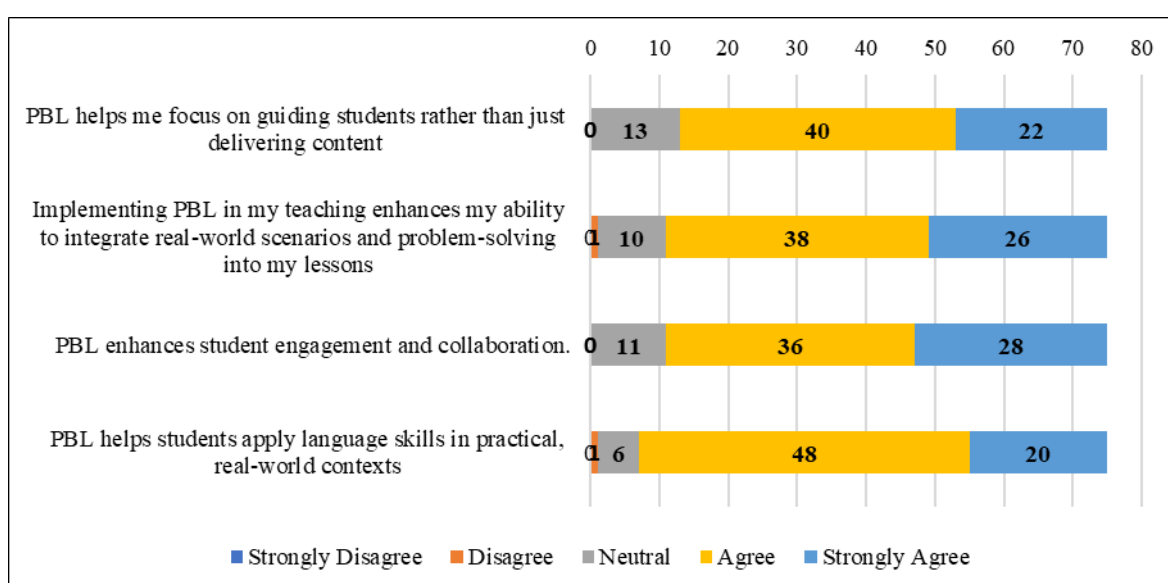


Figure 6: Distribution of responses for the third cluster

The above Figure 6 shows the distribution of responses for the above statements. The Table below shows the summary of the responses for the third cluster on impact of PBL in teaching and learning, with mean and SD. It also provides the interpretation based on the revised range provided in Table 1.

Table 5: Statistical Summary of the third cluster

Statement	Strongly disagree (1)	Disagree (2)	Neutral (3)	Agree (4)	Strongly agree (5)	Mean Score	SD	Interpretation
S11	0%	0%	17.33%	53.33%	29.33%	4.12	0.67	Agree
S12	0%	1.33%	13.33%	50.66%	34.66%	4.18	0.71	Agree
S13	0%	0%	14.66%	48.00%	37.33%	4.22	0.68	Strongly Agree
S14	0%	1.33%	8.00%	64.00%	26.66%	4.16	0.61	Agree

The statement S11 and S12 focussed on the impacts on the teaching practices. A significant majority of teachers 82.66% agreed that PBL helps them focus on guiding students rather than just delivering content with a mean score of 4.12. The low SD of 0.67 indicates high consensus among respondents. This reflects a shift from traditional teachers-centred approach to more student-centred learning where teacher's role is a facilitator rather than knowledge providers. S12 received an overwhelming response of 85.32% of agreement with a mean score of 4.18 that PBL enhances their ability to integrate real-world scenarios and problem solving into their lessons. The low SD of 0.71 shows the consistency of this perception. This suggests that PBL is seen as an effective tool that bridging gap between disseminating theoretical knowledge and practical application which is crucial for language learning in ESL context.

The statements S13 and S14 investigated the impacts on students. A remarkable 85.33% of teachers were unanimously positive on student engagement and collaboration with a mean score of 4.22 suggesting a strong agreement among the respondents. The absence of disagreement underpins the notion that PBL positively impacts student participation and peer interaction. For S14, mean score was 4.16 (SD = 0.61) suggesting an agreement that PBL aids students in applying language skills in practical, real-world contexts.

5.1.4 Challenges in implementing Project based Learning (PBL) in ESL classroom.

The cluster has two statements.

15. Managing large class sizes makes it challenging to effectively implement PBL activities

16. Students' lack of confidence in their English skills or limited proficiency reduces their participation and engagement in PBL projects.

The figure shows the distribution of responses for the above statements.

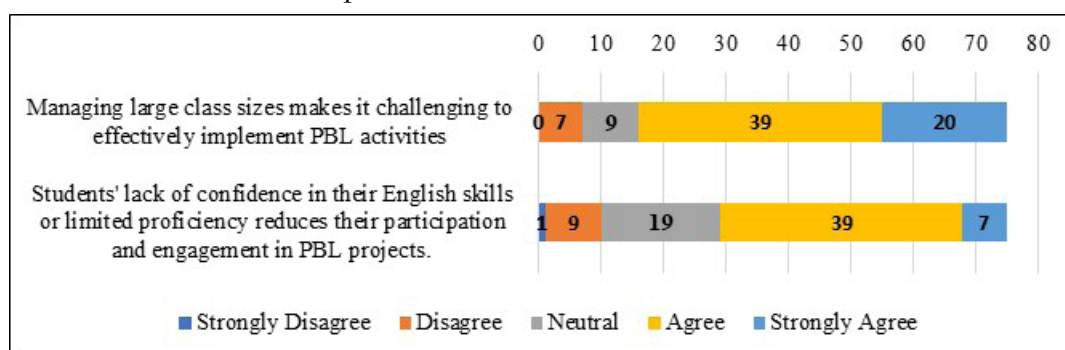


Figure 7: Distribution of responses for the fourth cluster

The Table 6 below shows the summary of the responses for challenges in implementing PBL, with mean and SD. It also provides the interpretation based on the revised range provided in Table 1.

Table 6: Statistical Summary of the fourth cluster

Statement	Strongly disagree (1)	Disagree (2)	Neutral (3)	Agree (4)	Strongly agree (5)	Mean Score	SD	Interpretation
S15	0%	9.33%	12.00%	52.00%	26.66%	3.96	0.87	Agree
S16	1.33%	12.00%	25.33%	52.00%	9.33%	3.56	0.87	Agree

A substantial majority of teachers 78.66 % agreed that managing large class sizes (S15) makes it challenging to implement PBL activities effectively with a mean of 3.96. The teacher ratio in the demographic data on class size reinforces this challenge. The Figure shows that 76% of ESL teachers handle large classes (50 – 70 students) and 12% of teachers managing more than 70 students. Given the interactive and student-centred nature of PBL managing such large class makes the learning process difficult. For the statement(S16), most teachers (61.33%) with the mean score of 3.56 agreed that students' limited proficiency and lack of confidence in language reduces their participation in the classroom. Some teachers (25.33%) were neutral indicating that these teachers may not perceive this as a significant problem, possibly due to variation in student proficiency levels or teaching strategies.

5.1.5 Training and Support for PBL

The statements for the last cluster were on training and the institutional support received by the ESL teachers.

17. I have received formal training in PBL methodologies.

18. My institution supports and encourages the use of PBL in the classroom

19. What institutional support do you receive when implementing Project Based Learning (PBL) in your language classroom? (Q1)

The figure shows the distribution of responses for the above statements.

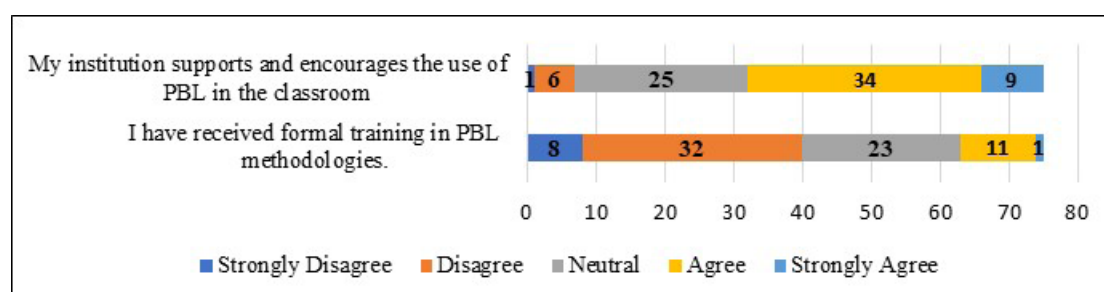


Figure 8: Distribution of responses for the fifth cluster

The table below shows the summary of the responses for training and institutional support with mean and SD. It also provides the interpretation based on the revised range provided in Table 1.

Table 7: Statistical Summary of the fifth cluster

Statement	Strongly disagree (1)	Disagree (2)	Neutral (3)	Agree (4)	Strongly agree (5)	Mean Score	SD	Interpretation
S17	10.66%	42.66%	30.66%	14.66%	1.33%	2.53	0.92	Disagree
S18	1.33%	8.00%	33.33%	45.33%	12%	3.58	0.85	Agree

A significant majority of 52.32% disagreed that they have received formal training in PBL methodology (S17) with a mean score of 2.53. Only 16% of teachers have agreed that they have received training while 30.66%

remained neutral. The high SD of 0.92 indicates variability in teacher's experience with PBL training. 57.33% of ESL teachers have agreed that their institution supports and encourages the use of PBL in their ESL classrooms with a mean score of 3.58. 33.33% of teachers remained neutral while 9.33% disagreed indicating that the institutional support is not widespread and insufficient. The SD of 0.85 shows variability in the level of support provided by different institutions.

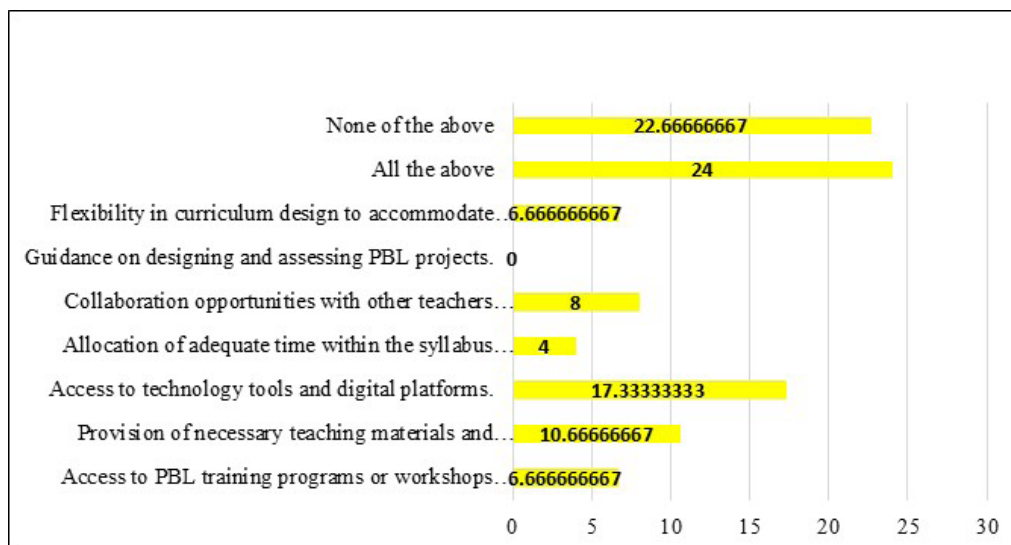


Figure 9: Summary of response for institutional support

The above Figure 9 shows results of the distribution of responses received for institutional support. A close ended question (Q1) focused on the institutional support received by the ESL teachers. A small but a significant number of teachers of 24% responded that they received comprehensive institutional support including access to training programs, teaching materials, technology tools, time allocation, collaboration opportunities, guidance and flexibility. A similar proportion of teachers (22.66%) reported receiving no institutional support for PBL implementation. The data reveals significant variability in level of support provided to teachers and this highlights a critical gap in the institutional support.

5.2 Analysis of data collected from interviews

This section reveals the thematic analysis of the interview responses collected from 15 ESL teachers in engineering colleges regarding their perceptions on Project-Based Learning (PBL) in ESL their classrooms. The responses were categorized under six major themes

5.2.1 Familiarity with Project-Based Learning (PBL)

The responses reveal different levels of familiarity among ESL teachers on Project-Based Learning (PBL) influenced by their academic background, professional learning and teaching experience. Eight out of 15 teachers responded that they were introduced to Project-Based Learning (PBL) through Faculty Development Programmes or Training workshops which captured their attention in its students centred approach and its potential for fostering collaboration, problem solving skills. Four teachers responded that they were familiar with PBL through their course work during the postgraduate studies; however, their exposure was limited. Two teachers were introduced to PBL through a course and were aware of the benefits however did not get an opportunity to use them in classroom. One teacher from an autonomous institution reported that the institution follows a project-based syllabus which led them to adopt PBL in the teaching. Through the institution, the teacher comprehended the principles of PBL and began implementing them in the classroom. The disparity in familiarity with PBL among the ESL teachers is noticeable and suggests that there is a need to bridge the gap between theoretical knowledge and practical application.

5.2.2 Implementation of PBL in ESL classes in engineering colleges

The data from the respondents highlight the varied implementation of Project-Based Learning (PBL) in ESL classroom. The mixed perspectives reveal successful applications, partial integration and serious challenges in

adapting PBL methodologies. A teacher implemented PBL informally, where students acquire ESL skills through immersion without explicitly realizing that they are engaged in project-based activities. This experiential learning method can be effective; however, students might not be aware of the learning outcomes and assessment is absent.

Two teachers responded that they successfully implemented PBL in their ESL classroom. They actively identify real-world problems as a starting point for learning, integrating teamwork, active participation. One teacher who successfully implemented PBL said “My students tackled Chennai’s garbage issue by conducting a mini research project and developing a model for a recycling machine. What started as an English learning activity transformed into an award-winning project, recognized by the Confederation of Indian Industry (CII)”. Another teacher from an engineering college which had adopted PBL said “Through PBL, students develop essential English skills by creating presentations, designing PowerPoint slides, writing project reports, and even publishing research papers. The interdisciplinary approach ensures they are prepared for academic and professional communication”.

Other teachers expressed interest in Project-Based learning however face barriers such as rigid curriculum, large classroom, and lack of institutional support. A teacher from Chennai stated that the rigid curriculum restricts to use PBL “I really want to use PBL in my classroom, but the rigid curriculum makes it difficult. Instead of projects, I often have to fall back on traditional teacher-led instruction”. A young teacher reported that institutions encourage us to use learner centred methods in class and they fail to provide the support in terms of training therefore, failed to sustain its implementation. The findings highlight the paucity between PBL in theory and practice in ESL education. Some educators successfully use collaborative, real-world, and curriculum-aligned PBL methods, others struggle due to institutional restrictions, syllabus constraints, and lack of training.

5.2.3 Impacts of PBL in classroom

A teacher who successfully implemented PBL mentioned that there was a positive impact on students, “Of course, my students had a positive response to PBL and there was a higher level of engagement when compared to the traditional teaching methods. Normally in a traditional classroom, it was more of listening and the interactive part was missing but with PBL, I could see my students interacting with each other and with the teacher”. Another teacher who implemented PBL expressed “Students gain confidence when they see their research paper published at the end of the semester”.

A teacher from a state-run university expressed that during teamwork students perform better than in self-selected groups but struggle in heterogeneous groups, suggesting difficulties in managing diverse skill levels. Some ESL teachers were unable to assess PBL’s impact since they did not use PBL in their classroom, highlighting institutional challenges, syllabus completion in adopting PBL practices.

5.2.4 Assessment of PBL

One teacher out of 15 emphasized the use of structured evaluation using rubrics. The rubrics to assess multiple aspects such as fluency, accuracy, pragmatics and collaboration and ensured that the students shared in advance promoting transparency and fairness. The teacher also stressed on the use of feedback and peer reviews. Another teacher integrated self-assessments and peer reviews allowing students to reflect on their learning which fosters autonomy. Most teachers explicitly stated that the need for training in assessment methods for PBL. This indicates a gap in institutional or professional development support. Some ESL teachers effectively use structured tools, others lack clearly defined assessment frameworks, which could lead to inconsistencies in grading and feedback.

5.2.5 Challenges

Some teachers expressed student-related challenges such as group dynamics, limited participation, focus on grade and language barriers. A teacher expressed concerns on students’ resistance and focus on grades over learning. “Some engineering students prioritize grades and course completion over learning new things. Their rely on YouTube, ChatGPT instead of engaging with texts reflects a surface-level approach to learning.”. Another teacher from Chennai expressed concerns on language barriers. “I teach few students who are first generation

students who struggle with English which impacts their ability to engage in simple tasks”.

Some teachers mentioned teacher related challenges like managing groups, lack of confidence and training in designing rubrics and time constraint which limits deeper discussions. A teacher pointed out that assessing a group work or an assignment was a challenge especially when it comes to projects. Another teacher pointed out lack of resources to implement PBL in classroom, “Students are not allowed to use phones in the college so I prepare worksheets, sometimes carry newspaper. I don’t have enough resources to make photocopies to give it to all students”. Some teachers explicitly mentioned having theoretical knowledge of PBL but lacking practical experience in applying it in the ESL classroom, particularly instructional strategies and assessing students’ language skills. A teacher from an affiliated college highlighted the pressure of syllabus completion restricts the implementation of PBL in ESL classroom.

5.2. 6 Training and Support

A teacher from an autonomous institution who successfully implemented PBL in the ESL classroom emphasized that the institution supports the teachers in terms of curriculum integration, use of technology, collaboration among teachers and other institutions across the country, encourages the teachers to attend training programmes related to PBL. Some teachers admitted the need for in-service training programme that will help them to plan and implement PBL in the ESL classrooms. A teacher also stressed the need for mentorship opportunities to build confidence among teachers and share experiences. Few teachers also suggested that the syllabus revision is necessary to integrate PBL components.

6. Findings of the study

The study conducted among ESL teachers in engineering colleges in Tamil Nadu, India reveal significant findings on Project-Based Learning and various aspects such as implementation, challenges and support. The study shows that ESL teachers in Tamil Nadu largely have a positive attitude towards PBL, recognising and appreciating its benefits. It is evident that the majority of teachers are aware and value its significance in developing communication skills, enhancing student participation and fostering autonomy. Despite this positive perspective, the practical implementation of PBL remains inconsistent among ESL teachers in Tamil Nadu at the tertiary level particularly engineering institutions.

ESL teachers at the tertiary level face challenges such as large class size, varying and limited English proficiency students, curriculum rigidity leaving little room for adopting Project-Based Learning (PBL) in their ESL classroom. From the data collected, it is also evident that many teachers understand the principles of PBL through training and workshops; however, integrating PBL in ESL instruction remains limited. There is a wide chasm that exists between the beliefs and the praxis in the ESL classroom about Project Based Learning (PBL). Assessment is another pressing challenge for most teachers as they are uncertain about clear rubrics for evaluating PBL. Research shows that teachers struggle to assess group work and process-oriented skills (Ward & Lee, 2002; Lee et al, 2014). This study evidenced similar challenges. In a country like India, assessment in most ESL classrooms traditionally focus on written tests and assignments rather than holistic evaluation methods like peer reviews, self-reflection, and reflective writing. Therefore, teachers struggle to measure student’s progress effectively in PBL setting. With respect to assessing in a PBL classroom, Warr and West (2020) suggest that instructors need to thoughtfully evaluate how assessment techniques reveal the learning experience and effectively measure students’ deep understanding.

Most teachers stressed institutional support which is vital to integrate PBL in ESL course objective. Bovill et al. (2016) emphasises that fostering a positive and a supportive institutional culture. When the institutions prioritise such an environment that values and promotes innovative teaching approaches, teachers will recognise the efforts and overcome the resistance. In-service teacher training programmes, workshops, and mentorship programmes to guide on PBL strategies should be conducted to gain confidence in using this approach, provide clear assessment guidelines to ensure that PBL activities align with academic requirements. Prior studies highlight the significance of teacher training, as it plays a significant role in effective PBL implementation. Warr and West (2020) confirm that faculty develop the skills and confidence necessary for successful PBL integration through structured training and workshops.

7. Conclusion

This study explored ESL teachers' understanding on Project-Based Learning (PBL), its implementation, challenges and support in engineering colleges in Tamil Nadu, India. The findings indicate that teachers consider PBL as a significant approach for enhancing students' language skills however implementation remains inconsistent. Furthermore, there was a glaring gap in teachers' theoretical knowledge on PBL and their application of PBL in classroom practices including assessment methods. It is, therefore, imperative for the ESL teachers to gain confidence in using PBL and incorporate it more naturally into their instructional practices, training and institutional supports must be anchored. Teacher training programs for teachers should include substantial training on core concepts of PBL; on how to align PBL with existing syllabus particularly in technical institutions; creating lesson plans for language acquisition, developing rubrics, assessment methods such as portfolios, peer reviews; training on using technology, encouraging collaboration between ESL and engineering teachers for meaningful projects and engaging in mentorship to improve their PBL practices. Additionally, institutional support in terms of curriculum flexibility, reducing the emphasis on rigid assessment patterns, developing PBL assessments, organizing regular teacher training programmes, providing access to mentorship, providing adequate resources for the teachers, ensuring access to technology and encouraging collaborations.

8. Recommendations for further study

From this study, it is observed that several areas warrant further investigation to enhance understanding and implementation of PBL in ESL classroom at the tertiary-level. Future research could focus on student perspectives on PBL in ESL classrooms would help to understand on how engineering students perceive PBL in terms of engagement, learning outcomes and language acquisition. It would also help to explore students' challenges in adapting to PBL and their recommendations to make it effective. In addition, further research could focus on how PBL works in Arts and Science institutions where the learning environment, curriculum, teaching approach differs. It could also focus on how teachers and students perceive Project-Based Learning (PBL) in various disciplines of Humanities, Sciences and Commerce. A study on other stakeholders such as administrators and policy makers can also be conducted. Understanding these diverse perspectives from these significant stakeholders would give a holistic view of its effectiveness in practice across higher education institutions in India.

Funding: This research received no external funding

Acknowledgments

The author gratefully acknowledges and thanks the ESL teachers who generously shared their time and insights through questionnaires and interviews. Their contributions were invaluable to the completion of this research.

Conflicts of Interest: The authors declare no conflict of interest.

Disclaimer Statement

This work is not a part of the thesis to be submitted to the university and it does not contain any sections from the thesis of the researcher.

Biographies

A. Meera (Corresponding Author), Teaching Fellow, Department of English, College of Engineering Guindy (CEG), Anna University, Chennai, India. She is also pursuing her Doctoral Degree (Part Time) in the same university and her areas of interests are Project Based Learning (PBL), ICT in Language Education and Teaching in ESL contexts.

Dr. T. Shrimathy Venkatalakshmi, Professor, Department of English, CEG, Anna University, Chennai. She is the Doctoral Supervisor of the corresponding author. She has 30 years of teaching experience in a state-run university and has guided 18 scholars. Her areas of interests are Language Testing, Teaching LEP learners, Syllabus Designing.

K. Denish Raja Durai is a faculty of English in the School of Social Sciences and Languages at VIT. He teaches Technical English, Critical and Design Thinking, ESP Courses. His field of research interests are Style Studies, Translation Studies, Comparative Literature, and Environmental Humanities.

Dr. S. Kavita Singh, Teaching Fellow, Department of English, College of Engineering Guindy (CEG), Anna University, Chennai, India. Her areas of interests are Language Assessments, Teaching disadvantaged learners.

Authorship and Level of Contribution

The corresponding author, A. Meera, was responsible for idea formulation, content development, and writing the research paper based on the collected data. Dr. T. Shrimathy Venkatalakshmi provided guidance in conceptual development and writing, along with thorough review and insightful suggestions throughout the process. Dr. K. Denish Raja Durai and Dr. S. Kavita Singh contributed to the data collection and supported coordination with the participants.

References

- "Doing a Project" vs. Project Based Learning. (n.d.). PBLWorks. Retrieved from <https://www.pblworks.org/doingproject-vs-project-based-learning>.
- Alan, B., & Stoller, F. L. (2005). Maximizing the benefits of project work in foreign language classrooms. *English Teaching Forum*, 43(4), 10-21.
- Bell, S. (2010). Project-based learning for the 21st century: Skills for the future. *The Clearing House*, 83(2), 39-43. <https://doi.org/10.1080/00098650903505415>
- Bovill, C., Cook-Sather, A., Felten, P., Millard, L., & Moore-Cherry, N. (2016). Addressing potential challenges in co-creating learning and teaching: Overcoming resistance, navigating institutional norms, and ensuring inclusivity in student-staff partnerships. *Higher Education*, 71(2), 195-208. <https://doi.org/10.1007/s10734-015-9896-4>
- Chi, D. N. (2023). Benefits of implementing project-based learning in an English for business course. *Journal of Ethnic and Cultural Studies*, 10(3), 55-71. <https://www.jstor.org/stable/48736793>
- Ezhilarasi, M., & Mohanraj, S. G. (2023). Kumaraguru Project Based Learning (KPBL) Framework: The Futuristic Pedagogy for Gen Z Learners. In *Transforming Engineering Education 2023* (p. 292)
- Fleming, D. S. (2000). *A teacher's guide to project-based learning*. AEL, Inc. Retrieved from <https://files.eric.ed.gov/fulltext/ED469734.pdf>
- Fried-Booth, D. L. (1986). *Project work* (4th impression). Oxford University Press.
- Grant, M. M. (2002). Getting a grip on project-based learning: Theory, cases and recommendations. *Meridian: A Middle School Computer Technologies Journal*, 5, 1-17.
- Great Schools Partnership. (2013, August 29). *Project-based learning definition*. The Glossary of Education Reform. Retrieved from <https://www.edglossary.org/project-based-learning/>
- Gupta, B. L., & Gupta, P. B. (2021). Project-based learning in technical institutions. *Journal of Engineering and Technology Education*, 15(1), 1-8. Retrieved from: https://www.researchgate.net/publication/379037458_ProjectBased_Learning_in_Technical_Institutions/citation/download
- Habók, A., & Nagy, J. (2016). In-service teachers' perceptions of project-based learning. *SpringerPlus*, 5(1). <https://doi.org/10.1186/s40064-016-1725-4>
- Harris, M. J. (2015). *The challenges of implementing project-based learning in middle schools* (Unpublished doctoral dissertation). University of Pittsburgh.
- Katz, L. G., & Chard, C. (2000). *Engaging children's minds: The project approach* (2nd ed.). Ablex Publishing Corporation.
- Khan, S., & Mohakud, L. L. (2016). Teacher's attitude towards effectiveness of project-based learning (PBL) at the higher secondary level in West Bengal. *Enhancing Quality in Education*. ISBN 978-81-923675-2-1.
- Kilanava, M. (2024). Enhancing writing skills through PBL at higher education institutions: A case study. *Education Quarterly Reviews*, 7(1), 210-217. <https://doi.org/10.31014/aior.1993.07.01.570>
- Kovalyova, Y. Y., Soboleva, A. V., & Kerimkulov, A. (2016). Project Based Learning in Teaching Communication Skills in English as a Foreign Language to Engineering Students. *International Journal of Emerging Technologies in Learning (IJET)*, 11(04), pp. 153-156. <https://doi.org/10.3991/ijet.v11i04.5416>
- Lee, J. S., Blackwell, S., Drake, J., & Moran, K. A. (2014). Taking a leap of faith: Redefining teaching and learning in higher education through project-based learning. *Interdisciplinary Journal of Problem-Based Learning*, 8(2). <https://doi.org/10.7771/1541-5015.1426>
- Lu, Q. (2021). A new project-based learning concept in English writing. *International Journal of Emerging Technologies in Learning (IJET)*, 16(5), 214. <https://doi.org/10.3991/ijet.v16i05.21271>
- Mafruudloh, N., & Fitriati, R. (2020). The effect of project-based learning on students' speaking ability. *Celtic: A Journal of Culture, English Language Teaching, Literature, & Linguistics*, 7(1), 57-64. <https://doi.org/10.22219/celtic.v7i1.12203>
- Mai, H., & Trang, N. (2022). An investigation of reality and challenges of project-based learning implementation. *European Journal of Foreign Language Teaching*, 6(4). <https://doi.org/10.46827/ejfl.v6i4.4609>
- Markham, T., Mergendoller, J., & Ravitz, J. (2003). *Project-based learning handbook*. Buck Institute for Education.
- Ministry of Education, Government of India. (2020). *National education policy 2020*. Retrieved from <https://>

- Moss, V., & Van Duzer, C. (1998). *Project-based learning for adult English language learners*. ERIC Digest. ERIC Document No. ED427556. Retrieved from <https://eric.ed.gov/?id=ED427556>.
- Nguyen, L. V., & Nguyen, L. H. C. (2019). Implementing project work in teaching English at high school: The case of Vietnamese teachers' challenges. *International Journal of Foreign Language Teaching and Research*, 7(26), 11–25. Retrieved from <https://sanad.iau.ir/Journal/jfl/Article/990515>
- NITI Aayog. (2025). *Expanding quality higher education through states and state public universities*. Retrieved from <https://www.niti.gov.in/sites/default/files/2025-02/Expanding-Quality-Higher-Education-through-SPUs.pdf>
- Papandreou, A. (1994). An application of the projects approach to EFL. *English Teaching Forum*, 32(3), 41–42.
- Puangpunsi, N. (2021). Learners' perception towards project-based learning in encouraging English skills performance and 21st-century skills. *THAITESOL Journal*, 34(1), 1–24. Retrieved from <https://so05.tci-thaijo.org/index.php/thaitesoljournal/article/view/252353>
- Shafaei, A., & Rahim, H. A. (2015). Does project-based learning enhance Iranian EFL learners' vocabulary recall and retention? *Iranian Journal of Language Teaching Research*, 3(2), 83–99. Retrieved from <https://files.eric.ed.gov/fulltext/EJ1127235.pdf>
- Slater, T., & Beckett, G. H. (2024). Developing critical thinking and language skills through project-based learning and the Knowledge Framework. In S. Ali & B. M. Berg (Eds.), *The content area language and literacy open education* (pp. 117–135). Open Textbooks. Retrieved from <https://digscholarship.unco.edu/textbooks/5>.
- Stevkovska, M. (2023). Developing academic reading skills through project-based learning. *International Journal of Education and Philology*, 4(1), 31–37. <https://ijep.ibupress.com/uploads/2024/69.pdf.pdf>
- Stoller, F. L. (2002). Project work: A means to promote language and content. In J. C. Richards & W. A. Renandya (Eds.), *Methodology in language teaching: An anthology of current practice* (pp. 107–120). Cambridge University Press. <https://doi.org/10.1017/cbo9780511667190.016>
- Tamim, S. R., & Grant, M. M. (2013). Definitions and uses: Case study of teachers implementing project-based learning. *Interdisciplinary Journal of Problem-Based Learning*, 7(2). <https://doi.org/10.7771/1541-5015.1323>
- TeachThought. (n.d.). *The difference between doing projects and project-based learning (PBL)*. TeachThought. <https://www.teachthought.com/project-based-learning/difference-between-doing-projects-and-pbl/>
- Thomas, J. W. (2000). *A review of research on project-based learning* [White paper]. The Autodesk Foundation. https://www.bie.org/research/study/review_of_project_based_learning_2000
- Ward, J. D., & Lee, C. L. (2002). A review of problem-based learning. *Journal of Family and Consumer Sciences Education*, 20(1), 16–26.
- Warr, M., & West, R. E. (2020). Bridging academic disciplines with interdisciplinary project-based learning. *Interdisciplinary Journal of Problem-Based Learning*, 14(1). <https://doi.org/10.14434/ijpbl.v14i1.28590>
- Zaidi, S. (2014). Project-based English language instruction: A study of secondary school learners in India. *ELT Worldwide: Journal of English Language Teaching*, 1(1), 31. <https://doi.org/10.26858/eltww.v1i1.840>