



*Diseño de Pensamiento para Facilitar el Desarrollo de Competencias de los  
alumnos TEFL*

*Design Thinking to Facilitate the Development of TEFL Students' Competencies*

*Design Thinking para facilitar o desenvolvimento das competências dos alunos  
TEFL*

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## Resumen

En los desafíos actuales en la educación superior, se observa la desconexión entre los programas académicos y las demandas del mercado laboral global cambiando así la preparación de los universitarios. Se destaca la importancia de desarrollar competencias como la comunicación asertiva, habilidades digitales y trabajo en equipo, para mejorar la competitividad de los estudiantes en el aprendizaje y manejo del idioma inglés. En este contexto, el enfoque de Design Thinking surge como una metodología eficaz para fomentar la creatividad y la innovación. Este estudio tiene como objetivo analizar la efectividad de Design Thinking en el desarrollo de competencias como la comprensión auditiva, comprensión de lectura, expresión oral, expresión escrita, y la adquisición de vocabulario, en el contexto del aprendizaje del idioma inglés. La muestra de esta investigación consiste en la selección de seis docentes de inglés con experiencia de la aplicación de Design Thinking en sus prácticas pedagógicas, con el propósito de obtener la frecuencia de la aplicación de la metodología, las percepciones y el impacto en su implementación con sus estudiantes. Los datos fueron analizados utilizando estadísticas descriptivas en los datos cuantitativos y análisis temático para las respuestas cualitativas. Los resultados indican que la implementación del Design Thinking se observó mejoras moderadas en la comprensión auditiva y una mejora significativa en la adquisición de vocabulario, escritura y confianza al hablar. Estos resultados también subrayan las dificultades atravesadas ante los limitados recursos y la adaptación curricular. Se puede concluir que la investigación sobre la efectividad del Design Thinking aporta herramientas para el aprendizaje y la enseñanza del idioma inglés como lengua extranjera, considerándola una metodología innovadora. Se recomienda realizar investigaciones futuras basadas en las estrategias para implementar esta metodología basada en resultados prácticos.

**Palabras claves:** Design Thinking; TEFL; educación superior.

## Abstract

In the current challenges in higher education, the disconnection between academic programs and the demands of the global labor market is observed, thus changing the preparation of university students. The importance of developing skills such as assertive communication, digital skills and teamwork is highlighted to improve the competitiveness of students in learning and using the English language. In this context, the Design Thinking approach emerges as an effective

methodology to foster creativity and innovation. This study aims to analyze the effectiveness of Design Thinking in the development of skills such as listening comprehension, reading comprehension, oral expression, written expression, and vocabulary acquisition, in the context of learning the English language. The sample of this research consists of the selection of six English teachers with experience in the application of Design Thinking in their pedagogical practices, with the purpose of obtaining the frequency of application of the methodology, perceptions and impact in its implementation with their students. Data were analyzed using descriptive statistics for quantitative data and thematic analysis for qualitative responses. The results indicate that the implementation of Design Thinking saw moderate improvements in listening comprehension and a significant improvement in vocabulary acquisition, writing, and speaking confidence. These results also highlight the difficulties faced due to limited resources and curricular adaptation. It can be concluded that research on the effectiveness of Design Thinking provides tools for learning and teaching English as a foreign language, considering it an innovative methodology. Future research is recommended based on strategies to implement this methodology based on practical results.

**Keywords:** Design Thinking; TEFL; higher education.

## Resumo

Nos desafios atuais do ensino superior, observa-se a desconexão entre os programas acadêmicos e as exigências do mercado de trabalho global, alterando assim a preparação dos estudantes universitários. Destaca-se a importância de desenvolver competências como comunicação assertiva, habilidades digitais e trabalho em equipe para melhorar a competitividade dos alunos na aprendizagem e no uso da língua inglesa. Neste contexto, a abordagem Design Thinking surge como uma metodologia eficaz para fomentar a criatividade e a inovação. Este estudo tem como objetivo analisar a eficácia do Design Thinking no desenvolvimento de habilidades como compreensão auditiva, compreensão leitora, expressão oral, expressão escrita e aquisição de vocabulário, no contexto de aprendizagem da língua inglesa. A amostra desta pesquisa consiste na seleção de seis professores de inglês com experiência na aplicação do Design Thinking em suas práticas pedagógicas, com o objetivo de obter a frequência de aplicação da metodologia, percepções e impacto na sua implementação junto aos seus alunos. Os dados foram analisados por meio de estatística descritiva para dados quantitativos e análise temática para respostas qualitativas. Os resultados indicam que a implementação do Design Thinking registou melhorias moderadas na

compreensão auditiva e uma melhoria significativa na aquisição de vocabulário, escrita e confiança na fala. Esses resultados também destacam as dificuldades enfrentadas devido à limitação de recursos e à adaptação curricular. Pode-se concluir que pesquisas sobre a eficácia do Design Thinking fornecem ferramentas para aprender e ensinar inglês como língua estrangeira, considerando-o uma metodologia inovadora. Recomendam-se futuras pesquisas baseadas em estratégias para implementar esta metodologia com base em resultados práticos.

**Palavras-chave:** Design Thinking; TEFL; ensino superior.

## Introduction

In Latin America and the Caribbean, some studies have found that education there faces a complex crisis. In terms of Higher Education, the challenges are diverse, from the high rate of academic dropping out, a traditional higher education system, the disconnection between the program and the professional profile, public policies, and the poor implementation of pedagogical innovations, among others. As a result, Latin American Graduate students are underprepared to face the demands of a global labor market. (UNESCO, UNICEF y ECLAC, 2022; Acevedo, 2021). Therefore, preparing graduates to be able to face real-life challenges involves shaping learners' cognitions, competencies, skills, and attitudes in such a way their profile is aligned with the professional one (Ali & Awan, 2021). Learners are required to have expertise and to master some employability skills to be competitive in the labor world. Also, developing skills and competencies in students remains as one of the priorities since they cannot just be applied in the academic area, but also across multiple contexts.

In work scenarios, each job demands a combination of transferable and higher cognitive skills. Those are employability skills, which are the ones mostly required in job candidates since what matters for employers is to have candidates who know how to perform the work effectively according to the area and its profile. Employability skills provide insight into your skills to handle the job duties. They are adaptable since they can be applied beyond specific disciplines (Maciejewski et al., 2020). Some of them are Assertive communication, digital competencies, leadership skills, management, critical thinking, problem-solving, creative thinking, collaboration, flexibility, time management, interpersonal skills, teamwork, and organization. However, in real context, some studies have shown that the gap between the GES (Global Employment Skills) required in students and what they learned at the institutions remains large. In addition, finding a

candidate who matches the profile demanded by the companies is a hard task to accomplish (Abbas, Iqbal, Williams, Baxter, 2023).

Hence, Design Thinking is a problem-solving approach focused on the design of creative and innovative solutions to complex and authentic issues, in other words, highly required in real-life scenarios. The process involves some cognitive activities such as “analyzing the situation, defining the problem, modeling ideas, designing solutions, predicting results, questioning unexpected outcomes, and managing the designing process” (Sung & Kelly, 2019). This is in line with the five phases of this approach, which are: empathize, define, ideate, prototype, and test (Abbas, Iqbal, Williams, Baxter, 2023). Studies have highlighted the need to support learners to prepare for their careers (s (Clements & C., 2018). Also, some findings have demonstrated an improvement after the engagement in the design thinking learning process. For example, a study was conducted in a rural area in Turkey. The results of the pretests were 2.75 (SD=1.33), in contrast with the posttests’ 6.65 (SD=1.90) (Ladachart, Radchanet, Phothong, 2022).

The main aim of the study is to analyze the effectiveness of the application of the design thinking approach in the development of TEFL learners’ competencies, specifically in problem-solving skills, decision-making, creativity, and confidence. Also, to examine the influence of the Design thinking learning approach on TEFL learners’ mindset regarding problem-solving skills, decision-making, creativity, and confidence.

#### **Research questions:**

- How frequently have Tefl teachers applied the 5-stage process: Empathize, Define, Ideate, Prototype, and Test, the Design Thinking approach in teaching?
- What is the educators’ perspective on the effectiveness of Design Thinking in the English learning process?
- What are the main challenges that educators encounter while applying design thinking?

## **Literature Review**

### **Design Thinking**

Design thinking is an approach to learning that provides alternative solutions to language learning, with a structured framework to explore and experiment with different strategies and methods (Pande and Bharathi, 2020). Using design thinking in the TEFL classroom allows students to develop their language skills by integrating technology into their learning. Crites and Rye(2020)

stated that incorporating design ideas into these technologies managed to build communication and encourage collaboration and interaction with peers.

The use of design thinking in the field of education and language teaching has been the subject of growing interest. Design Thinking as a methodology beyond traditional teaching. A study conducted by Frolova and Aleshchanova (2021) explored the application of Design Thinking in the TEFL classroom, highlighting the creativity and active participation of students in the learning process and student-centered design activities to improve their language skills.

Encourage students to think about different search strategies, keywords, and relevant sources as part of their innovative thought processes. Design thinking in the context of TEFL is considered the cause of innovation and new ideas' development (Tschimmel, 2012). Other experts such as Razzouk and Shute (2012) described design thinking as a process that implies creating, experimenting, and developing prototyping. Moreover, Brown (2008) claimed that design thinking is a constructive human-focused approach to finding ideas and creating solutions.

Meanwhile, methodologies such as design thinking, empower ideas and innovative solutions for TEFL learners. According to Scheer (2012), students require training in constructive learning to get effective results in their use of any other metacognitive skills. Besides, a design thinking-based strategy prepares EFL university students to collaborate, and develop efficacy and problem-solving skills (Mohammed, 2020).

Furthermore, The design thinking methodology consists of five phases as standard: empathy, definition, development, prototype, and testing (Liedtka et al., 2013). The design thinking process is initially nonlinear, and students must develop strategies to drive reasoning through breakdown and validation (Razzouk and Shute, 2012). As Kang points out (2021), the design thinking approach and autonomous learning are effective ways for EFL students to commit to solving problems, which promotes motivation and is expected to improve English proficiency.

### **Design Thinking in Speaking Skill**

Design thinking is a tool that facilitates speaking in TEFL students (Baird & Dilger, 2023). By integrating design thinking into classrooms, teachers can create a culture that encourages creative problem-solving as a part of the learning process. The methods and strategies can be applied at every level of the TEFL design process. This approach benefits learners and demands them to become innovative and confident speakers. Design thinking was used by Sadiyah et al. (2013) as a teaching technique to improve speaking skills among Indonesian students. According to his study,



design thinking encouraged student participation and oral production by applying their knowledge to real-world situations.

Students can use design thinking to create a classroom environment that manages the specific needs of students, for effective communication and collaboration (Noweski et al., 2012). According to Delgado (2020), design thinking provides TEFL learners with a structured framework to approach speaking tasks, establishing the audience's needs and defining what they need to communicate. Through seeking evidence, examples, and new ideas to answer questions or tasks, learners can build a prototype of their speech and receive feedback to edit and improve their speaking skills (Thominet, 2022).

Despite the benefits of design thinking in TEFL, some areas need to be researched and developed more. Future longitudinal studies could investigate the long-term efficacy of this methodology in communication skills. The use of design thinking facilitates development in TEFL students, integrating into language teaching, dynamic, meaningful, and student-centered learning experiences.

## **Methodology**

### **Study Design**

This study will use a mixed method design which consists of collecting and analyzing quantitative and qualitative data (Tashakkori y Teddlie, 2003, cited by Barrantes, 2014, p. 100) where the latter helps to explain or elaborate on the quantitative results (Creswell, 2012, p. 621).

This study aims to investigate how Design Thinking can be utilized as a classroom approach to problem-solving. It will be conducted through a survey designed to assess the implementation and impact of Design Thinking on students' development of specific skills. The study design is qualitative and descriptive, to obtain and analyze data on the frequency of use of Design Thinking activities and their perceived impact on students' various skills.

The study will be descriptive and transversal, focusing on data collection to describe the frequency of application of the Design Thinking stages, educators' perspective on the effectiveness of Design Thinking, and the impact of challenges on Design Thinking in the English learning process. The main goal is to assess the relationship between Design Thinking activities and the development of specific student skills, such as listening comprehension, learning new vocabulary, writing English texts, speaking confidence, and reading comprehension.

## **Participants**

The selection method of this research will be convenience sampling which consists of working participants who are available for the study (Mackey and Gass, 2005). An intentional selection of teachers who have incorporated Design Thinking into their teaching practices has been made. The study participants will consist of 6 teachers with experience with this pedagogical approach to gain a comprehensive understanding of the impact of Design Thinking.

## **Instruments**

Data collection will be conducted through an online structured survey. The survey will be designed to capture both the frequency of use of Design Thinking activities and teachers' perceptions of their impact on students' skills. The survey will focus on the frequency of implementation, educators' perceptions, and challenges when using design thinking.

A structured survey will be utilized to collect data, which has three main sections:

First, the frequency of application of the Design Thinking stages was answered by the educators with options as always, frequently, sometimes, and never. The questions were:

1. How often do you implement class activities that invite students to define a problem by considering the needs of others before seeking solutions?
2. Do you use any method that encourages the generation of creative ideas before selecting a solution?
3. How often do you organize sessions where students work in teams to solve problems?
4. How often do you encourage your students to improve/adjust their ideas based on feedback?
5. How often do you use classroom strategies that allow students to experiment with different solutions before deciding which is best?

Second, the following questions gathered information about educators' perspectives on the effectiveness of Design Thinking. The questions were:

1. Have you noticed an improvement in your students' listening comprehension skills since applying Design Thinking activities?
2. Have you noticed any improvement in students' ability to understand and use new vocabulary after participating in these activities?
3. Have you noticed that students are more able to write English texts when allowed to review and improve their drafts?



4. Have you noticed that students show greater confidence in speaking English after participating in draft or idea-generating activities?
5. Have you noticed that group or individual problem-solving activities have improved students' reading comprehension?

Third, the impact of different challenges on Design Thinking was rated on a scale of 1 to 5 according to their level of impact on the participants' experience with Design Thinking, where 1 was the least impactful challenge and 5 was the most impactful. The challenges were the following:

1. Number of students
2. Time
3. Resources
4. Student comprehension
5. Low student motivation
6. Traditional Students mindsets
7. Student Collaboration and Teamwork Dynamics
8. Adapting Design Thinking to Different Learning Styles
9. Access to Technology and Tools
10. Integration of Design Thinking with Existing Curriculum

### **Procedure**

The selection process consisted of a group of six English-language teachers with experience in implementing Design Thinking in their classrooms. The selection was made using the following methodology. The participants must be English teachers because they are evaluated in addition to the use of design thinking. The purpose of the study is to discover how design thinking can improve the ability to listen, oral, written production, and reading comprehension in planned class activities. A structured survey was created to gather quantitative and qualitative data on the implementation of Design Thinking stages, educators' opinions on the effectiveness of Design Thinking, and the effects of challenges when using design thinking. The development of the instrument was carried out with the review of relevant literature on Design Thinking and its application in education, it was administered electronically using an online platform. The procedure started with sending the questionnaire to the participants by e-mail with a link, detailed instructions, and a two-week response time to complete the survey. Data was gathered for each part of the investigation after the response period.

Two main phases were used to analyze data: first, quantitative analysis, where numerical data was analyzed using descriptive statistical techniques like frequency analysis, N, Min, Max, average, Statistics, Error, and Standard Deviation. The qualitative study was conducted by answering open questions about the strategies implemented by Design Thinking.

The interpretation of results is carried out taking into account the research questions. The topic of discussion will be the impact of design thinking practices on skills development and perceived benefits and challenges. Finally, the quantitative and qualitative data will be interpreted to conclude, mention limitations, and provide recommendations for using Design Thinking in English teaching, as well as suggestions for future research in the field.

## Results

The findings of quantitative and qualitative data analysis obtained from the surveys are described in this section. The results are aligned with the three research questions.

*RQ1. How frequently have Tefl teachers applied the 5-stage process: Empathize, Define, Ideate, Prototype, and Test, the Design Thinking approach in teaching?*

**Table 1**

*Frequency of application of the Design Thinking stages*

<b>Empathize</b>	<b>Freq</b>	<b>Define</b>	<b>Freq</b>	<b>Ideate</b>	<b>Freq.</b>	<b>Prototyp</b>	<b>Freq.</b>	<b>Test</b>	<b>Fre</b>
Always		Always		Always		Always	1	Always	
Frequentl	1	Frequentl	2	Frequentl	1	Frequentl	2	Frequentl	1
Sometime	4	Sometime	3	Sometime	4	Sometime	2	Sometime	4
Never		Never		Never		Never		Never	
	5		5		5		5		5

*Note. Table 1 indicates the frequency of the application of the 5 stages through the Design Thinking process*

As shown in chart 1, most of the educators (4) (3) sometimes applied activities that lead up to defining a problem, considering the needs of others before ending up with the more accurate solution (Empathize and Define). Also, most of them (4) sometimes applied methods that foster the creation of ideas before coming up with a solution (Ideate). In addition, most of them consider collaboration and teamwork to address problem-solving activities to prototype (sketch, models,

digital representations mock-ups) (Prototype). Similarly, most of them (4) sometimes use strategies that enable learners to experiment with different solutions before applying the final proposal.

*RQ2. What is the educators' perspective on the effectiveness of Design Thinking in the English learning process?*

The second part of the survey, which had six Likert questions, was administered to the five experts to answer the second question. The results are shown in Table 2.

**Table 2**

*Educators' perspective on the effectiveness of Design Thinking in The English Learning Process*

<b>Criteria</b>	<b>Improvement Scale</b>	<b>Freq.</b>
1. Have you noticed an improvement in your students' listening comprehension skills due to implementing Design Thinking?	Significant Improvement	0
	Moderate Improvement	5
	No Improvement	0
<b>Total</b>		<b>5</b>
2. Have you noticed any improvement in students' ability to understand and use new vocabulary after being involved in creating and problem-solving activities?	Significant Improvement	5
	Moderate Improvement	0
	No Improvement	0
<b>Total</b>		<b>5</b>
3. Have you observed that students are more skillful in writing texts in English after taking some feedback loops to review and improve their drafts?	Significant Improvement	4
	Moderate Improvement	1
	No Improvement	0
<b>Total</b>		<b>5</b>
4. Have you noticed that students show greater confidence in speaking English after participating in drafting or generation of ideas?	Significant Improvement	4
	Moderate Improvement	1
	No Improvement	0
<b>Total</b>	5	
5. Have you noticed that group or individual problem-solving activities have improved students' reading comprehension?	Significant Improvement	1
	Moderate Improvement	4

No Improvement	0
<b>Total</b>	<b>5</b>

*Note. Chart 2 illustrates the five experts' perspectives on the students' improvement after the Design Thinking implementation*

Most of the educators have advocated that the English language skills have improved. They have observed a moderate improvement (5) in Listening comprehension skills, and a significant improvement (5) in the acquisition of Vocabulary size and depth. Also, most of them (4) coincided that learners have shown a significant improvement in writing and speaking. Similarly, most of them (4) agreed that a moderate improvement was noticed in students' reading comprehension after going through some problem-solving activities.

*RQ3. What are the educators' main challenges encountered and strategies applied to overcome them while applying Design Thinking?*

To respond to this question, the third part of the survey was analyzed. The results of it are illustrated in Table 3.

**Table 3**  
*Descriptive statistics of the Impact of challenges on Design Thinking*

	N	Min	Max	Mean		
				Statistics	Error	Standard Deviation
Number of students	5	3	5	3,80	,374	,837
Time	5	3	4	3,40	,245	,548
Resources	5	2	4	2,80	,374	,837
Student comprehension	5	3	4	3,60	,245	,548
Low student motivation	5	2	4	3,40	,400	,894
Traditional student mindsets	5	2	5	3,20	,583	1,304
Student Collaboration and Teamwork Dynamics	5	3	5	3,80	,374	,837
Adapting Design Thinking to Different Learning Styles	5	2	5	3,60	,510	1,140

<i>Access to Technology and Tools</i>	5	2	5	3,80	,490	1,095
<i>Integration of Design Thinking with Existing Curriculum</i>	5	3	5	4,00	,447	1,000
<b>Valid N (listwise)</b>	<b>5</b>					

*Note. Table 3 shows which challenges have had the most and the least impact on the educators' experience in applying Design Thinking*

Among the highest impact challenges are Integration of Design Thinking in the Existing curriculum (Average: 4, std Dev. 1), access to Technology and Tools (Average: 3.80, std Dev. 1.10), Number of students (Average: 3.80, std Dev. 0.84). These results suggest that integrating Design Thinking into the current curriculum is a key aspect of concern, as well as the inconveniences of accessing the necessary technology and resources to go through the process. Also, the number of students is another aspect of high concern since in scenarios where the number is excessive, it is difficult to engage learners in the process.

In addition, the lowest impact challenges are Traditional student mindsets (Average: 3.20, std Dev. 1.31) and Resources (Average: 2.80, std Dev. 0.84). Regarding the first one, although the transition from a traditional to an active mindset is a challenge, it was rated as one of the lowest one, however, the spread of responses (variety) was evident since it resulted to be more significant for some educators than others. Similarly, the selection of resources in the design thinking process did not represent a high concern compared to other aspects.

## Discussion

The implementation of Design Thinking (DT) as a methodology in Teaching English as a foreign language has demonstrated that facilitates the process with a significant impact on developing 21<sup>st</sup> century skills such as creativity, decision-making, and student confidence. This is aligned with the findings of Razzouk and Shute (2012) who stated that DT mainly focuses on fostering competences and skills of idea generation, critical think and problem solution.

Recent research has highlighted the non-linear and demanding nature of the Design thinking process (Liedtka et al. 2013). As demonstrated in Table 1, the results showed that most educators have implemented the five phases of the design thinking occasionally, with varied frequency in

applying the process. The previous and present study reflect the challenges in integrating DT in English classes.

Also, other studies have demonstrated that the design thinking activities have influenced positively students' engagement and skill development related to Communication and Language skills (Sadiyah et al. 2013). Table 2 illustrates that most of the participants advocated the effectiveness of DT to improve significantly and moderately learners' skills in listening, vocabulary size and depth, writing, and speaking. Therefore, both findings revealed that Design Thinking proved to be effective in language learning.

In addition, this study has demonstrated that the main challenges in applying DT into the current curricula are accessing to technology and tools, and managing large class size. It coincides with what Pande and Bharathi (2020) have stated about the lack or poor resources as a limitation of the DT's success. On the other hand, traditional students' mindsets and resources choice were perceived as less significant.

### **Conclusions**

The findings of this study emphasize the effectiveness of Design Thinking to facilitate TEFL learners, labeling it as an innovative methodology to enhance communicative and critical skills in Teaching English as a foreign language. It has been proved that according to the participants' experience and perspective, by engaging students in authentic activities that includes in their design creativity, collaboration, problem-solving, critical thinking, and assertive communication in L2, they develop competences and language skills such as listening, vocabulary size and depth, writing, and speaking. In addition, the study also identified some challenges that are aligned with previous studies, highlighting the difficulties in integrating DT in the curricula, access and use of technological resources, and managing large class size.

Future research based on learners' perspectives and practical results should be highly recommended. Hence, the methodology aligned to those proposed research should be more in depth. In addition, research on the strategies applied to overcome implementation difficulties should be considered.

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