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## **The Eco-English Classroom: Using Project-Based Learning in promoting environmental learning initiatives**

### **El aula de ecoinglés: uso del aprendizaje basado en proyectos para promover iniciativas de aprendizaje ambiental**

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**Hazel Acosta**  <sup>1</sup>, **Carlos Daniel Cazco Maldonado**  <sup>2</sup>,  
**Martha Lucía Lara Freire**  <sup>3</sup>

<sup>1</sup> Universidad Nacional de Educación; [hazel.acosta@unae.edu.ec](mailto:hazel.acosta@unae.edu.ec). Azogues, Ecuador.

<sup>2</sup> Yachay Tech University, Language Center, Hda. San José s/n y Proyecto Yachay, 100119. [ccazco@yachaytech.edu.ec](mailto:ccazco@yachaytech.edu.ec). Urcuqui, Ecuador

<sup>3</sup> Universidad Nacional de Educación; [martha.lara@unae.edu.ec](mailto:martha.lara@unae.edu.ec). Azoges, Ecuador.

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## Resumen

Este estudio se basa en un proyecto de investigación diseñado para promover un aprendizaje significativo en clases donde el inglés se enseña como lengua extranjera (EFL), mediante la implementación del enfoque de Aprendizaje Basado en Proyectos (PBL), integrando contenido sobre agricultura urbana. El proyecto involucró a treinta y cinco (35) profesores de inglés de cuatro ciudades ecuatorianas: Azogues, Cuenca, Ibarra y Riobamba.

El proyecto, desarrollado en tres fases, incluyó la capacitación docente, la implementación del PBL y la elaboración de proyectos por parte de los estudiantes. La recopilación de datos sobre las experiencias de los docentes se realizó siguiendo el diseño de investigación-acción.

Los principales hallazgos del estudio revelan que existe una mejora significativa en el desarrollo del vocabulario de los estudiantes y en la comprensión de estructuras básicas de oraciones. Además, los docentes destacaron un mayor compromiso e interés por parte de los estudiantes, especialmente debido a la integración de temas actuales y relevantes que reflejan el uso real del idioma.

El estudio concluye que la incorporación de contenido del mundo real, como la agricultura urbana, aumenta la pertinencia de la enseñanza del inglés como lengua extranjera y, al mismo tiempo, fomenta la conciencia estudiantil sobre problemáticas globales como la sostenibilidad ambiental.

**Palabras clave:** investigación-acción, Aprendizaje Basado en Proyectos, aprendizaje significativo, agricultura urbana, formación docente

## Abstract

This study is based on a research project designed to promote meaningful learning in classes where English is taught as a Foreign Language (EFL) through the implementation of the Project-Based Learning (PBL) approach, integrating urban agriculture content. The Project involved thirty-five (35) English teachers from four Ecuadorian cities: Azogues, Cuenca, Ibarra, and Riobamba. The three-phased Project included teacher training, PBL implementation, and project completion by students. Data on teachers' experiences were collected following the action research design. The major findings of the study reveal that there is a marked improvement in students' vocabulary development and understanding of basic sentence structures. Moreover, teachers highlighted increased student engagement and interest, particularly through the integration of timely and relevant topics that reflect real use of the language. The study concludes that incorporating real-world content like urban agriculture enhances the relevance of EFL instruction, while also raising student awareness of global issues such as environmental sustainability.

**Keywords:** action research, Project-Based Learning, significant learning, urban agriculture, teacher-training

## 1. Introduction

The use of Project-Based Learning (PBL) approach in classes where English is taught as a foreign language (EFL) is not new. Still, it has emerged as a transformative educational approach that fosters active learning, critical thinking, and problem-solving skills among students. Unlike rote memorization methods, PBL encourages learners to engage deeply with subject matter through real-world applications and hands-on experiences. This methodology is built on the premise that students learn more effectively when they apply theoretical knowledge to practical challenges, fostering a sense of ownership over their learning.

The study was based on the implementation of a research project that aims to promote urban agriculture content in EFL classes through the PBL approach. In this Project, limited spaces of schools located in urban areas or cities were converted into 'Huerto Classrooms' or garden spaces to facilitate learning beyond the usual topics in English lessons and deviating from the norm of lecture-based instruction. The Project is designed to innovate in the teaching of English through PBL.

Through the PBL approach, teachers-initiated classroom projects that raised the awareness of students about the value of localizing agriculture in schools. The conceptualisation of this project is based on the advice of the Ministry of Education – the 'Acuerdo Ministerial (MINEDUC-2022-00010) Plan de Estudios' – that mandates school administrators to reduce the number of teaching hours of English subjects in schools from five to three hours weekly.

Through this project, three goals are achieved: innovation in English teaching through PBL, organic production, and promotion of environmental awareness through urban agriculture. By employing interdisciplinary strategies and collaborative problem-solving techniques, this Project should enhance student engagement, motivation, and skill development. Moreover, the project was an opportunity for students and teachers to address climate change by raising awareness of the importance of turning schools into green spaces to ensure clean air is sustained, and organic food production is initiated. By integrating experiential learning frameworks, the initiative aligns with contemporary educational paradigms that emphasize inquiry-based learning, teamwork, and real-world problem-solving.

The significance of this project extends beyond students' performance inside an EFL classroom, as it also cultivates essential 21st-century skills such as creativity, communication, and adaptability. By analysing theoretical foundations, benefits, and challenges of PBL, this study aims to provide valuable insights into its implementation and effectiveness in EFL classrooms and in language teaching more broadly. Through the projects that teachers and students produced during the year-long PBL implementation, results showed how links are established between significant English input and a practical teaching approach. Schools are expected to be on the frontline in improving English instruction in the country and as a core resource of information in combating climate change. In addition, 'green-inspired' efforts focused on urban agriculture increased students' awareness

of their crucial participation in local food production.

In response to these challenges, a collaborative project aimed at bridging these gaps was conceptualised. Teachers from four cities—Azogues, Cuenca, Ibarra, and Riobamba—were selected to participate, with the overarching goal of reinstating the two instructional hours removed and strengthening the teaching of English through innovative, project-based approaches.

The Project was well-received as it offered teachers access to specialised training in both PBL and Urban Agriculture. This unique integration of content and methodology provided students with the opportunity to learn English in a hands-on, meaningful, and environmentally conscious context, promoting not only language acquisition but also environmental awareness, healthy living habits, and community engagement.

Throughout the implementation phase, participants encountered unexpected yet highly positive outcomes, which further inspired them to rethink traditional classroom practices. This experience highlighted the transformative power of contextualized, purposeful education and demonstrated that even within the limitations of public education systems, innovation is possible when teachers are empowered.

The results of this study addressed the main research question of how PBL transforms EFL classrooms through collaborative work between teachers and students. Moreover, the data pointed to the approach's characteristics, particularly its key elements and implementation techniques, as pivotal for significant

learning among students. However, despite the positive results, striking a balance between teaching content or input and project completion remains a challenge, and teachers must be conscious and strategic to ensure that both language and project objectives are achieved.

## 2. Literature review

### 2.1 Context and situation of EFL teaching in Ecuador

In 2016, the Ministry of Education of Ecuador mandated the teaching of a foreign language in both basic education and higher education institutions. Across public schools in the country, English was chosen as the foreign language to be taught from Year 2 through senior high school levels. In the aftermath of this mandate, teachers faced the challenge of trying to understand the seemingly complex teaching principles and pedagogical approaches spelled out in the curriculum (Ministerio de Educación del Ecuador, 2016 [MinEduc]). The dearth of teacher training (Barre-Parrales & Villafuerte-Holguín, 2021) after the release of the curriculum contributed to the conundrum, which inevitably affected the teaching-learning process.

One of the dominant approaches privileged in schools is Communicative Language Teaching (CLT), which emphasizes the development of students' capacity to communicate (Calle *et.al*, 2017, p. 3) in real contexts. Under the CLT, other methods and teaching strategies were likewise promoted, as they aim to enable learners to produce the language through meaningful content that reflects real use. The use of Content and Language Integrated Learning (CLIL)

was promoted in 2017 (Barre-Parrales & Villafuerte-Holguín, 2021), and other similar methods, such as Task-Based Language Teaching (TBLT).

Despite a strong affinity to CLT-driven teaching practices and curricular modifications and adaptations, students' proficiency remains generally low (Ortega-Auquilla & Auccahualpa-Fernandez, 2017; Education First, 2019). According to the EF English Proficiency Index (2019), Ecuador ranked 81st out of 100 countries, with a score of 46.57, corresponding to an A1 level on the Common European Framework of Reference for Languages (CEFR). The problem is twofold: the demand for training far exceeds the available supply, and many educators are unable to dedicate time to extra training due to their already demanding schedules, which include large class sizes, extensive administrative duties, and multiple teaching responsibilities.

Adding to the problem is the schools' contexts where, in some cases, there is only one qualified English teacher—or none at all. Thus, some teachers with other specialisations are tasked to assume responsibility for English instruction. This not only affects the quality of language education but also places additional strain on teachers who may feel unprepared or unsupported in this role.

Moreover, a recent decision by the Ministerial Agreement (MINEDUC-2022-00010 Study Plan) to reduce English instruction to only three hours per week across public schools has further complicated efforts to improve proficiency. Such a reduction significantly limits students' exposure to the language, undermining any gains made through isolated training or improvements to

resources. According to the Ministerial Agreement, any reduction in English hours should be recovered through the development of interdisciplinary projects that provide students with enough opportunities to engage with the language through meaningful project activities. The MinEduc recommends that students present their projects at the end of the academic year to mark the consolidation of competencies in the target language. The suggestion of the MinEduc regarding the use of projects provided the impetus to introduce PBL in English lessons as a strategic response to augment English input in schools.

## 2.2. PBL as a teaching approach

The use of Project Based Learning (PBL) in language classrooms is not a recent approach. Many places whose language is not English have employed PBL for a variety of reasons, such as integrating language skills, fostering an inquisitive attitude, promoting autonomous skills, and incorporating values such as teamwork, participation, and collaboration.

In some Asian countries such as Indonesia, a theoretical study was conducted to determine the efficacy of PBL in English classrooms (Sedubom, S. & Nurhayati, N., 2024); in China, PBL was used in promoting integration of different disciplines to enhance students' comprehensive skills (Guo, Y., & Yu, H., 2022, p. 22), and in Thailand, the effects of the PBL are tried and tested on Thai students' general language ability in English (Essein, A., 2018). In Nigeria, PBL was employed to examine its influence on students' engagement and communication skills (Sudarso, H., et al., 2024). In New

Zealand, PBL was used to investigate its influence on the development of service skills (Chimwayange, C., 2025).

PBL studies in Ecuador focused on skills development such as reading (Imbaquingo, A., & Cárdenas, J., 2023; Calahorrano, L., et al., 2024) and speaking (Ponce, C., & Reyes, S., 2025). There are a few studies that focus on the influence and the effects of the PBL approach when the content is changed or diversified. In some cases, teachers misconstrue the difference between project-making and project-based development. PBL is not equivalent to a project, which is usually a summative assessment task that students have to demonstrate or hand in at the end of a specific period; instead, PBL is an approach in which all steps and activities begin with project conceptualization and culminate with project submission or presentation. In the Project, students' outputs from PBL classes reflected every segment and part of the lessons that teachers developed and students learned over time.

In this study, the English content deviates from the usual topics, which are often oriented toward global themes. In response to the pressing challenges of climate change posed by drought and forest fires in Ecuador in 2023, the Project incorporated themes related to urban agriculture to foster students' awareness of environmental preservation and local food production by converting limited school spaces into 'huertos' (gardens).

Using the garden as a learning space reinforces the idea of place-based education. This principle underscores the importance of learning that extends beyond the classroom and extends to the outer environment and the place where

learning takes place (Anderson, S., 2017). The gardens that teachers and students used during PBL implementation were extended to the outdoor environment, where students put into practice what they had learned in the classroom, and created a learning environment that provided a concrete version of what they had theoretically learned. Moreover, the use of urban agriculture content is developed, and English input is expanded as students use vocabulary to understand key concepts in their gardens and communicate using the input emphasized during in-person instruction.

### 3. Methodology

The study employed action research design at an institutional level. Action research emphasises the importance of an intervention in influencing teaching practice. In this study, teachers' experiences in understanding their context were key in planning their PBL lessons and conceptualising students' projects. Smith and Rebolledo (2022) highlight the importance of context exploration in formulating activities for students to ensure that the 'action component' of the design is appropriate and relevant.

The Project was structured into three phases to ensure sufficient time to track and monitor from project conceptualization through project completion. Since it was an intervention-based design, the three phases consisted of teacher training, classroom implementation, and project evaluation. The main objective was to innovate English language instruction by embedding environmentally sustainable practices aligned with national educational needs.

### 3.1. Participants

The study purposely selected thirty-five (35) teachers from four cities: Azogues, Cuenca, Ibarra, and Riobamba from public and private schools. Participants were selected through an open call disseminated via institutional websites and social media platforms. Each teacher worked with approximately 20 students, resulting in an estimated 700 direct student beneficiaries.

### 3.2. Data Collection Methods

Data were collected through focus group discussions (FGDs). An FGD is a data collection method in which participants come together and share their views about a particular topic (Efron, S., & Ravid, R., 2019). During the year-long PBL planning and implementation, two rounds of six FGDs were facilitated during the lesson implementation, and another round of six FGDs was conducted after students completed and presented their projects to their school community. Each round of FGDs was coordinated with the school administrators, and the selected teachers were gathered together to participate in the discussion. After each FGD round was completed, the audios and notes were transcribed and processed, and the processed data were then coded.

### 3.3. The action research procedure

In the first, A four-week virtual training course was conducted by an expert professional, consisting of 20 synchronous and 20 asynchronous hours, led by a U.S.-based expert in PBL. A two-day in-person workshop followed in each target city. The sessions focused on integrating environmental content into English

instruction and were supported by an agronomist who guided sustainable plant selection, cultivation techniques, and content alignment.

The first stage of the action research design is the planning stage, during which teachers received two virtual training sessions on PBL lesson design on integrating urban agriculture content into English lessons. During this stage, teachers designed a four-week PBL lesson plan that integrated English language objectives with environmental and agricultural themes. Continuous support was provided through virtual consultations and feedback sessions facilitated by both the project team and invited experts. The teachers received support from the research team of this study and the coordinator designated for each city.

The second stage – acting or intervention – refers to the time teachers devote to implementing the PBL lesson. Generally, the EFL class time was divided into three parts: classroom input, garden activity time, and project planning. During the intervention stage, teachers reflect on their practices and document their challenges. Since students were working on their projects in teams, teachers guided them for four (4) months until the completion and presentation of their outputs.

While teachers were implementing the PBL lessons, they were, likewise, observing the influence of their lessons on students' vocabulary development and understanding of structure, which are key to developing students' communicative skills. The observation stage is the third stage of action research in which teachers document students' progress and

responses to the lesson and track their advancement.

The fourth stage refers to the reflection stage, in which teachers assess students' performance and evaluate students' activities in their projects. In this stage, teachers employed a combination of formative and summative assessment approaches to help students connect their projects to the English input they had learned.

### 3.4. Data analysis techniques

Qualitative data from focus groups and other sources were analyzed using qualitative content analysis (QCA), a descriptive method that explores patterns and relationships of data (Schreier, M., 2012). Transcribed data from the FGD rounds were processed through open coding to determine patterns, points of convergence and divergence, and conceptual relations among codes. After shortlisting the codes that emerged from

the transcribed data, codes that denote and reflect relationships and common conceptual meanings are examined to form the categories. In this study, a total of twenty-nine (29) codes were generated from FGD data. Out of 29 codes, nine categories were constructed, which point to conceptual relationships that reflect teachers' experiences in implementing PBL in their classes. From nine (9) categories, three themes were produced. These themes served as the underlying reasons and explanations drawn from the data collected from teachers through FGDs.

## 4. Results

### 4.1. Codes Generated during open coding

Based on the three phases of the project implementation, the results generated are organised into four aspects. Table 1 shows the influence of the PBL approach on students' performance in English class.

**Table 1.** Influence of PBL on students' performance in English

No	Category	Code	Frequency
1	*Vocabulary-driven proficiency	<sup>1</sup> **Increment in vocabulary	12 (34%)
		<sup>2</sup> Vocabulary-realia linkage	11 (31%)
		<sup>3</sup> Awareness of healthy habits	17 (49%)
2	Transformative language	<sup>4</sup> Effective vocabulary translation (Spanish-English)	30 (86%)
		<sup>5</sup> Acquired habits in recycling	32 (91%)
3	Collaborative engagement	<sup>6</sup> Collective students' voice and choice	25 (71%)
		<sup>7</sup> Learned negotiation techniques	18 (51%)
		<sup>8</sup> Shared multidisciplinary knowledge	21 (60%)

*Note.* A total of 35 participants participated in the FGD. Eight (8) \*\*codes generated. Frequency, expressed as a number, is based on the number of times participants mention a similar word or phrase. The percentage is calculated by dividing the frequency by the total number of participants.

Table 1 shows the codes generated from the first round of six FGDs facilitated, each lasting an average of 60 minutes. From the transcripts generated, which addressed the research question on the influence of PBL on students' learning and performance, eight (8) frequent codes emerged. The frequent codes are organised around three iterative questions relating to students' motivation

for learning English, their responses to English input (urban agriculture content), and their responses to collaborative work.

Table 2 shows the codes generated from the questions collectively categorising the ways and mechanisms by which the PBL approach changed teachers' manner of EFL teaching. The nature and steps of the PBL approach were two aspects explored during FGDs.

**Table 2.** Nature and steps of the PBL

Category	Code	Frequency
4 *Holistic approach	<sup>1**</sup> Practical approach	31 (89%)
	<sup>2</sup> Solution-oriented	11 (31%)
	<sup>3</sup> Transformative potential	8 (23%)
	<sup>4</sup> Research-oriented	9 (26%)
5 Interconnected steps	<sup>5</sup> Interactivity in the steps	12 (34%)
	<sup>6</sup> Question-driven	28 (80%)
	<sup>7</sup> Development-driven	22 (63%)
	<sup>8</sup> Dynamic and connected activities	11 (31%)
	<sup>9</sup> Process-oriented	9 (26%)
	<sup>10</sup> Procedural in activity implementation	13 (37%)

*Note.* A total of 35 participants participated in the FGDs. Ten (10) \*\*codes generated. Frequency, expressed as a number, is based on the number of times participants mention a similar word or phrase. The percentage is calculated by dividing the frequency by the total number of participants.

To capture teachers' experiences in implementing PBL, the second round of six (6) FGDs was facilitated for teachers. In this FGD round, the questions focused on teachers' realisations about the nature of PBL as the approach to using a different type of content. From the participants' responses, ten (10) were frequently cited, which were extracted from participants' answers. All participants found the

approach practical and question-driven. Others find PBL highly developmental in its steps, with questions as the elements that propel its implementation.

Table 3 presents the potential and challenges that teachers experience during PBL implementation, particularly when a different type of input is used instead of the usual topics in EFL classes.

**Table 3.** Potential of and challenges in PBL implementation

Category	Code	Frequency
6 Significant Practice	<sup>1</sup> Collaborative nature	32 (91%)
	<sup>2</sup> Principles-driven	28 (80%)
	<sup>3</sup> Relevant language practice	31 (89%)
7 Diffused balance	<sup>4</sup> Complexity in project planning	18 (51%)
	<sup>5</sup> Difficulty in content integration	30 (86%)
	<sup>6</sup> Balance between English input and approach	27 (77%)

*Note.* A total of 35 participants participated in the FGDs. Six (6) codes generated. Frequency, expressed as a number, is based on the number of times participants mention a similar word or phrase. The percentage is calculated by dividing the frequency by the total number of participants.

In Table 3, teachers recognise the potential of PBL to diversify approaches in EFL classes, particularly by incorporating urban agriculture content as focal themes in teaching vocabulary and basic grammar structures. Most teachers affirm the collaborative nature of PBL as key to effective content integration. Other participants note that the principles that govern the approach are influential in helping teachers strategically develop the project while simultaneously incorporating urban agriculture content. In PBL lessons, teachers realise that relevant language practice is evident through the use of input – urban agriculture – that is significant and concrete for students to comprehend and absorb.

Despite the potential of PBL to facilitate relevant content in a strategic way, teachers identified challenges that shaped their experiences. Most teachers cited difficulty in integrating urban agriculture content into EFL lessons. Also, striking a balance between English input and the deliverables of PBL was complex and difficult.

Towards the end of the project, teachers reflected on their experiences during the year-long implementation. One major theme that emerged is teachers' tendency to prioritise project implementation over the development of English language skills. Table 4 presents teachers' priorities in the overall implementation of PBL in their EFL classes.

**Table 4.** Prioritised Areas in PBL Implementation

Category	Code	Frequency
8 Outcome-oriented teaching	1 Learning environment transformation	31 (89%)
	2 Project process completion	25 (71%)
	3 Regard for students' engagement	28 (80%)
9 Privileging input	4 Building and expanding vocabulary	33 (94%)
	5 Polishing basic skills	28 (80%)

Note. A total of 35 participants participated in the FGDs. Five (5) codes generated. Frequency, expressed as a number, is based on the number of times participants mention a similar word or phrase. The percentage is calculated by dividing the frequency by the total number of participants.

## 5. Discussion

### 5.1. Categories constructed from codes

The codes were derived from transcribed responses that participants frequently cited. Also, the 29 codes were not only often mentioned, but they also reflect teachers' experiences in implementing PBL which were expressed in the form of their responses to the teaching approach, their feelings when observing students' progress, the social interactions with their colleagues at school, their values and beliefs about PBL as a way to teach English differently and the practices that they think had changed when they implemented PBL in their classes incorporating a different input which deviates from their usual practices. The 29 codes that came out from transcribed data constituted what Saldaña (2016) refers to as 'human events or experiences' (p. 16) that get coded due to the meaning they evoke from language-based data (p. 4).

Of the 29 codes, four categories were constructed (Tables 1-4), which reflect the

pattern typical of participants' experiences and show the interconnectedness of the codes, highlighting a point of convergence. Figure 1 presents a hierarchical frame of thematically-linked categories that are interconnected and reflect teachers' experiences in PBL implementation.

**Figure 1.** Related categories from generated codes

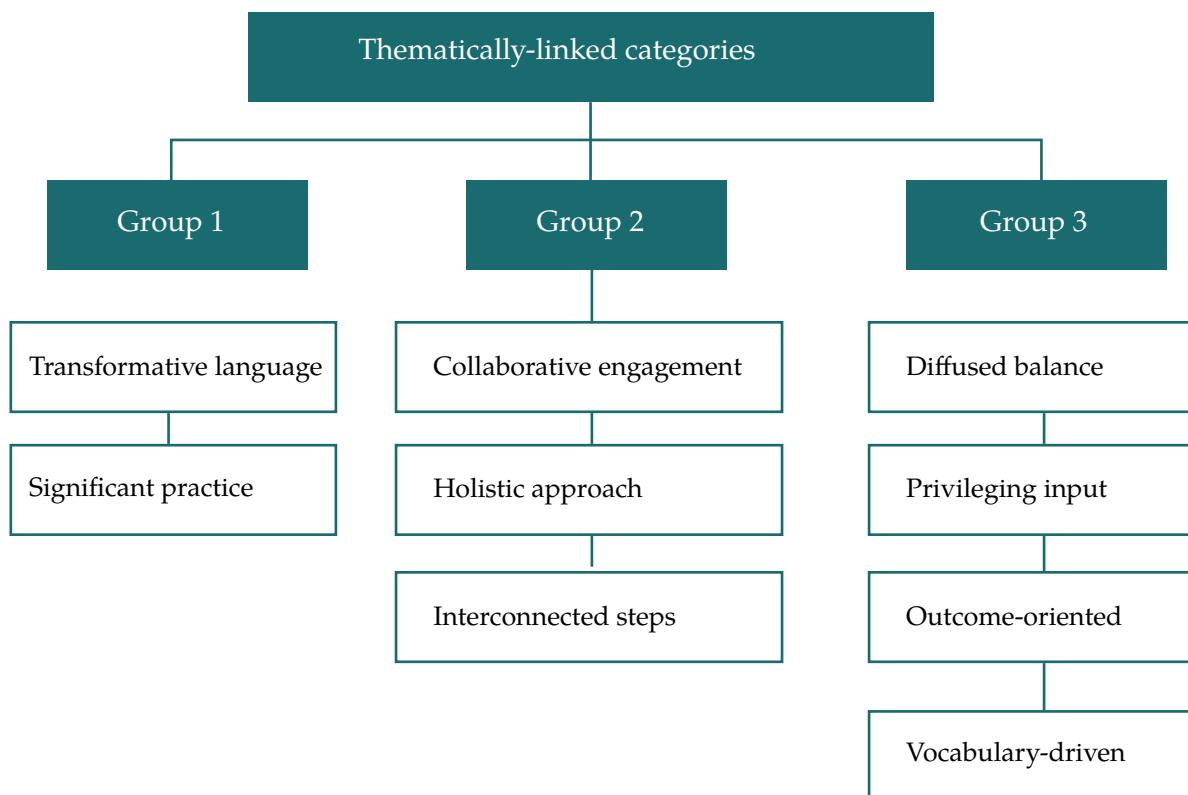


Figure 1 shows that the 11 categories are grouped into three due to their close links, reflecting their conceptual properties and similar dimensions (Kelle, U., 2007). In Group 1, categories (2, 6) – transformative language and significant practice – are connected as both refer to the PBL nature of transforming language teaching in EFL classes. The transforming element of the approach results in significant practice that teachers demonstrate in their classes. The use of curriculum-framing questions (CFQs) in PBL lessons, alongside sequenced activities, provides teachers with space to develop projects throughout the duration of one unit or quarter. The CFQs render the approach the potential to innovative classrooms where teachers facilitate

significant lessons and activities that enable students to understand a different English input, and develop the capacity to conceptualise capstone projects (Buzzetto-More, 2013) – a final student-centered connecting theory and practice – output that mirrors their collective insights of what is taught over a period of time. In most FGDs facilitated, teachers attributed the components of the PBL approach – authenticity, collaboration, reflection, voice, and choice (Boss, S., & Larmer, J., 2015) – as key to transforming classrooms.

Throughout the FGD rounds, most teachers considered the instruction implementation method of PBL, underscoring the importance of providing an entry event when starting PBL in classes to foster students' motivation to

engage. The entry event is connected to a series of activities that undergo ongoing monitoring (Masek, A., & Yamin, S., 2010; Boss, S., & Larmer, J., 2015) of their work until they finish the project towards the end of the period.

In Group 2, categories (3, 4, and 5) – collaborative engagement, holistic approach, and interconnected steps – point to a common theme that pertains to the PBL's method and techniques in teaching a lesson. In this Project, teachers developed an interdisciplinary project in which every component – objectives, approach, implementation, and project conceptualization – is connected to the others. Unlike other EFL methods, teachers often deliver lessons that are not always connected to the next topic, despite maintaining continuity in their discussions and having a well-sequenced list of grammar points. In PBL, teachers develop a holistic plan in which the steps in the method are seamlessly connected. Teachers in this Project used a different content – urban agriculture – which deviated from the global themes in EFL topics. In this context, teachers must foster a collaborative environment so that students learn English through urban agriculture content, while simultaneously developing a project to be showcased at the end of a specific period. During the FGDs, one teacher (Ibarra, Teacher 2) said, 'The teaching-learning process is real,' as every component is connected. Through effective classroom management, teachers guided students through group-work strategies, which eventually led to greater learning autonomy.

In Figure 1, the categories in Group 3 that are thematically linked are diffused balance (category 7), privileging input (9),

outcome-oriented (8), and vocabulary-driven (1). These categories highlight the nuances between prioritizing input (English vocabulary and grammar) over project completion, the latter of which reflects students' performance following the PBL approach. Based on the categories in Group 3, some teachers expressed they dedicated more time in improving students' vocabulary using contents about urban agriculture than the project; however, many teachers shared a different priority where they noticed they and the students spent more time in fulfilling every step of the project like plant propagation and growing as it is the final product of the PBL lesson. Some teachers were more outcome-oriented – focused on the project – than on developing students' language learning; thus, there existed a nuanced balance between achieving language and project objectives. Also, teachers diversified the learning environment by going to the gardens created for the PBL project, especially in the case of teachers from Ibarra who have noticed that students became more interested and involved due to a realization that learning English vocabulary can be based on concrete objects, such as real seeds and plants they can touch and feel. Just like in any PBL-driven lesson in language classes, teachers are confronted with balancing accomplishing language objectives and producing a project that reflects students' learning.

In relation to the categories constructed in Group 3, teachers from Riobamba explained in some FGD sessions that they tried to ensure a balance when implementing PBL through appropriate assessment activities. One teacher from Riobamba said, 'To ensure language

objectives are achieved while completing a project, I implemented formative assessment tasks such as the use of short journals alongside summative tasks that included checklists and rubrics that show students' progress in English and project completion' (Riobamba, Teacher 1).

### 5.2. Themes derived from categories

After interpreting the nine categories in Figure 1, three themes emerged that explain the relationships among the categories and capture the essence of the changed EFL classroom resulting from PBL implementation.

### 5.3. Theme 1. Transformative learning environment through PBL

One of PBL's strengths as a teaching approach is its potential to transform EFL classrooms into significant learning spaces. The two categories: transformative language (2) and significant practice points to the approach's inherent characteristic in providing authentic and real-life tasks to students. During the planning phase of the Project, the first step in the action research cycle, teachers planned their lessons, incorporating a relevant theme to raise students' awareness of environmental preservation. Topics related to urban agriculture were the main focus, as most schools are located in cities with limited space for gardening. The incorporation of this topic paved the way for teachers to change the learning environment by converting limited spaces into gardens where students could grow vegetables, a practice known as the 'huerto classroom.' In the 'huerto classroom,' teachers built the vocabulary bank around gardening and plant-growing terms. Similarly, grammar points use context-based

situations that help students understand structure using words they are familiar with. Noticeable vocabulary development due to contextualised input, such as the use of urban agriculture content, affirms the essence of place-based education (Anderson, S., 2017), where students easily grasp the meaning of words in a foreign language through the connection to and familiarity with the context and learning environment. FGD data imply that the PBL approach led to significant expansion in students' vocabulary and a clearer understanding of simple sentence structures.

Aside from the two main influences of the pedagogical approach, teachers were unanimous in emphasizing its contribution to students' interest and appreciation of timely issues such as the value of urban agriculture in diversifying usual content in EFL classrooms. The potential of PBL to enhance students' communication and engagement (Sudarso, H., et al., 2024; Calle et al., 2017, p. 3; Essein A., 2018) is one of its strengths as a teaching approach.

Another transformative element of PBL is the use of driving questions that propel thinking and imbue students with an inquisitive mind seeking ideas for their project. Teachers observed that during lesson implementation, students used English not only as the subject they were learning, but also as a communication medium, enabling them to apply the vocabulary they were taught. By using the vocabulary taught, students are better equipped to speak (Ponce, C., & Reyes, S., 2025) and read (Imbaquingo, A., & Cardenas, J., 2023; Calahorrano, L., et. al., 2024), which are key to their interactions and communication.

Another factor that contributed to significant learning was the use of contextualized activities rather than template-driven worksheets in usual EFL classes. Students in this urban agriculture project used real materials and gained exposure in different learning environments, such as gardens or 'huertos'. They learned vocabulary related to planting and agriculture. In schools in Imbabura, students were highly engaged because the topics were closely related to the real jobs they and their parents do every day. In Riobamba, schools are located in the city centre; thus, the limited space they have was converted into a green area where students participated in communicative activities related to their lessons on urban agriculture.

Interdisciplinarity in teaching, through the integration of content from other disciplines, enabled students to integrate their knowledge and skills. At a school in Azogues, teachers used the garden to teach English and Kichwa, integrating science concepts into their vocabulary. In one school in Ibarra, the entire teaching force contributed to the project through content-based instruction, enriching students' exposure to words coming from various disciplines, and thus highlighting the approach's transformative potential.

#### 5.4. Theme 2. Collaborative action through teamwork

In Figure 1, categories (3, 4, and 5) reflect the group-driven nature of the PBL approach in lesson presentation, which is pivotal in developing students' autonomy. Teachers from the selected cities highlighted that producing interdisciplinary projects is one of PBL's potential for promoting

interdisciplinarity in content since students learned to develop projects that allowed them to use English vocabulary and connect it to vocabulary related to urban agriculture. In the case of Ibarra, an English teacher at one school collaborated with the Mathematics teacher to prepare the garden plots by incorporating topics on dimensions and measurements to ensure that students learn to measure before seeds are sown. While measuring their garden plots, students not only learn English vocabulary related to urban agriculture, but also related to Mathematics. The entire faculty roster contributed to the project, providing their content and integrating it into the lesson steps.

During PBL, students worked in groups as they cultivated their plants in their gardens, noting their progress in their worksheets. Inside the classroom, the independent work accomplished outside is reinforced through vocabulary building and sentence structure formation in their English classes. Further, the interconnected steps of the PBL plan ensure that students do not learn English input in isolation; instead, they learn the language and develop multiple skills naturally and seamlessly. The connectedness in PBL planning affirms the efficacy of the approach (Sedubom, S., & Nurhayati, N., 2024), as it provides students with space to develop the ability to construct knowledge rather than in isolation. In most EFL classes, lessons are taught discretely due to a clear division in teaching productive and receptive skills, including grammar and language use. In PBL, students incorporate skills in a holistic manner, which, likewise,

encourages integrated assessment. Having a project to present at the end is proof that students learned to synthesise and incorporate pieces of information and content into a coherent whole.

### 5.5. Theme 4. The indeterminate prioritisation between approach and input

Group 3 categories refer to the challenging aspects of PBL implementation, as teachers need to be strategic to ensure that both language and project objectives are achieved at the same level. However, in real-world PBL implementation, the majority of teachers struggled to balance prioritising English input with ensuring students finish the project; thus, there is a diffuse balance (7) in which teachers recognised the difficulty of balancing input and project completion. Most teachers in Riobamba privileged input (category 9) as most are pedagogically strong in lesson conceptualization and English proficiency. Vocabulary-driven (category 1). On the other hand, teachers in Ibarra were more motivated to provide the best advice so that their students could come up with commendable open house projects at the end of the academic year, given their environment, which makes teaching more meaningful for students. Similarly, interdisciplinarity in teaching, through the integration of content from other disciplines, enabled students to integrate their knowledge and skills. In a school in Azogues, teachers used the garden to teach English and Kichwa by integrating science concepts into their vocabulary banks. In this case, teachers were more outcome-oriented (category 8). Teachers from Azogues and Cuenca tried to balance the two aspects; however, they

faced challenges related to collaboration with other teachers at their schools and to administrative support.

In PBL implementation, teachers are confronted with balancing competing priorities between input (English vocabulary and grammar) and project completion. Many teachers who participated in the Project observed that students were more interested in planting and growing plants than in learning English vocabulary and sentence structure. When projects are good, students' penchant for getting immersed in the experience of seeing plants develop from seeds to a full-grown vegetable ready for harvest sometimes masks the central objective: building their English language skills through the project, not just learning the details of the project they have to present. The nuances in striking a balance between content or input and project-making are evident in some teachers' experiences. Blumenfeld, P. C., et al. (1991) realised that, in some cases, the project "takes centre stage," resulting in an underemphasis on learning content.

To facilitate relevant and strategic PBL lessons, teachers must ensure that language and project objectives are achieved through the activities that are outlined in the plan. Based on the experiences of teachers in this Project, helping students develop communicative skills in English is integral, and this learning is reflected through the projects they produce at the end of the period.

During focus group discussions, teachers—who were participants of the Project from Azuay, Cañar, Ibarra, and Riobamba observed that students valued meaningful content through the selection of a topic that is close to their worldview.

In this Project, urban agriculture was the main focus of all lessons, which were implemented over one academic year. Also, using task-based strategies, students collaborated with their peers in preparing for their capstone project towards the end of the school year.

## 6. Conclusions

The use of the PBL approach in teaching EFL in schools promotes significant learning among students, specifically in three areas: meaningful content, contextualized activities, and the interdisciplinary approach. Data from FGDs in Azogues, Cuenca, Ibarra, and Riobamba reveal that teachers recognized the potential of PBL as an approach that promotes engagement and increases students' motivation to learn English. Further, using relevant content such as urban agriculture, PBL brings the content closer to students' real world; thus, developing their consciousness and regard for world issues such as environmental preservation.

As a teaching approach, PBL transforms EFL classes through the seamless integration of language-learning objectives and project goals. In this study, projects served as the medium through which language teaching was carried out to ensure that students absorbed the content and skills in a meaningful and relevant manner. In this study, teachers realised that a strategic way to help students expand their vocabulary and understand sentence structures and other grammar rules is through content that reflects real language use in their familiar environment, such as 'huertos' (gardens), which culminates in projects students conceptualise.

The collaborative nature of the PBL is another factor that enriches students' learning. Teachers attested that students learn to communicate meaningfully when they receive peer support through projects they envision, implement, and present in various formats, not only to their school but also to their community. Throughout the implementation, students played a leading role, from project selection to the presentation of the final output. When every component of students' tasks is connected and coherent, learning becomes significant and meaningful.

Despite PBL's potential to bridge content and projects in language classrooms, striking a balance between content and project completion remains a challenge. Based on the experiences that teachers shared, some students were more motivated and interested in seeing how plants grow and anticipating harvest time than in discovering vocabulary and sentence structures that would allow them to communicate with each other. Based on the results, teachers' ability to balance content and project depends on their pedagogical competencies and proficiency in English. English teachers who have high linguistic competence do not encounter major obstacles in choosing and adapting the appropriate vocabulary and embedding the grammar points that students need to learn. Teachers who may not be as linguistically prepared to design lessons that balance the two components tend to become more immersed in helping students complete the project, at the expense of devoting equal time to content.

The use of PBL in EFL classrooms confirms the indomitable fact that changing learning environments, incorporating relevant content such as urban agriculture, and conceptualizing

purposive projects can motivate students to appreciate learning a foreign language and raise their awareness about issues that matter to them. This study, which was based on a project, attests to the importance of diversifying teaching approaches and content in EFL classrooms, leading to significant learning and purposeful projects that matter to teachers and students alike.

## 7. Contribución de autores

**HA:** Abstract, Introduction, methodology, Literature Review, Results, Discussion and conclusions

**CDCM:** Abstract, Introduction, methodology, Literature Review, Results, Discussion and conclusions

**MLLF:** Abstract, Introduction, methodology, Literature Review, Results, Discussion and conclusions

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Martha Lucía Lara Freire.



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