Evaluating the Impact of Problem-Based Activities (PBAS) on Creativity and Learner Autonomy among ESL Learners

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ARTICLE INFO	ABSTRACT
	In today's globalized and multilingual society, ESL instruction must go beyond language proficiency to include 21st-century competencies such as creativity, autonomy, and critical thinking. In Malaysia, while initiatives like the Highly Immersive Programme (HIP) have promoted communicative approaches, traditional grammar-focused methods still dominate, limiting learners' creative expression and autonomy. This study addresses a critical gap in the literature by exploring the dual impact of problem-based activities on creativity and learner autonomy in the ESL classroom, particularly within a Malaysian tertiary education context. The purpose of this research is to examine ESL learners' perceptions of how problem-based activities influence their creative and autonomous learning experiences. A quantitative design was employed, involving 37 ESL learners who participated in problem-based activities as part of their language proficiency course. Data were collected using structured Likert-scale questionnaires, alongside open-ended responses to provide qualitative insights. Findings indicate high levels of agreement that problem-based activities enhanced learners' creative thinking, confidence, and ability to learn independently. The highest endorsement was for recommending the approach to other ESL learners, demonstrating strong overall satisfaction. Qualitative responses echoed these results, highlighting increased engagement, improved communication skills, and enthusiasm for continued participation in similar tasks. The study concludes that problem-based learning is an effective strategy for fostering both creativity and learner autonomy in ESL contexts. It positions learners as active, empowered participants in the language learning process. Implications for future research include longitudinal studies to examine sustained learning outcomes and broader studies across institutions to enhance generalizability.

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1. Introduction

1.1 Background of the Study

In today's rapidly evolving educational landscape, ESL instruction is expected to nurture 21st-century skills such as creativity, autonomy, and critical thinking, in addition to linguistic competence [1]. These skills are crucial for learners to thrive in global and multicultural environments where adaptability, communication, and problem-solving are essential. In Malaysia, initiatives like the Highly Immersive Programme (HIP) have promoted communicative language teaching and immersive practices. However, ESL classrooms across institutions still largely rely on traditional methods that emphasize grammar drills, textbook exercises, and teacher-centered instruction [2]. Such approaches restrict learners' ability to explore language meaningfully, limiting both creativity and autonomy [3].

Problem-Based Learning (PBL) offers a promising alternative by positioning learners as active agents in their learning process. Grounded in constructivist and social cognitive theories, PBL encourages inquiry, collaboration, and reflection through real-world, open-ended problems [4]. Despite the theoretical support for PBL in promoting higher-order thinking, there remains a critical gap in empirical research examining how problem-based activities influence both creativity and autonomy simultaneously in ESL learners [5]. Most studies in Malaysian contexts tend to examine these constructs in isolation or focus solely on general learner engagement. Furthermore, limited research has investigated how PBL impacts learners at the post-secondary level, where autonomy and creativity are particularly essential for academic success and future employment [6].

This study is significant because it seeks to bridge that gap by exploring learners' perceptions of how problem-based activities contribute to their creative and autonomous development. By capturing both quantitative and qualitative data, this study aims to inform ESL educators, curriculum designers, and policymakers on the practical value of integrating PBL strategies in language classrooms to enhance learner empowerment and long-term learning outcomes.

1.2 Research Objectives

Grounded in the need to enhance creativity and learner autonomy through student-centered pedagogies, this study aims to examine the impact of problem-based activities on ESL learners in a Malaysian tertiary education setting. Specifically, the research is guided by the following objectives:

I. To explore ESL learners' perceptions of how problem-based activities enhance their creativity in language learning.
II. To investigate the extent to which problem-based activities promote learner autonomy among ESL students.
III. To evaluate the overall effectiveness of problem-based learning in supporting learner empowerment within the ESL classroom context.

These objectives are designed to capture learners' insights on their experiences with PBL, while offering practical implications for educators aiming to implement creative and autonomous learning strategies in English language instruction.

1.3 Research Questions

In line with the research objectives, this study seeks to answer the following research questions:

I. How do ESL learners perceive the role of problem-based activities in enhancing their creativity in language learning?
II. To what extent do problem-based activities promote learner autonomy among ESL students?

III.   How effective is problem-based learning in supporting overall learner empowerment in the ESL classroom context?

These questions aim to uncover both the perceived benefits and the pedagogical implications of using problem-based learning strategies to foster independent and creative language learners

1.4 Conceptual Framework

The conceptual framework of this study is grounded in the intersection of problem-based learning (PBL), creativity, and learner autonomy within the ESL classroom. This framework positions PBL as the core instructional approach, with creativity and autonomy as the key learner outcomes (refer to **Fig 1**).

- Problem-Based Learning (PBL) serves as the central pedagogical strategy that involves learners in solving real-world, open-ended problems through inquiry, collaboration, and reflection.
- Creativity is conceptualized as learners' ability to generate novel, meaningful language responses, use language imaginatively, and engage in divergent thinking.
- Learner Autonomy refers to learners' capacity to self-direct their language learning, including setting goals, monitoring progress, and making independent learning decisions.

The relationship among these constructs is illustrated in the diagram below:
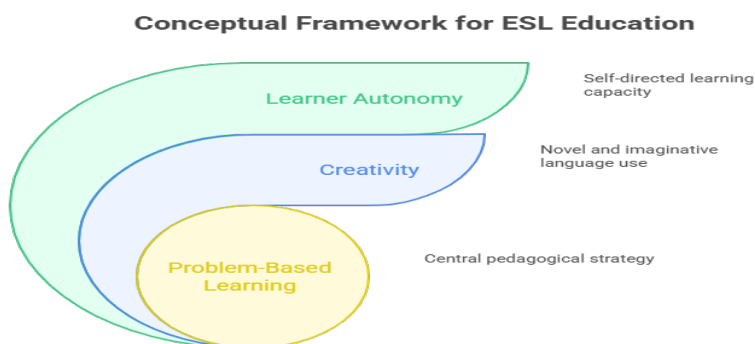
Fig. 1. Framework for ESL education

This framework supports the hypothesis that problem-based activities, by their interactive and exploratory nature, simultaneously empower learners to take control of their learning and encourage innovative language use, ultimately fostering a more engaging and transformative ESL learning experience.

1.5 Significance of Study

This study holds significance for multiple stakeholders in the field of ESL education. Firstly, it contributes to the growing body of research advocating for student-centered methodologies by providing empirical insights into the dual impact of problem-based activities on creativity and learner autonomy. Unlike many prior studies that examine these constructs in isolation, this research explores their interrelationship within the same pedagogical context, addressing a critical gap in Malaysian ESL literature.

Secondly, the findings offer practical implications for ESL educators, highlighting the potential of PBL to transform classroom practices and foster learner empowerment. By understanding how learners perceive the benefits of problem-based activities, teachers can make informed decisions about designing lessons that promote higher-order thinking, self-direction, and communicative competence.

Thirdly, the study supports curriculum developers and policy makers, particularly within the framework of the Highly Immersive Programme (HIP), by aligning classroom practices with national educational goals that emphasize creativity, autonomy, and critical thinking. Ultimately, the study aims to inform a shift toward more meaningful, engaging, and sustainable approaches to language teaching in Malaysian higher education.

1.6 Theoretical Framework

The theoretical foundation of this study is built upon two main theories: Constructivist Learning Theory and Social Cognitive Theory, both of which support the core constructs of problem-based learning, creativity, and learner autonomy

1.6.1 Constructivist Learning Theory (Piaget and Vygotsky)

Constructivism posits that learners actively construct knowledge through experiences and interactions with their environment [1]. In this view, learning is not a passive reception of information but a dynamic process of meaning-making based on prior knowledge, exploration, and reflection [2]. PBL aligns closely with constructivist principles, as it places learners in real-world problem scenarios that require inquiry, collaboration, and metacognitive engagement [3]. Within such a context, learners are empowered to generate creative solutions and take responsibility for their learning, thereby promoting both creativity and autonomy [4].

1.6.2 Social Cognitive Theory (Bandura)

Bandura's Social Cognitive Theory emphasizes the role of self-regulation, personal agency, and social interaction in learning [5]. In PBL environments, learners are expected to set goals, monitor their progress, and reflect on their performance—processes that strengthen autonomy [6]. Moreover, through peer collaboration and modeling, learners build self-efficacy and confidence in their creative expression [7]. The shared social space created in PBL tasks enhances motivation and facilitates observational learning, leading to more meaningful language use and innovative thinking [8].

Together, these theories underpin the conceptual framework of this study (refer to **Fig 2**), supporting the proposition that problem-based learning enhances both creativity and learner autonomy in ESL contexts through experiential, collaborative, and reflective learning processes [9].
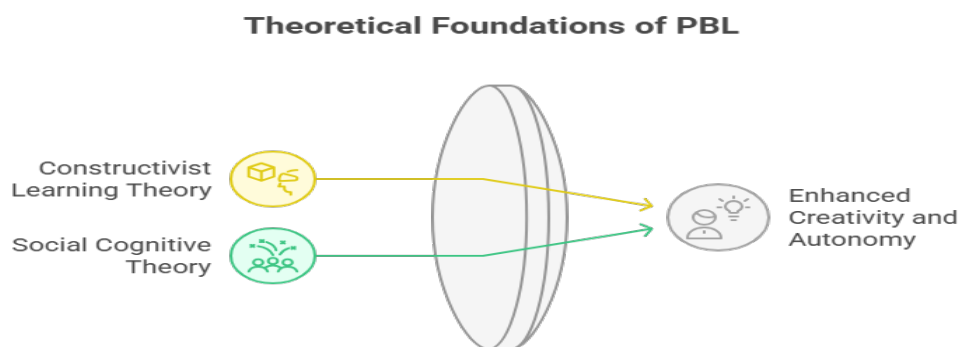
Fig. 2. Theoretical foundations of PBL

1.7 Literature Review

1.7.1 Creativity in Language Learning

Creativity in language learning is increasingly recognized as a critical competency, involving the ability to generate original, contextually appropriate, and personally meaningful responses [9]. It encourages learners to make connections between ideas, take linguistic risks, and express themselves beyond rote or formulaic patterns [10]. In the ESL classroom, creative tasks such as storytelling, role-plays, and scenario-based discussions allow learners to explore their linguistic repertoire while developing cognitive flexibility [11]. These activities enhance engagement and motivation, especially for learners who may struggle with conventional, accuracy-driven approaches. When learners are encouraged to think divergently and solve problems imaginatively, they demonstrate greater perseverance, resilience, and adaptability traits that are essential for effective communication [12]. Research suggests that integrating creativity into ESL instruction not only boosts communicative competence but also cultivates a more empowering and student-centred learning environment [13].

1.7.2 Problem-Based Learning in ESL Education

Problem-Based Learning (PBL) is a learner-centered pedagogical approach that emphasizes active inquiry, collaboration, and real-world problem solving. In a PBL environment, students are presented with open-ended, authentic problems that lack a predefined solution, prompting them to investigate, hypothesize, and co-construct knowledge through exploration and dialogue [3]. This model shifts the instructional focus from teacher-led content delivery to learner-driven discovery, thereby creating conditions that naturally foster both creativity and autonomy.

In ESL classrooms, PBL offers rich linguistic and cognitive opportunities. Learners must articulate ideas, negotiate meaning, justify opinions, and present outcomes in English, engaging both receptive and productive language skills [14]. These communicative tasks mirror real-life language use and make learning more meaningful, relevant, and intrinsically motivating [15]. Moreover, the collaborative nature of PBL requires learners to take initiative, divide roles, conduct research, and evaluate possible solutions, activities that contribute to both linguistic development and the cultivation of soft skills such as teamwork, critical thinking, and leadership [16].

The integration of PBL into ESL education has been shown to enhance learner engagement, particularly among students who may feel disengaged by conventional, textbook-based instruction [17]. By positioning learners as problem-solvers and decision-makers, PBL cultivates autonomous learning behaviours such as self-monitoring, goal-setting, and strategic thinking [8]. Simultaneously,

the need to devise novel and context-specific solutions fosters creative thinking, encouraging learners to experiment with new language forms and perspectives [9].

Research in Malaysian ESL contexts has indicated that when learners are given opportunities to solve problems collaboratively, they display increased ownership over their learning and exhibit more inventive use of language structures [14]. Despite these positive outcomes, PBL remains underutilized in many ESL classrooms due to rigid curriculum requirements, lack of teacher training, and misconceptions about learner capabilities. Thus, further empirical exploration of PBL's impact on learner development is essential, particularly in higher education environments where autonomy and creativity are critical for academic and professional success.

Despite these benefits, there remains a lack of empirical studies examining the dual impact of PBL on both creativity and autonomy in ESL learners, particularly in the Malaysian higher education context [18]. This study seeks to address that gap by exploring how problem-based activities influence these two essential dimensions of learner development.

1.7.3 Previous studies

Table 1
Past researches

Year	Title	Author (s)	Key Findings
2024	Unlocking Language Potential: Empowering ESL Learners Through Poetry-Based Activities	Sharina Saad *et al.*, [4]	Poetry-based activities enhance motivation, confidence, creative expression, and learner autonomy.
2024	Empowering ESL Learners: Unleashing Autonomy through Project-Based Learning	Sharina Saad *et al.*, [4]	PBL fosters autonomy, problem-solving, communication, and personal growth in ESL learners.
2024	Nurturing Learner Autonomy to Enhance Motivation and Academic Achievement	Md Kawser Ahmed *et al.*,	Learner autonomy improves intrinsic motivation, engagement, and academic performance.
2020	Project-Based Learning Practices in the 21st Century to Improve EFL Learners' Autonomy	A. Islami *et al.*,	PBL promotes critical thinking, creativity, and learner autonomy in EFL settings.
2017	Project-Based Learning in Promoting Learner Autonomy in an EFL Classroom	Y. Yuliani *et al.*,	PBL enhances self-instruction, self-direction, and individualized learning, boosting autonomy.
2016	Wired Together: Collaborative Problem-Based Language Learning in an Online Forum	M. H. Abdullah *et al.*,	Collaborative PBL improves communication, promotes autonomy, and self-directed learning online.
2013	Self-Regulation and Autonomy in Problem- and Project-Based Learning Environments	C. Stefanou *et al.*,	PjBL supports elaboration, critical thinking, and perceived autonomy better than PBL.
2008	Incorporating PBL Strategies to Develop Learner Autonomy and Employability	Louisa D. Martin *et al.*,	PBL boosts intrinsic motivation and autonomy while improving employability skills.

The reviewed studies from 2008 to 2024 consistently demonstrate that problem-based learning (PBL), project-based learning (PjBL), and creative instructional approaches such as poetry-based activities, positively impact learner autonomy, motivation, and engagement in ESL/EFL contexts [19-22]. PBL fosters essential self-regulated learning habits including goal-setting, decision-making, and independent inquiry [23], while also developing critical 21st-century skills such as creativity, collaboration, and critical thinking [24]. Notably, creative approaches like poetry-based activities were found to enhance learners' linguistic confidence and expressive abilities, positioning them as powerful alternatives to conventional language teaching methods [4]. These findings highlight the

importance of transforming ESL classrooms into learner-centered environments, investing in teacher training, and expanding empirical research on PBL's impact across diverse learner profiles and delivery formats.

2. Methodology

2.1 Research Design

This study adopted a quantitative research design utilizing a survey-based approach to examine the perceptions of ESL learners regarding the effectiveness of problem-based activities (PBAs) in fostering creativity and learner autonomy. A descriptive research method was used to collect and analyze learners' feedback through structured Likert-scale questionnaires, allowing for quantifiable insights into their experiences.

2.2 Population, Sample Size, and Sampling Technique

The target population consisted of ESL learners enrolled in a proficiency course at a Malaysian higher education institution. A total of 37 participants took part in the study. The participants were selected using purposive sampling, ensuring that all respondents had direct experience engaging in problem-based learning activities during the course.

2.3 Instrumentation and Data Collection

Data were collected through an online questionnaire developed using Google Forms. The questionnaire comprised two parts:
* Part A collected demographic information such as name, family income, and CEFR level.
* Part B consisted of 13 closed-ended items measured on a 5-point Likert scale (1 = Strongly Disagree to 5 = Strongly Agree), targeting two main constructs: creativity (5 items) and learner autonomy (7 items), along with two global perception items on overall impact and recommendation. Additionally, an open-ended question invited participants to provide qualitative feedback.

2.4 Data Analysis

Quantitative data were analyzed using descriptive statistics, including mean scores and standard deviations, to assess the level of agreement with each item. The findings revealed high mean scores across both constructs, particularly in the areas of independent learning, creative thinking, and willingness to recommend the approach.

Qualitative responses were analyzed thematically, with recurring themes such as positive learner engagement, enhanced confidence, and recommendations for improvement identified through content analysis. These themes enriched the interpretation of the numerical data.

The questionnaire was adapted and validated based on existing studies on creativity and learner autonomy in ESL contexts [4,10], ensuring relevance and alignment with the research objectives.

2.5 Validity and Reliability

To ensure content validity, the questionnaire items were reviewed by three ESL educators with expertise in learner autonomy and problem-based learning. The internal consistency of the

questionnaire was verified using Cronbach's Alpha in a pilot study involving 10 participants, which yielded an acceptable reliability coefficient above 0.80. This ensured the tool's robustness in measuring learners' perceptions.

2.5.1 Ethical considerations

Ethical approval for this study was obtained from the institutional research ethics committee. Participation was voluntary, and informed consent was obtained from all respondents prior to data collection. Respondents were assured of the confidentiality and anonymity of their responses, and no personally identifiable information was used in the reporting of results. The study adhered to ethical guidelines for educational research, ensuring respect for participant autonomy and data privacy throughout the research process.

2.5.2 Limitations

Although the study yielded insightful findings, certain limitations should be acknowledged. First, the sample size was relatively small and limited to a single institution, which may restrict the generalizability of the results. Second, the reliance on self-reported data may introduce response bias, as participants may have provided socially desirable answers. Lastly, the study focused solely on learners' perceptions without measuring actual performance outcomes. Future studies should consider longitudinal designs and include performance-based assessments to provide a more comprehensive evaluation of problem-based learning impacts.

3. Result
3.1 Quantitative Analysis

Across all 13 Likert-scale items, the responses indicate strong positive perceptions of problem-based activities (PBAs) in fostering both creativity and learner autonomy among ESL learners.

Table 2
Perceptions of Problem-Based Activities (PBAs)

Item	Mean	SD	Interpretation
PBAs encouraged innovative thinking	4.00	0.94	Strong agreement with moderate variability
Opportunities to explore creativity and imagination	4.00	0.82	Strongly agreed
PBAs helped me think outside the box	4.00	0.82	Strongly agreed
Developed new ways to approach challenges	3.92	0.89	High agreement
Empowered to express ideas uniquely	3.70	0.85	Moderate to high agreement

Learners widely acknowledged PBAs as effective in promoting creative thinking and imagination, with average scores hovering around 4.00. The lowest (yet still positive) was about expressing unique perspectives (M=3.70). The detail result can be seen in Table 2.

3.2 Autonomy-Related Insights

ESL learners felt empowered and autonomous, especially in setting personal learning goals and learning independently. The result can be seen in Table 3.

Table 3
ESL learners empowerment and autonomous

Item	Mean	SD	Interpretation
Confidence in learning independently	4.03	0.83	Very strong agreement
Set own goals and worked to achieve them (duplicate item)	3.97	~0.8	Consistently high response
Empowered to make learning choices	3.84	0.83	High agreement
Ownership of projects and tasks	3.76	0.89	Moderate to high agreement
Control over learning and decision-making	3.73	0.73	Slightly lower but still positive

3.3 Overall Impact & Recommendation

Participants not only recognized the benefits of PBAs but also showed enthusiastic support for recommending these strategies to others. The detail result can be seen in Table 4.

Table 4
Impacts and recommendation of PBAs

Item	Mean	SD	Interpretation
PBAs positively impacted creativity and autonomy	3.89	0.81	High endorsement
Would recommend to other ESL learners	4.24	0.98	Strongest endorsement overall

3.4 Qualitative Comments (Open-Ended Feedback)

Out of 37 participants, several provided open-text feedback. Here's an analysis of the common themes and representative responses:

1. **Positive Experiences (Most Frequent Theme)**

Most comments reflect strong appreciation for the programme:
- *"Amazing programme!"*
- *"Very interesting programme"*
- *"The activity very enjoy and fun"*
- *"All lectures are amazing. I enjoyed"*
- *"I love it. Hopefully this activity will be held in the future again"*
- *"I feel more confident to do English tasks"*

These responses confirm the **high engagement and satisfaction** with problem-based, creative ESL activities.

2. **Suggestions for Improvement**

3. **Several participants offered constructive ideas:**
- *"Add more interesting activities but overall is very good and I very enjoy it."*
- *"I think the schedule is packed 😳 I don't have enough rest and study times this weekend."*
- *"I hope that I can get group members not only girl."*

These comments suggest fine-tuning the **programme structure**, such as **activity variety, gender balance in grouping**, and **better pacing** of schedules.

4. **Perceived Value**

Some learners explicitly recognized skill development:
- *"Improves communication skills, provides diverse resources."*
- *"This is a good activity that can improve ESL learners."*
- *"I feel more confident to do English tasks."*

PBAs appear to contribute meaningfully to learners' **language confidence, communication, and collaborative skills.**

Overall Insights
- Learners found the program **engaging, empowering, and enjoyable.**
- Clear **gains in confidence and creativity** were mentioned.
- Suggestions show learners are reflective and eager for **improvement** in scheduling and group dynamics.

4. Discussion
4. 1 General Trends and Patterns

The quantitative and qualitative findings of this study indicate that ESL learners perceive problem-based activities (PBAs) as highly effective in fostering both creativity and learner autonomy. This aligns with established literature in ESL pedagogy and second language acquisition. For instance, learners reported feeling empowered to think creatively, explore imaginative solutions, and move beyond rote learning—outcomes strongly supported by research on creativity in ESL instruction [15,16]. These findings are reinforced by Chappell [17], who argues that creative expression in language learning is cultivated through open-ended and divergent thinking tasks, as seen in this study's PBL implementation.

4.2 Relationship between Creativity and Autonomy

This study also confirms that creative thinking and learner autonomy are interrelated outcomes of PBL. Learners' abilities to set their own learning goals, solve problems collaboratively, and make meaningful decisions reflect core principles of learner autonomy, as conceptualized by Benson [10] and Little [11]. Oxford [18] further explains that such autonomy is cultivated through metacognitive engagement, which was evident in this study through students' self-directed behaviors and reflections on their PBA experiences.

4.3 Strong Support for PBL as an Instructional Approach

The overall effectiveness of PBAs, as endorsed by learners in both rating scales and open-ended comments, supports previous research affirming the value of PBL in promoting learner engagement, motivation, and deeper understanding [8,3]. Students' comments about increased enjoyment, confidence, and collaboration echo Bell's [24] and Thomas's [12] findings that PBL fosters academic growth while simultaneously building transferable skills like teamwork, critical thinking, and creativity skills that are indispensable for 21st-century learners.

4.4 Theoretical Implications

These results also align with key educational theories. The Constructivist Learning Theory of Piaget and Vygotsky supports the notion that knowledge is actively constructed through experiential, collaborative learning, as demonstrated by the problem-solving tasks employed in this study. Similarly, Social Cognitive Theory [1] is evident in learners' enhanced self-efficacy, observed through their increased confidence in expressing ideas and taking ownership of learning. Learners' willingness to recommend PBAs to peers further signals the development of personal agency and belief in their learning capabilities—core tenets of Bandura's framework.

4.5 Synthesis and Comparative Analysis

Compared to prior studies, this research not only confirms earlier findings but extends them by integrating both quantitative and qualitative evidence. For instance, [2] and [3] similarly reported improvements in learner autonomy and engagement, while this study adds more detailed feedback on creativity and peer collaboration. [4] previously noted individual variations in autonomy levels, which is supported here by slightly lower mean scores in learners' perceived control over decision-making highlighting the need for scaffolded PBL implementation.

4.6 Practical and Theoretical Implications

Educators are encouraged to design PBAs that integrate both creativity and autonomy, fostering student-centered learning environments. Additionally, this study affirms the necessity for curriculum innovation, teacher training, and alignment with national educational policies such as Malaysia's Highly Immersive Programme (HIP), which promotes communicative competence, critical thinking, and learner independence [15].

5. Conclusions

This study set out to examine the effectiveness of problem-based activities in enhancing creativity and learner autonomy among ESL learners in a Malaysian tertiary context. In response to the first research objective, the findings reveal that participants perceived problem-based tasks as significantly beneficial in encouraging creative language use. Learners reported that the exploratory and open-ended nature of the activities enabled them to think more divergently, express personal meaning, and move beyond routine classroom responses.

Addressing the second research objective, the study also found that problem-based learning promoted learner autonomy. Respondents indicated a higher degree of confidence in managing their own learning, setting goals, and participating actively in problem-solving discussions. This demonstrates the value of PBL in fostering independent, self-directed learning among ESL students.

In relation to the third research objective, the overall effectiveness of PBL was supported by strong learner endorsement, with many participants recommending the approach for future ESL learning environments. High levels of engagement and satisfaction suggest that PBL strategies empower learners by positioning them as active agents in the learning process.

These findings affirm the pedagogical potential of problem-based learning to simultaneously cultivate creative expression and autonomous learning behaviors. To further validate and extend these insights, future research should consider longitudinal studies measuring actual language performance and critical thinking gains. Additionally, integrating observational data and

performance-based assessments would provide a richer understanding of learner outcomes. Expanding this research across institutions and diverse learner profiles will also strengthen the generalizability and applicability of the findings in broader ESL contexts. By confirming that PBAs can simultaneously enhance creative language use and learner autonomy, this study supports a growing shift toward active, student-driven instruction in ESL education. The alignment between this study's findings and the broader literature underscores the need for continued research and innovation in pedagogical strategies that empower language learners in meaningful and transformative ways. Ultimately, this study offers a practical blueprint for reshaping ESL classrooms into dynamic, learner-centered environments that equip students with the linguistic, cognitive, and personal skills essential for success in the 21st century.

Acknowledgement

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