

Universidad de La Salle  
**Ciencia Unisalle**

---

Licenciatura en Español y Lenguas Extranjeras

Facultad de Ciencias de la Educación

---


2019

## The role of ICTs in the initial education of foreign language teachers

Heisson Javier Sánchez Peña  
*Universidad de la Salle, Bogotá*

Andrea Yulitza Castro Gómez  
*Universidad de la Salle, Bogotá*

Follow this and additional works at: [https://ciencia.lasalle.edu.co/lic\\_lenguas](https://ciencia.lasalle.edu.co/lic_lenguas)

 Part of the Bilingual, Multilingual, and Multicultural Education Commons, Educational Leadership Commons, Educational Methods Commons, Educational Psychology Commons, Educational Technology Commons, and the Teacher Education and Professional Development Commons

---

### Citación recomendada

Sánchez Peña, H. J., & Castro Gómez, A. Y. (2019). The role of ICTs in the initial education of foreign language teachers. Retrieved from [https://ciencia.lasalle.edu.co/lic\\_lenguas/846](https://ciencia.lasalle.edu.co/lic_lenguas/846)

This Trabajo de grado - Pregrado is brought to you for free and open access by the Facultad de Ciencias de la Educación at Ciencia Unisalle. It has been accepted for inclusion in Licenciatura en Español y Lenguas Extranjeras by an authorized administrator of Ciencia Unisalle. For more information, please contact [ciencia@lasalle.edu.co](mailto:ciencia@lasalle.edu.co).



**THE ROLE OF ICTs IN THE INITIAL EDUCATION OF FOREIGN LANGUAGE  
TEACHERS**

**HEISSON JAVIER SÁNCHEZ PEÑA**

**Código 26142121**

**ANDREA YULITZA CASTRO GÓMEZ**

**Código 26151117**

**UNIVERSIDAD DE LA SALLE**

**FACULTAD DE CIENCIAS DE LA EDUCACIÓN**

**LICENCIATURA EN LENGUA CASTELLANA, INGLÉS Y FRANCÉS**

**BOGOTÁ D.C., MAYO 2019**

THE ROLE OF ICTs IN THE INITIAL EDUCATION OF FOREIGN LANGUAGE TEACHERS



**THE ROLE OF ICTs IN THE INITIAL EDUCATION OF FOREIGN LANGUAGE  
TEACHERS**

**HEISSON JAVIER SÁNCHEZ PEÑA**

**Código: 26142121**

**ANDREA YULITZA CASTRO GÓMEZ**

**Código: 26151117**

**TRABAJO DE GRADO PRESENTADO COMO REQUISITO PARA OPTAR AL**

**TÍTULO DE**

**LICENCIADOS EN LENGUA CASTELLANA, INGLÉS Y FRANCÉS**

**Director:**

**LUIS JESÚS RINCÓN USSA**

**BOGOTÁ D.C. MAYO 2019**

**RECTOR:**

HNO. ALBERTO PRADA SANMIGUEL

**VICERRECTORA ACADÉMICA:**

DRA. CARMEN AMALIA CAMACHO

**DECANO DE LA FACULTAD DE CIENCIAS DE LA EDUCACIÓN**

DR. GUILLERMO LONDOÑO OROZCO

**DIRECTOR DEL PROGRAMA:**

DRA. NORMA SOFÍA VANEGAS

**LÍNEA DE INVESTIGACIÓN**

POLÍTICA PÚBLICA EDUCATIVA

**TEMA DE INVESTIGACIÓN:**

PERTINENCIA, EFECTIVIDAD Y CALIDAD DE LOS SISTEMAS EDUCATIVOS

**DIRECTOR TRABAJO DE GRADO:**

LUIS JESÚS RINCÓN USSA

**BOGOTÁ D.C, MAYO 2019**

**Nota de aceptación**

---

---

---

---

**Presidente del jurado**

---

**Jurado**

---

**Jurado**

---

**Jurado**

---

### **Resumen**

Este informe de semillero de investigación presenta tres constructos teóricos que sirven como base para entender los procesos tecnológicos implicados en la enseñanza y el aprendizaje de una lengua extranjera. De igual manera, permite conocer los resultados del análisis de un cuestionario que recoge las opiniones de los estudiantes de primero a sexto semestre, de la Licenciatura en Español y Lenguas Extranjeras, de la universidad de La Salle, sobre el valor de una herramienta tecnológica - curso Pearson English Interactive de la plataforma My English Lab de Pearson- para el aprendizaje del inglés y potenciar el desarrollo de la autonomía, el aprendizaje autogestionado y el uso de las TIC. Los resultados muestran la opinión de los estudiantes respecto al uso del curso PEI teniendo en cuenta tres categorías principales: Actitud y Motivación; desarrollo de habilidades y autonomía y aprendizaje autogestionado. Con el respectivo análisis de contenido, se pudo ver que si bien las herramientas tecnológicas son útiles para enseñar o aprender una lengua extranjera aún hay dudas respecto a su efectividad ya que los estudiantes no se sienten del todo seguros al momento de usar el curso.

*Palabras clave:* TICs, formación inicial docente, enseñanza, aprendizaje.

**Abstract**

This research seedbed report presents three theoretical constructs that represent the base of understanding the technological processes implied in the teaching and learning process of a foreign language. It also contains the results of a survey analysis that takes the opinion of different students from first to fifth semester of Bachelor in foreign languages at La Salle University, about the value of a technological tool -Pearson English Interactive course, in My English Lab platform from Pearson- to the English learning and enhance the autonomy, self-directed learning, and ICTs development. The results show the opinion of the students about the use of the PEI course, taking into account three main categories: Attitude and Motivation; Language Skills Development, and Autonomy and Self-directed Learning. Moreover, the content analysis shows that although the technological tools can be useful to teach and learn a foreign language, there are doubts about their effectiveness because the students do not feel confident now of using the course.

*Keywords:* ICTs, initial teacher education, teaching, learning.

## **Introduction**

During the last decades, information and communication technologies (ICTs) have been changing all facets of human life, including educational processes, systems, and programs, at all levels (Gülbahar, 2008; Oliver, 2002). As a result, the role of ICTs in education and how to integrate them with learning processes is a current concern of all educative agents and actors (Oliver, 2002). The need for developing skills and competencies in using ICTs on the part of teachers and students is a must to ensure the quality of educational programs.

One of the concerns, in this respect, is the education of future teachers, particularly, the initial education of foreign language teachers. All curricular and evaluation processes that aim at ensuring the quality of the undergraduate educational programs address the development of competencies in using ICTs (Gill & Dalgarno, 2008). Consequently, it is of paramount importance to understand how to include the use of ICTs as an essential strategy that enriches educational practices, strategies, and methodologies that develop the skills that the XXI century teachers need (Gülbahar, 2008).

In response to the increasing interest and need of understanding how to use ICTs in education, some theoretical frameworks have emerged to explain the use, role, and integration of technology in the classroom. The first one is Blended Learning (B-Learning), which describes how to blend face-to-face instruction with technology-mediated learning strategies (García, 2008). The second is Substitution, Augmentation, Modification, and Redefinition (SAMR), which describes the stages of integration of technology with teaching and learning practices (Puentedura, 2010). Another is Technological and Pedagogical Content Knowledge (TPACK), which addresses the interplay between technology, teaching methodology, and the content of the discipline (Jang & Chen, 2010).



The theoretical frameworks mentioned before, among others, provide insights to, on the one hand, understand the role of ICTs in ensuring the quality of the education programs of pre-service language teachers, and on the other hand, developing grounded strategies and mechanisms to integrating ICTs that bolster the development of competencies in using ICTs. Furthermore, according to the current education policies, in Colombia, pre-service foreign language teachers who major in English must achieve a C1 level of proficiency (Ministerio de Educación Nacional, 2017). This brings up the challenge of looking for strategies to make the educational process a lot more efficient and effective in reaching that level of competency in the foreign language.

Consequently, and in response to the two challenges mentioned before – developing competencies in using ICTs and reaching the level of proficiency C1, the following question emerged: How to integrate ICTs to support the education process of pre-service languages teachers at La Salle University? This question guided the design of an ongoing research project whose general purpose is to understand how to bolster the learning process of the pre-service foreign language teachers by using innovative learning and teaching strategies mediated by ICTs.

This report presents the results of a piloting experience in using a technological tool. The work of the group consisted on the analysis of a questionnaire about the opinions of the students about the impact of a virtual course, Pearson English Interactive (PEI), on the attitude and motivation of learners; the development of language skills, and the development of the learners' autonomy and self-directed learning skills and attitudes. The results of the data analysis indicate that the respondents agree that the use of PEI supported them to improve different aspects. Their autonomy and self-directed language learning increased during the process, as well as they felt comfortable while they learned through the language skills development in the PEI course and their attitudinal and motivating aspects were also reinforced.

## THE ROLE OF ICTs IN THE INITIAL EDUCATION OF FOREIGN LANGUAGE TEACHERS

According to the previous results, it is possible to determine how technology has permitted to boost the initial education of foreign languages teachers in La Salle University. Nevertheless, it is worthy asking whether such technology could be enough to encourage the initial education of all foreign language teachers. Or, is it necessary to look for other uses of technology to cover all the initial education of foreign languages teachers' needs? Those questions that emerged from this research and are in part, solved here, could be used for future research studies.

This report is the result of the participation of the undergraduate research group in the descriptive stage of the study, the first stage. The work consisted of two parts. The first one, the literature review of relevant theoretical constructs. This was done during the three first semesters of the research; it consisted on consulting academic articles and sources found mostly on the web and data bases. Along the process, information was organized and systematized through matrices in OneDrive files, in the site of the group Egregios. The final process consisted on the categorization of the information by means of labels. From this process several categories emerged. And the second one, was the analysis of a survey designed by the previous seedbed group. The survey contained sixteen closed-ended questions and one open question that collected information concerning the implementation and use of the course Pearson English Interactive (PEI) in the platform My English Lab. The group analyzed the data by taking into account the content analysis procedures and strategies.

## Theoretical Framework

### B-Learning

**Definition.** B-learning is an approach<sup>1</sup> to teach and to learn, allowing students and teachers to work in a way, they can complement their previous knowledge and do things more comfortable for them. It is also defined as the combination of two different ways to teach, but the most common ones are face-to-face instruction with online or virtual learning using technology (E-Learning) and this combination has a balance that permits the correct use of both elements (García, 2008). Also, it is not necessary that learners and teacher are in the same place at the same moment. Moreover, this kind of modality can be used in a lot of contexts where technology has a place as a learning tool (Graham, 2004).

**Benefits.** B-learning provides students with XXI century skills, and they must be prepared to all the things which are coming with technology's development (Chew, 2008). Therefore, these skills involve the correct use of technology that is developed when learners are in contact with online resources, investigating, working, and learning with academic features.

Daspit & D'Souza (2012) and journals like the *European Journal of Contemporary Education*, consider that B-learning mixes pedagogical processes with the use of technological tools, creating new possibilities for curriculum design, teaching practices, and learning strategies, involving the correct use of technology with teacher guidelines.

**Characteristics.** B-Learning has different features that are divided in context, pedagogy, didactics, and methodology, considering the correct balance between FTF (Face-To-Face), and virtual elements.

---

<sup>1</sup>Approach: It is a conjunction of ideas related to the nature and teaching of a given language.

Contextually, this modality uses places where education is present. B-Learning is a tool that can be used in different contexts. For instance, B-Learning has a place in the higher education context (Joshua J. Daspit & D'Souza, 2012).

Pedagogically, B-learning combines instrumental and technological considerations with pedagogical theory, (Chew, 2008; So & Bonk, 2010).

Didactically, the internet offers a lot of platforms with a lot of different contents so that the teacher can use them for the student to learn (García & Source, 2008). For instance, teachers can use the gamification<sup>2</sup> for learners to use games in order to learn in a funny way a topic.; even more, they can interact, consult information, re-check a topic, do a test and get the grade or feedback at the same time.

Methodologically, teachers can learn how to use technology and add it to their curriculum to improve their jobs offers. for instance, teachers can improve their approach by using the virtual classroom effectively. Moreover, that process must help teachers and learners to develop important communicative skills (Garrison & Vaughan, 2008).

In conclusion, most of the time, B-learning implies the use of technology and pedagogical procedures. Its principal purpose is to improve the learning process, considering that the technological communicative skills are a key factor that allows to learn and to teach outside the classroom while face-to-face is a balance with technological factors that concludes another way to get knowledge that changes the way in which the curriculum is always designed.

**Advantages.** B-learning is useful for teachers to find good internet sources, getting downloadable and online materials. García (2008). Meanwhile it works as an interactive tool because teachers can improve interaction between students, enriching and extending the

---

<sup>2</sup> Gamification: the process of adding games or gamelike elements to something  
<https://www.merriam-webster.com/dictionary/gamification>

traditional contact time, also, to join activities involving all of the students with multiple modes of interaction (Garrison & Vaughan, 2008). Moreover, students go home and learn re-reading or re-watching the information, then they go into a class to clarify the doubts in classroom activities (Smirnova & Katashev, 2017).

Ghadiri, Qayoumi, Junn, & Sujitparapitaya (2012) support that the mode to interact is divided into two ways using blended learning, the first one is through online homework where every student participate, and the second one is the connection "bridge" that brings students to the discussions they can have in the face-to-face classroom. Interaction could be the result of individual work that becomes at the same time in a workgroup (Ghadiri et al., 2012).

Other advantages are the control of time instead of a whole face-to-face class, and collaborative benefits are also usual, as Vohle (2017) explains, "The core element of collaborative learning is the emphasis on students' interactions rather than on learning as a solitary activity", which can calm the anxiety of new things in the classroom, getting self-confidence through the process that develop their self-awareness and help them to be honest in themselves.

All in all, advantages like lower costs, collaborative skills, work in an autonomy way, to grow developing self-confidence and self-awareness, and to have the control of time are the most important advantages that the B-learning modality can offer inside this research.

**Disadvantages.** Although B-learning is well recognized, there are some opinions about their disadvantages. For instance, considering society as a need because, without it, the B-learning cannot work without people for interacting. (Shea, Joaquin, & Gorzycki, 2015).

Margolis, Porter, & Pitterle (2017) state that as much as students have online classes, the less possibility of managing them or B-learning could be excessive for students and they can get bored easily or feel pushed.

In the article *Pros and Cons of Blended Learning at College - eLearning Industry*, (Hunt, 2016) it is expressed one of the biggest disadvantages B-learning has, that is the plagiarizing. Because B-learning lends students to have more plagiarism than in another teaching method.

Another article, *Study Module in the Logical Structure of Cognitive Process in the Context of Variable-Based Blended Learning* (Smirnova & Katashev, 2017) says that students fail easier in a B-learning way because they don't follow instructions.

For all the previous reasons, there are several disadvantages that will be explained:

- *Social interaction.* B-learning creates an individual compromise for each learner. That means, it depends on the teacher's work but more on the students' interest. (Heinze & Procter, 2004).
- *Attention to the management of learning.* Class control as a negotiation between the students and the teacher because the student's conception could be different from the teacher's actions, that is why teachers must build good learning environments to make a "negotiation" with students to follow all the objectives that the framework proposes (Heinze & Procter, 2004).
- *Technical issues.* Accessing to all the information the teacher gives to the students could be not easy to reach for all of them because of the economic situation, navigation competences or any technical problem they have while they are learning.

To conclude, teachers must know about all the drawbacks the B-learning has. The group work is necessary for interacting with others, building as a society. Furthermore, B-learning is not the best way to begin an introductory class, also teachers should know their students to give them the quantity of virtual information without getting them bored and improving their self-

study ability, considering the possible presence of plagiarism to avoid it. Finally, teachers should be aware about the guidance they offer to students while students reach the management of learning they need with the B-learning, all those points have to be present in order to do not fall in the disadvantages this modality has.

**Class Changes.** The face to face education has had to accept the technological help. For instance, Walker (2017) showed a lot of class changes information about studies he did, those studies were done interviewing some teachers. They talked about quantity of students in the face-to-face class and how classes were too redundant before, but B-learning changed it because today it is easier to teach more interesting topics for students, becoming classrooms more appropriate, where students keep in contact with their peers by computers.

On the other hand, there is another study done with the support of teachers talking about the points in favor B-learning has, published in the article “*Top 12 ways Technology Changed Learning*” (McKnight, 2012) in the website [www.teachhub.com](http://www.teachhub.com) which is a site where there are resources shared by teachers, for teachers. Here, those points:

- *Communication Evolution.* Students have developed a dialect for them to communicate among them, and it is because of networks and technology in general.
- *I am expanding audience.* Audience has changed through time, in the '80s the audience was the teacher, in the '90s were teacher and students, and nowadays the audience is all the world.
- *Poster Boards.* Technological tools have changed science fairs like Glogster Carry physical school elements: Students need a laptop, before they need books, notebooks, and pens.
- *Interactive textbooks.* The textbooks have web-based sites that have everything a class needs.
- *eBooks on the rise.* Learners prefer to read eBooks because it is easier for them.
- *The way students get their scores.* It has changed because of technology.

- *The use of the whiteboard.* Computers with its interactivity have replaced the whiteboard.
- *The iPad.* This is one of the most powerful tools a student can have for learning.
- *I have extended Classroom Communities.* Everyone can keep in contact wherever they are.
- *The rise of web-based research.* Libraries are still useful but not the same than before, the internet gives faster results, but the quantity of information could be a little problem.
- *Meeting the needs of all learners.* Teachers can meet the needs of learners.

Considering the previous points and arguments, as a conclusion, B-learning will continue changing the classroom and it will be each time more technological learning process than before. That process has been better-developed thanks to a theoretical framework named SAMR (Substitution, Augmentation, Modification, and Redefinition), which analyses how learning can be or not transformed by using technology, SAMR will be presented in the next part of this research, considering its functional change.

### **The Substitution, Augmentation, Modification, and Redefinition Model (SAMR)**

**Definition.** The term SAMR developed by Dr. Ruben Puentedura is a theoretical framework that states the use of technology in a classroom from no technology use to transforming learning through technology. This acronym means Substitution, Augmentation, Modification, and Redefinition.

**Substitution:** Ruben Puentedura mentioned the way tools have changed for teaching and learning through the time and it means that before we had physical books for reading and learning, but nowadays we can have it on a USB, or in the internet, (R. R. Puentedura, 2012). Basically, that is Substitution, the way the material gets different presentations. For example, a



book. In a physical book needs to be carry wherever it is needed, but, a digital book, to carry a weighty book is not necessary and the information is the same. (Puentedura, 2010).

Substitution is related with verbs like Remembering and Understanding, so, there is a connection with verbs like Summarize, Cite, Research, Classify and Explain. But also there are verbs related with the activities or the products gotten in this stage, some of them are Googling, Photographing, Quizzing or Mind Mapping, those verbs show a better explanation about what Substitution means in the practice. (Common Sense Education, 2016).

**Augmentation:** To change the way material is used for learning also has developed the opportunities for learning, which means that students can get more accessible information they are interested (Puentedura, 2012). For instance, Augmentation is that advantage that means that the book mentioned in Simulation, now is a better book because we can find some movements and sounds, something impossible to get in a physical book. (R. Puentedura, 2010).

Verbs as to Simulate, Report and Evaluate, are part of the Augmentation that is the stage for Applying and Analyzing, working with products as Presenting, Illustrating and Performing.

**Modification:** Now there are digital books with movements and sounds for getting better the experience of reading (R. R. Puentedura, 2012). The modification gives the opportunity of having many things just in one way, for example, students can read a text where they can highlight, cut, paste just with the computer, also they can share the material with their partners and teacher to build knowledge together or for sending homework. (Puentedura, 2010).

Verbs as Conclude, Experiment, Collaborate and Verify are actions as Producing, Planning and Game Development that can show how SAMR modifies through Analyzing and Evaluating too. Of exciting things like for example building a game for them, also they can create a text but for teachers and for sharing it with others (Puentedura, 2010). To expand the

knowledge in others and finally, a video is an excellent example of redefinition because technology is needed to make different taxes, and it immerses student through learning.

***Redefinition:*** Verbs as Imagine, Invent and Formulate, are powerful for Evaluating and Creating, and there are some samples of Activities or product as Multimedia Presenting, Video Editing, Networking, and Publishing, necessities for getting a good practice of SAMR.

Now, when Augmentation and Substitution are used for technology integration in a classroom, both are recognized as the Enhancement Stage, which means that classes are improved or enhanced because the technology and teachers can go beyond what they would do in their classes, while Redefinition and modification are in the Transformation Stage, which is where technology transforms the class and it becomes essential. (Holt, 2012).

**Characteristics of SAMR.** The social and educational transformation evinces that technology has worked in order to change how teachers teach and students learn, encouraging students to learn easier, for instance, the visual sense is one of the most important ones for learning and that is why SAMR tries to take advantage of it, going beyond improving the student's experiences (Puentedura, 2010). For example, the simulation or the educational gaming where is more interesting learning by gaming, preparing the way for a process that begins with memory work and it ends with the possibility of creating. (R. Puentedura, 2010).

The SAMR is a sustainable model, because it has been used worldwide for more than 15 years and it is still an excellent tool for using technology integration in the classrooms and out of them (Holt, 2012). Because it works inside or outside the classroom; it is a useful framework for going beyond every day and every practice. Teachers and students can use this framework to increase the effectiveness and best practices because when technology is improving, there will be more opportunities for keeping the SAMR model alive in and out of the classrooms.

**How to Use SAMR.** Selecting appropriate tools according with the task, working step by step learning to achieve the next level and generating questions can be a good way to recognize a good student process and to evince a correct use of SAMR.

Substitution permits to work in groups replacing existing tools that may be outdated, according to Pappas, (2016) "this gives learners, especially those who may be resistant to the change, a slow and steady introduction to technology", which becomes in the process of changing the physical information to the digital one. Augmentation motivates learners to explore the technology on their own (Pappas, 2016). Tasks as online collaboration ones give learners the possibility of exploring the benefits of technology and at the same time being taught, while Modification could be used when learners are already fit with technology instead of forcing them to learn in a teacher pace. And, Redefinition in Online Training offers the learners the capability to brainstorm how to use technology for their benefits, taking advantage of every single tool.

**Functional Change of SAMR.** All the students and teachers required to learn the technology application for having the best option of transforming the way of teaching and learning (Holt, 2012). It means that SAMR model improves how we lived the classrooms encouraging students to learn to be multiliteracies.

It is essential to say that the SAMR model must be used thinking about students' future not just for something that is not useful yet, teachers should use SAMR for student's jobs or student's future. As Holt (2012) said, "A good quarterback throws the ball to where the receiver is going to be, not where he was".

However, there is another essential theoretical framework that implies the teacher in the learning process, since the formation of the teacher has a significant impact on their students' learning process. Moreover, the technological era demands teachers understand and use technology in the classroom, and that can be achieved if the teachers have enough preparation

and experience to use technology in the classroom. Therefore, TPACK arises as an answer to the demands of education using technological tools.

### **Technological Pedagogical Content Knowledge Framework (TPACK)**

**Definition.** TPACK is one of the new conceptual frameworks to learn and teach in a new way using technology as a resource, preparing people with the 21<sup>st</sup>-century skills needed. For that reason, knowing what TPACK is and how it works is important.

TPACK refers to Technological Pedagogical Content Knowledge and is specially referred to that knowledge that integrates technology and pedagogy on specific content knowledge. TPACK is grounded in the conception of Pedagogical Content Knowledge (PCK), which describes the synthesized pedagogical and content knowledge teachers demonstrate when delivering effective instruction. (Jang & Chen, 2010)

All in all, effective teaching is presented when teachers know how to design their curriculum differently to make known something meaningful for their students. Therefore, technology can contribute to this significant result because it gives to teachers a lot of alternatives to complement their lesson planning and make it something interesting and new for the students.

**Origins.** There are three main components of teachers' knowledge: content, pedagogy, and technology. (Koehler, Mishra, & Cain, 2013).

- *Technology (T)* broadly encompasses standard technologies, such as books and chalk, as well as more advanced technologies, such as the Internet and digital video, and the different modalities they provide for representing information. (Jang & Chen, 2010).
- *Pedagogy (P)* Methods of teaching and learning, including the purpose(s), values, techniques used to teach, and strategies for evaluating student learning.

## THE ROLE OF ICTs IN THE INITIAL EDUCATION OF FOREIGN LANGUAGE TEACHERS

- *Content (C)* is the subject matter to be learned/taught. For instance, the content to be covered in high-school social studies or algebra is very different from the content to be covered in a graduate course on computer science or art history.

However, there are three principal bases of Technological Content Knowledge and the other four which are blended of the first three. (Hwee, Koh, Chai, & Tsai, 2014)

1. *Technological Knowledge (TK)* – knowledge of technology tools.
2. *Pedagogical Knowledge (PK)* – knowledge of teaching methods.
3. *Content Knowledge (CK)* – knowledge of the subject matter.
4. *Technological Pedagogical Knowledge (TPK)* – knowledge of using technology to implement teaching methods.
5. *Technological Content Knowledge (TCK)* – knowledge of subject matter representation with technology.
6. *Pedagogical Content Knowledge (PCK)* – knowledge of teaching methods with respect to subject matter content.
7. *Technological Pedagogical Content Knowledge (TPACK)* - knowledge of using technology to implement constructivist teaching methods for different types of subject matter content.

Thus, the combination of the different knowledge is the body of a complete way to teach and learn, in which technology goes hand in hand with the pedagogical skills required for this new century.

As a conclusion, it can be noticed that TPACK comprises knowledge of science, knowledge of pedagogy, knowledge of technology, and knowledge of the student, but also technological content knowledge, technological pedagogical knowledge, and pedagogical knowledge, and all this knowledge together are the perfect combination to teach and learn.

**Advantages.** TPACK is a new teaching and learning framework that permits to rethink the lesson planning, in terms of design and quality, giving a real use to this new framework.

First, TPACK permits teachers, researchers, and teacher educators to move beyond oversimplified approaches that treat technology as an "add-on" to focus instead, and in a more ecological way, upon the connections among technology, content, and pedagogy as they play out in classroom contexts, (Koehler et al., 2013). Therefore, TPACK considers what teachers need to know to be able to integrate technology; focuses on three main components of teacher knowledge: technology, pedagogy, and content knowledge. (Koehler et al., 2013)

Second, TPACK structures activities to construct different representations of content knowledge using appropriate ICT tools. Moreover, it helps the students to reflect on their learning strategies and encourage online activity among them, preparing them to be: empowered learners, digital citizens, knowledge constructors, innovative designers, computational thinkers, creative collaborators, and global communicators. (Driel, Berry, Driel1, & Berry2, 2012).

In conclusion, TPACK extends how education is evolving because it brings different strategies to make education more interesting for students and teachers, using not only face-to-face instruction but also technological instruction with its appropriated knowledge.

All the knowledge about the previous theoretical constructs allows contemplating the educational and pedagogical process of innovation during the process of initial teachers' education to integrate all those elements.

### **Methodological Framework**

This report presents the results of the work of the undergraduate research group Egregio, at La Salle University. The group participated in the first phase of a study that aimed at understanding how to bolster the learning process of undergraduate foreign language teachers by

using innovative learning and teaching strategies mediated by ICTs. This research embraced a holistic approach. According to Barrera (2003), this approach is a natural and dynamic investigative process which entails not to be constrained by a specific research method or paradigm. Its methodology and design are, therefore, dynamic and evolve as the process unfolds.

In this perspective, the research objectives become the progressive goals of a continuum which evolve along the process. As a result, the tension between the different paradigms and models disappear giving way to a much more natural flow of the research process. The holistic perspective in research has several important implications for the human task of knowing and inquiry; mainly, in the education field, as it entails capacities such as cognitive skills, comprehension, pedagogical and didactics knowledge, critical thinking skills, communication and dialogue abilities and, collaborative and collegiality work attitudes and skills. Barrera (2003). Consequently, in this research perspective, a researcher can use the technics of the scientific research method or the ones employed in ethnography. He can use “quantitative” or “qualitative” strategies, techniques and instruments as long as they are in line with the objectives and are pertinent and in consonance with the natural evolution of the research process. (Hurtado, 2004).

The former general considerations framed the study project, which consists of four stages or phases; each stage has its own objectives. These objectives are articulated around the primary purpose of the project which is to the design a pedagogical guide to integrating ICTs with the process of education of pre-service foreign language teachers. The first phase is the descriptive stage, the second is the design stage, the third is the implementation and evaluation, and the fourth is the formulation of the pedagogical guide. The following table presents the stages and their objectives.

Table 1.

*Phases of the research project.*

<b>Stage</b>	<b>Objectives</b>
<p><i>Descriptive Explore/describe</i></p>	<ul style="list-style-type: none"> <li>• To identify the expected competencies, attitudes, and knowledge that the educational programs of pre-service foreign language teachers should develop given the local, national, and global educational demands.</li> <li>• To characterize the current role of ICTs in the educational processes of the B.A in Spanish and Foreign Languages at La Salle University.</li> <li>• To characterize the state of affairs of the B.A in Spanish and Foreign Languages at La Salle University considering the expected competencies, attitudes, and knowledge that future foreign language teachers should develop.</li> </ul>
<p><i>Design Compare—analyze</i></p>	<ul style="list-style-type: none"> <li>• To establish guidelines for the integration of ICTs in line with the educational processes and purposes of the B.A in Spanish and Foreign Languages at La Salle University</li> <li>• To identify the ICT tools and strategies that might bolster the formative processes of the B.A in Spanish and Foreign Languages at La Salle University</li> <li>• To determine the curricular adjustments and strategies that are necessary to integrate ICTs with the educational processes of some academic spaces of the B.A in Spanish and Foreign Languages at La Salle University.</li> </ul>
<p><i>Implementation comprehensive explain, predict, propose</i></p>	<ul style="list-style-type: none"> <li>• To design the ICT- mediated learning experiences in line with the formative purposes and processes of an academic space of a pre-service foreign language program.</li> <li>• To implement the ICT-mediated learning experiences and strategies in an academic space</li> <li>• To analyze the process of implementation of the ICT-mediated learning strategies and experiences.</li> </ul>



*Formulation  
integrative  
modify, confirm,  
evaluate*

- To determine the impact of the ICT-mediated learning experiences, and strategies on the formative processes.
- To determine the characteristics, the elements, and the procedures of integrating ICTs based on the results and findings of the implementation.
- To identify the role of the pedagogical, technological, and curricular factors in integrating ICTs with the pre-service foreign language teachers' education.
- To design a pedagogical guide to integrating ICTs with the educational processes of the B.A in Spanish and Foreign Languages at La Salle University.

*Source:* Compilation of the authors.

The work consisted of two parts; one is the literature review that included the topics of Blended Learning, which explains the use of face-to-face instruction mixed with virtual or technological tools. Another construct was SAMR, which explains the process of integration of technology with learning processes. Finally, TPACK, which explains the knowledge development that teachers must have to use technology to bolster learning. On the other hand, there is a survey analysis to look for the effectiveness of some technological tools. In this opportunity, the tool analyzed was the PEI course.

### **Population and context**

The B.A. In Spanish and Foreign Language is an academic program of La Salle University, which aims to educate professionals in languages that can create educational programs that promote research processes that respond to the needs of the academic contexts in which they play. Moreover, it is a program with an emphasis on the Spanish language, and foreign languages that have a flexible curriculum, which aims at the integral formation, as well as an academic-politic training allows students to be competent in a globalized world.

The population to which the survey was conducted consisted of the day shift and night shift students attending to first, second, third, fourth and fifth semester from bachelor's degree in Spanish and foreign languages during the second semester of 2017 at La Salle University, located in Chapinero Alto, Bogotá city. The survey was by six (6) students from the day shift, and seventy-six (76) students from the night shift, men and women.

The survey consisted of some questions about the process and experiences of the students using the PEI (Pearson English Interactive) course in which students can learn or improve their English language skills. Therefore, the survey was divided into three main categories: the first one is about attitudinal and motivational aspects developed with the use of the course PEI. Secondly, language skills development using the course PEI and the last category mentions the impact of the PEI course in terms of autonomy and self-directed learning.

### **Data Analysis process and procedures**

The procedure to analyze the data was the Content Analysis in which the content is studied to get the most important and relevant things to the study. Moreover, the analysis follows the different rules of the content analysis, such as Completeness, in which no element is omitted from the study topic; Representativity, that represents the most important part of each result; Homogeneity, in which the elements have to be compared among them taking into account the central topic; and Relevance, that states the adequacy of the elements considering the objectives.

First, Completeness is reflected in all the information taken to analyze because no element was omitted to get the result; the researchers took all the different students' opinions and used them to get a conclusion. Second, Representativity is evidenced in the different analysis of each category because the most important information was taken to do the final analysis. Third, Homogeneity is seen in the process of categorization in which the survey was divided into three

categories according to the topic, in that way, each category got a specific topic, and it made more accessible the analysis process. Finally, Relevance is reflected in the final conceptualization in which the researches highlight the most important aspects of the survey, establishing a relationship with the objectives.

### **Results and Discussion**

In this part, following a strategy and procedure of tabulating and organizing the information of the survey in a One Note seedbed file, not only the graphs, but the answers to the open questions of the survey were classified and encoded according to the different respondent opinions. Which gives, as a result, the description and the conclusion of the three categories, the first category refers to the attitudinal and motivational aspects developed with the use of the course PEI; the second category is about language skills development using the course; the last category mentions the impact of the PEI course in terms of autonomy and self-directed learning.

Figure 1 below presents the number of students that answered the survey. Moreover, it is divided into students from first to the fifth semester, and their corresponding shift: 76 respondents from the day shift, six respondents from the night shift, in total 82 students answered the survey. All students are part of the Bachelor in Spanish and Foreign Languages from La Salle University.

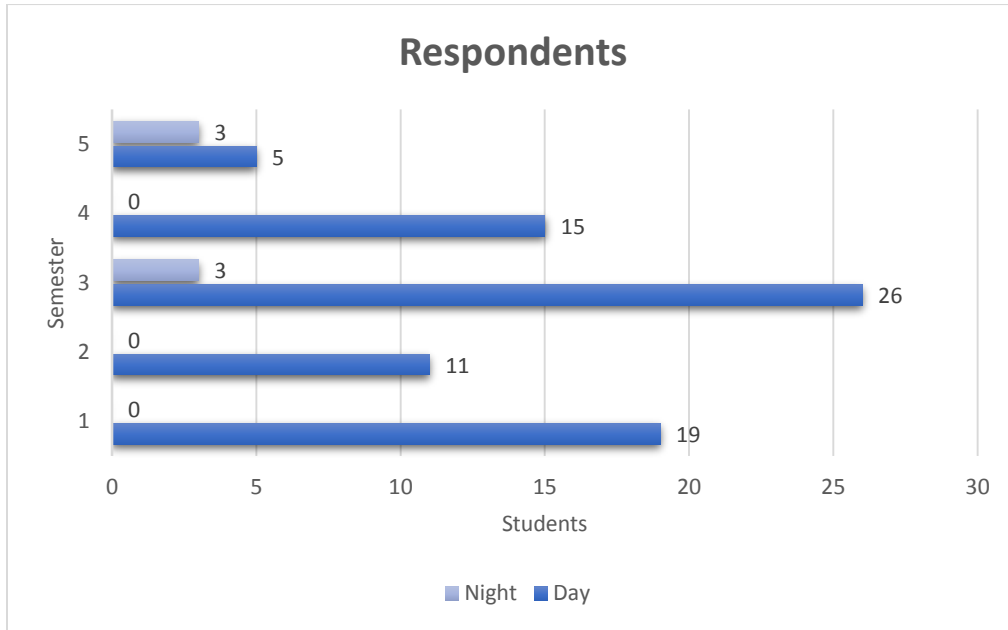


Figure 1. The number of students in the day and night shift.

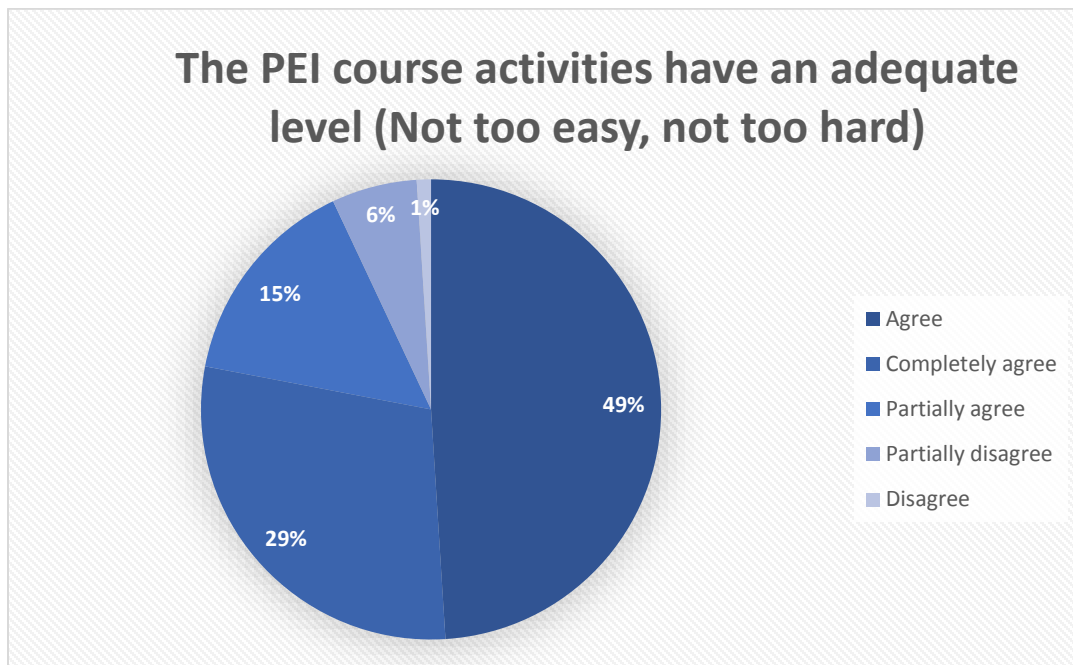


Figure 2. Level of PEI course activities.

In this figure, most of the students agree that *The PEI course activities have an adequate level*, the result is that 49% of the respondents agree, while 29% of them agree entirely. 15% of the people partially agree, 6% of students somewhat disagree, and just 1% of respondents totally

disagree. What evidences that most of the students think the PEI course has an adequate level of difficulty to work on the activities.

### Attitude and motivation

This category gathers the attitudinal and motivational aspects that the course develops in the students' learning process. Therefore, this tries to show students' opinion about the attitudinal elements they can develop with the course, and the role of motivation in their learning process. Consequently, this category shows if those aspects are developed or not when students use the course.

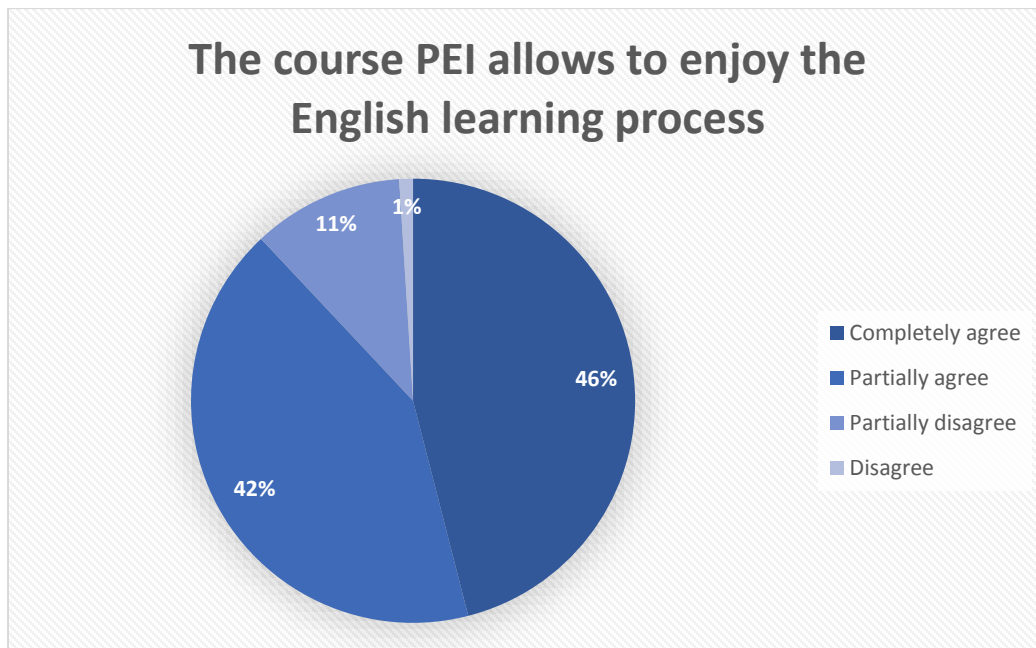


Figure 3. Level of enjoyment with English learning process.

In this figure where students answered, how *The PEI helps to enjoy the English learning*, the result is that 46, 3% of the survey respondent totally agrees, the 41,5% of the people partially agree, the 11% of students somewhat disagree, and 1,2% of survey respondent totally disagree. Thus, in the result, the most of the survey respondent expressed that the PEI course has a

meaningful impact on the way they enjoy the English learning, however, it is important to focus the attention on people who *totally disagree* and *partially disagree* because the tool should be appreciated for everyone. In conclusion, there are favorable results in enjoying English learning while using the PEI course.

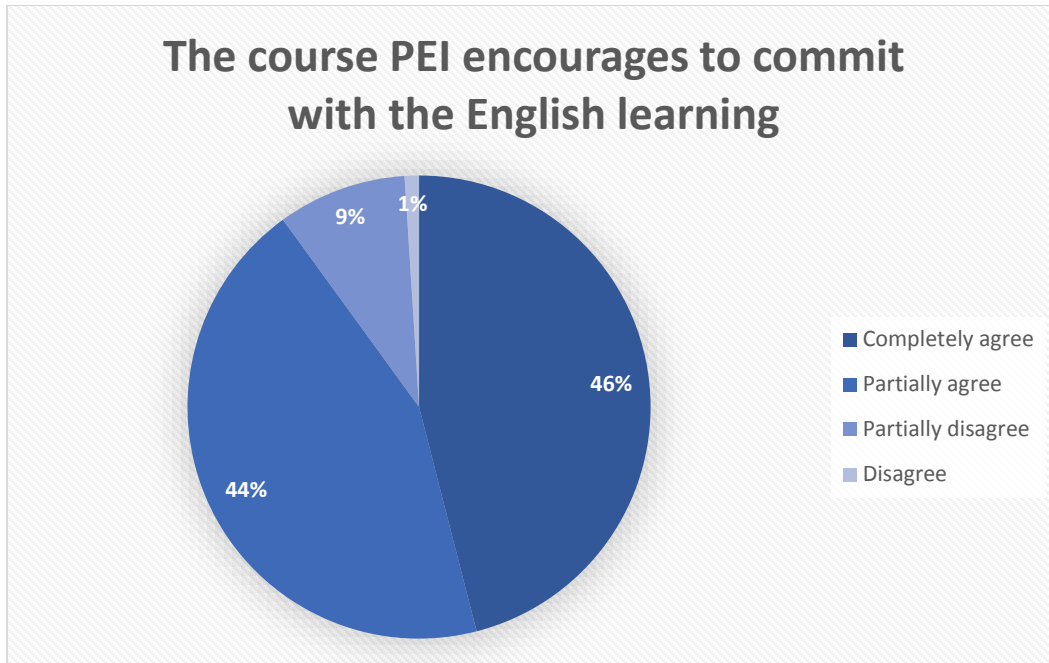


Figure 4. Degree of commitment with English learning.

In this image *The PEI helps students to commit their English learning*, the result shows that 46, 3% of people totally agree, the 43, 9% of them partially agree, 8, 5% of the survey respondent partially disagree, and 1,2% of the students totally disagree. Therefore, the results show most of the students consider the PEI course commits their English learning with a meaningful impact, something that motivates the process. Nevertheless, it is crucial to focus the attention on people who *totally disagree* and *partially disagree* because with what they express,

the course could be improved. In conclusion, there are favorable results students commit their English learning using the PEI course.

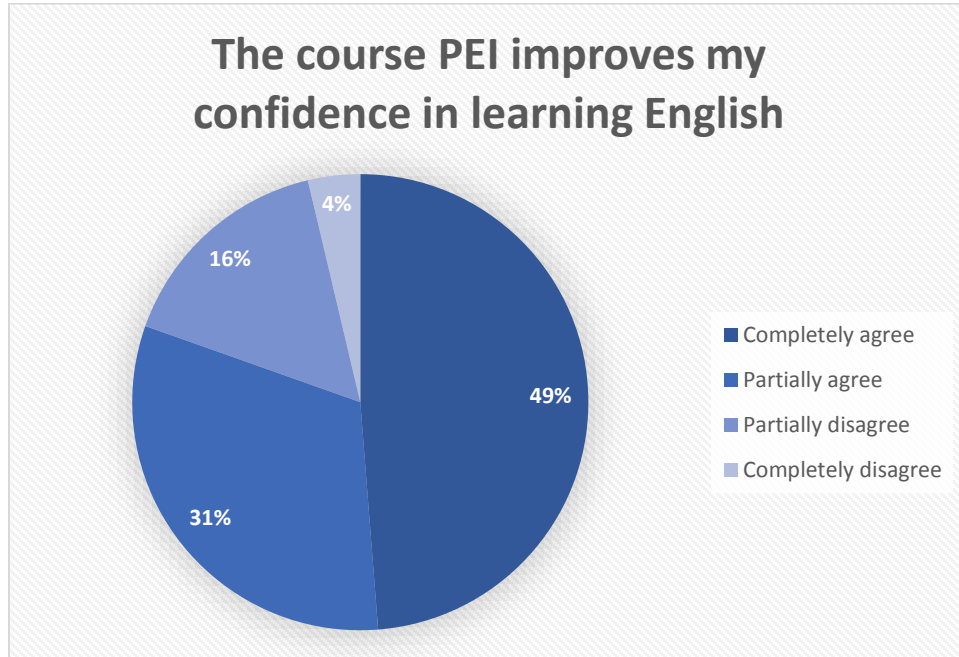


Figure 5. Level of confidence with the English learning.

In this graph about how the PEI improves the confidence for learning English, 48, 8% of the students *totally agree*, the 31, 7% of them *partially agree*, then, 15, 9% of the survey respondent *totally disagree*, and the 3, 7% of the contributor *partially disagree*. With the above, we can affirm that the PEI course helps students to improve their confidence in learning English. But it is necessary to work more on this part of the course, considering that a considerable part of the surveyed students *partially* and *totally disagree* with this affirmation. In conclusion, more development is needed to improve how students' confidence the English learning to reach the aim.

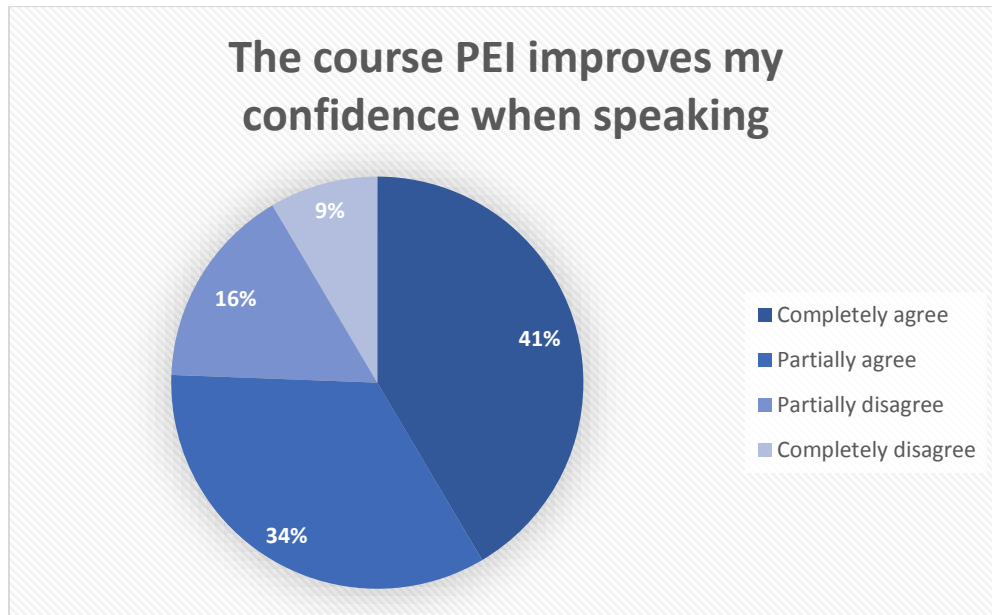


Figure 6. Level of confidence at the moment of speaking in English.

This graph shows that 41.5% of contestants totally agree the course improves their confidence when they speak English, 34.1% of people partially agree, the 15, 9% of students partially disagree and with 8, 5% of survey respondent totally disagree. With the above, we can affirm that the PEI course helps students with their confidence when they speak English; however, the results are not enough to state that the course is 100% effective. Therefore, it is necessary to work more on this part of the course, taking into account that a considerable part of the survey respondents partially and totally disagrees with this affirmation. In conclusion, more skills are needed to improve the way students are using the course for speaking competence.



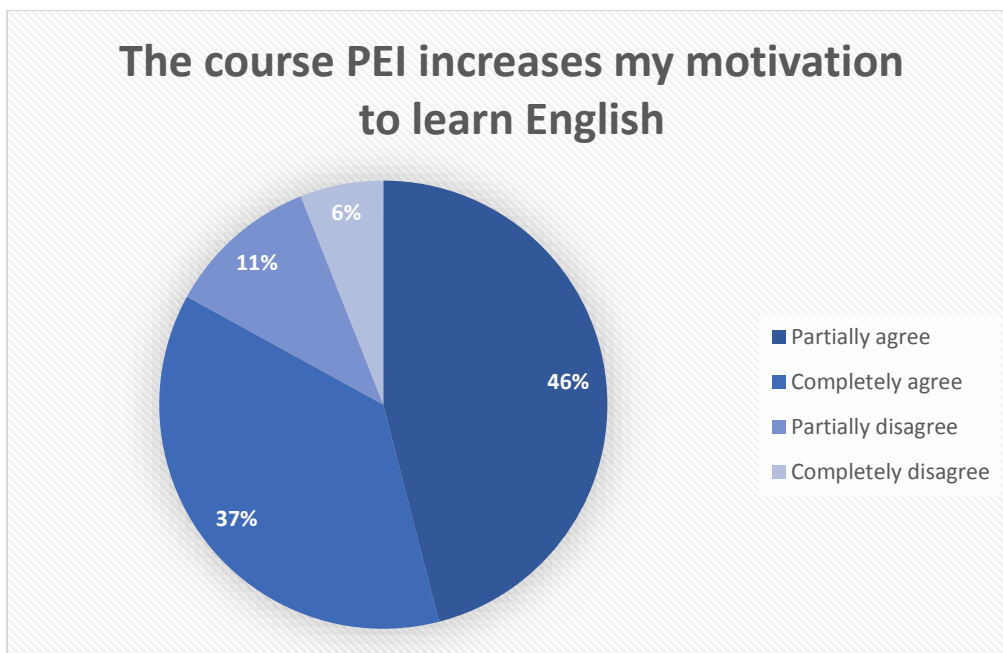


Figure 7. Degree of motivation to learn English.

This figure evinces how the PEI course increases the student's motivation to learn English, where the results are: the 36, 6% of students totally agree, the 46, 3% of survey respondent partially agree, the 11,0% of them partially disagree, and 6,1% of students totally disagree. Thus, in the result, most of the survey respondents expressed that the PEI course has a meaningful impact on the way they increased their motivation for English learning. However, it is vital to focus the attention on people who *totally disagree* and *partially disagree* because the tool should be motivational for everyone. In conclusion, there are favorable results in increasing their English learning while using the PEI course.

**General conclusion.** In conclusion, most of the respondents agree with the attitudinal and motivating aspects. Commitment, enjoyable, and confidence ones are evident; however, is the motivational element the one should be reinforced. According to the respondents, the course should have more games and interactive activities to offer a better and comfortable experience,

students also ask for more interaction with the teacher instead of the course. On the other hand, according to the answers in the open questions, the respondents need more confidence about the PEI course, due to frequent system errors, they had to repeat the same activity in different times, and for that reason, they did not get the results they needed.

Finally, there is another shared opinion about the enjoyable aspect, because the survey respondent agree that they prefer face to face classes, they would like to have more time in order to really enjoy the course and they would have more games in it or different kind of videos that permit them being more motivated during the learning process.

### **Language skills development**

This category illustrates the different opinions that students have about the use of the PEI course to develop or improve their language skills. Therefore, the category mentions the speaking, listening, reading, and writing skills students need to understand the language, and the effectiveness of the course to improve them.

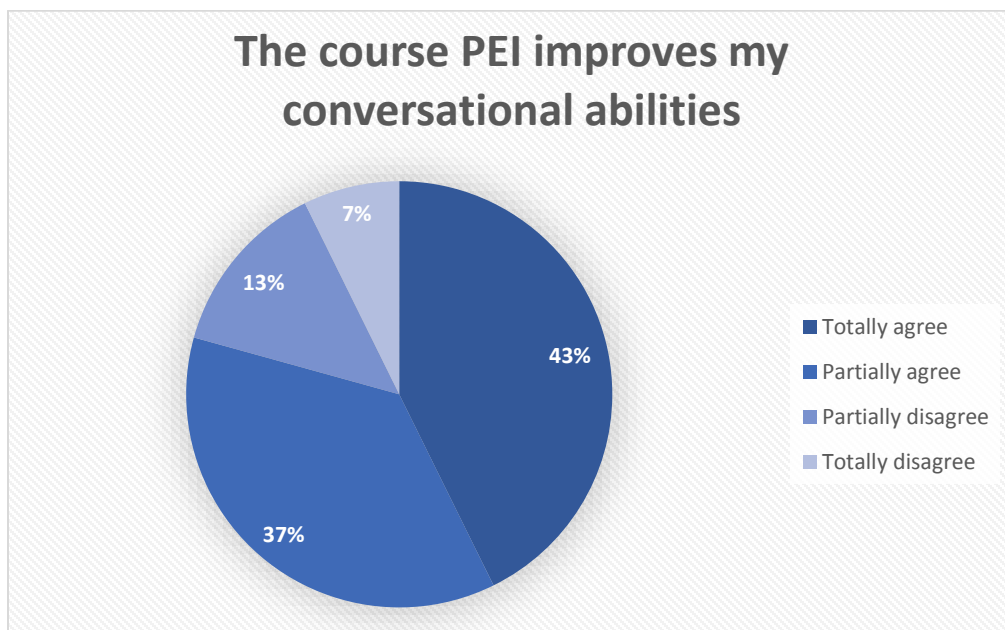


Figure 8. Improvement of the conversational abilities.

In this graph, where students expressed how *The PEI improves their abilities in English Speaking*, the result show that 42,7% of the survey respondents totally agree, the 36,6% of the people partially agree, the 13,4% of students partially disagree and finally the 7,3% of survey respondent totally disagree. Therefore, the results show most of the students consider the PEI course improves their conversational abilities with a meaningful impact, something that motivates the process. Nevertheless, it is vital to focus the attention on people who *totally disagree* and *partially disagree* because with what they express, the course could be improved. In conclusion, there are favorable results students improve their English conversational abilities while using the PEI course.

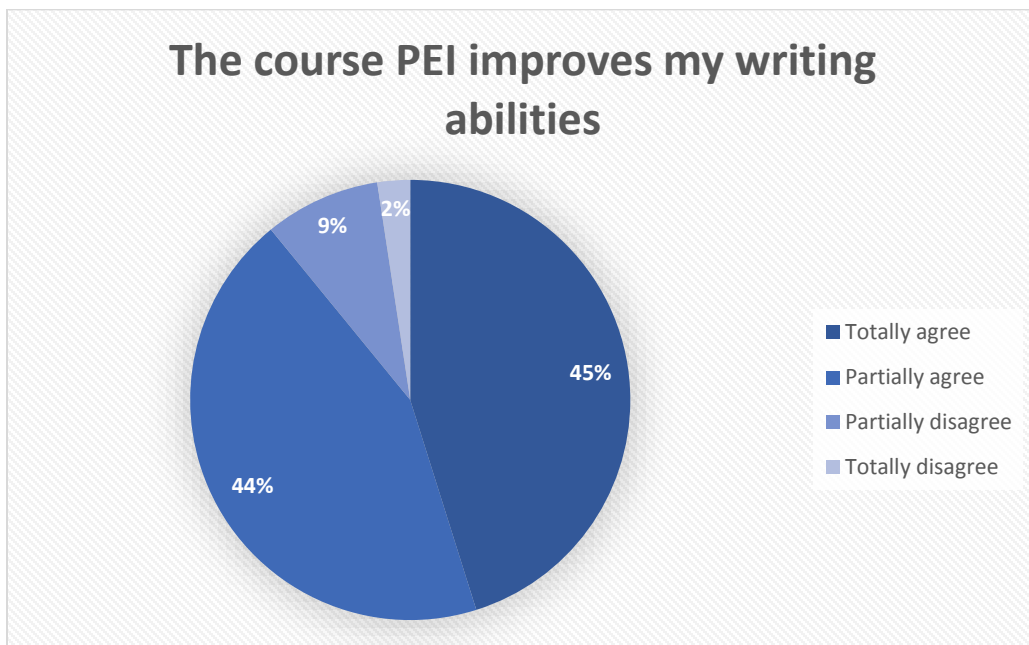


Figure 9. Improvement of the writing abilities.

In this figure about how, *The PEI improves their abilities in English Writing*, 45.1% of the students totally agree, 43.9% of them partially agree, the 8.5% of survey respondent partially agree, and 2.4% of survey respondent totally agree. Thus, the results show most of the students

consider the PEI course improves their English writing abilities with a meaningful impact, something that motivates the process. Nevertheless, it is crucial to focus the attention on people who *totally disagree* and *partially disagree* because with what they express, the course could be improved. In conclusion, there are favorable results where students commit their English writing abilities using the PEI course.

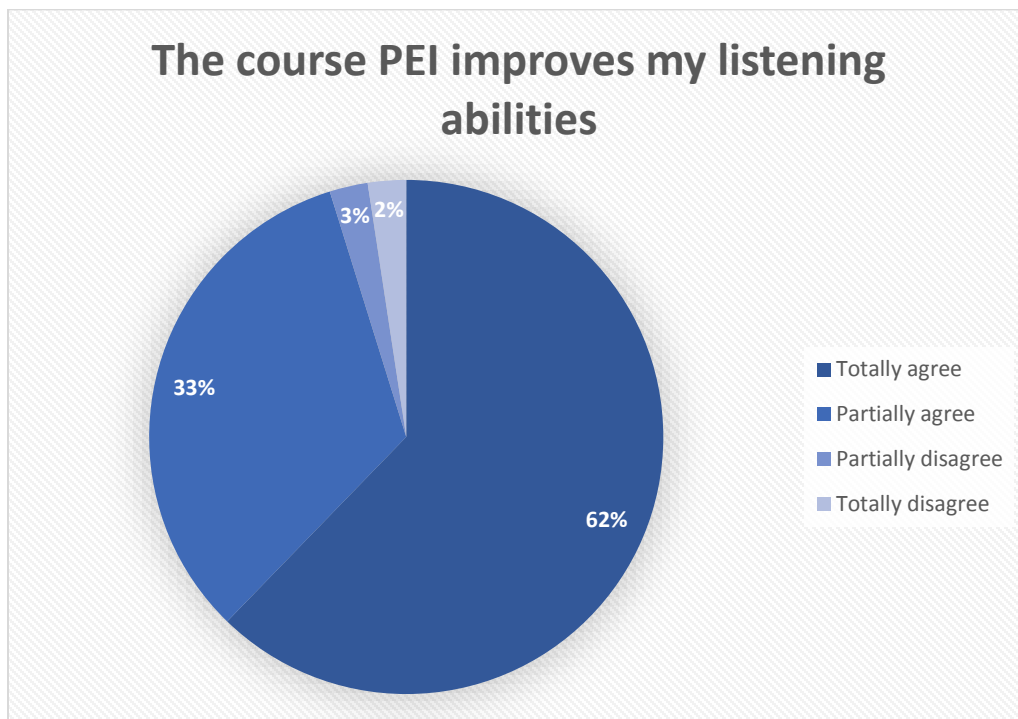


Figure 10. Improvement of the listening abilities.

In this graph, about how *The PEI course improves their listening abilities*, 62,2% of the students totally agree, 32,9% of the survey respondent partially agree, the same percentage 2,4% of students partially disagree and totally disagree. With the above, we can affirm that the PEI course helps students to improve their listening abilities. Although, it is necessary to work on this part of the course, considering that a little piece of the surveyed students partially and totally disagrees with this affirmation. In conclusion, a bit of development is needed to improve how students improve their English listening abilities.

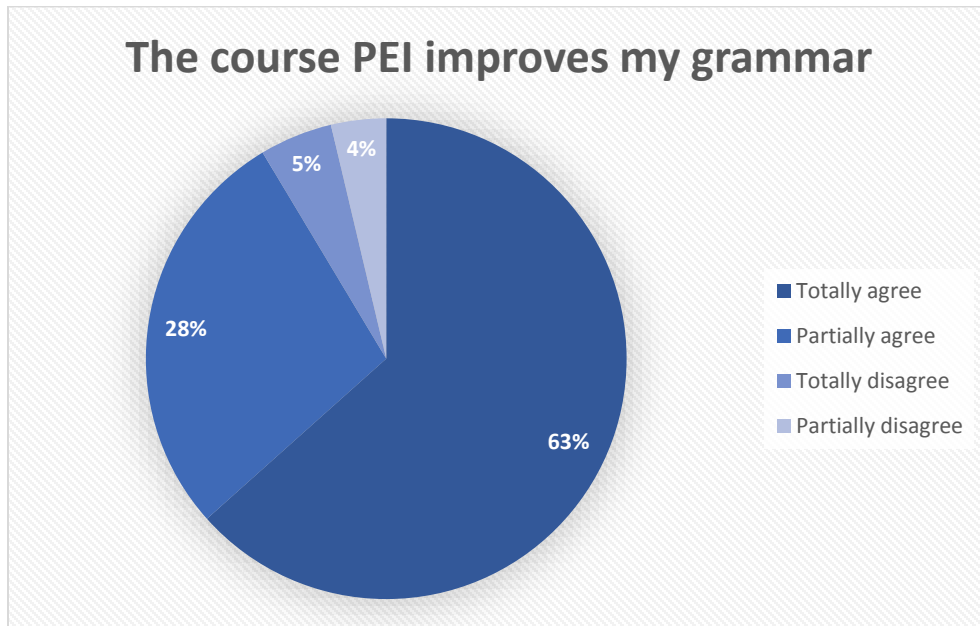


Figure 11. Improvement of the grammatical abilities.

In this graph, the 63,4% of the surveyed people *totally agree* the PEI course help them with their grammatical skills, followed by the 28,0% who *partially agree* with this option, the 4,9% totally disagree, and finally, the 3,7% of the surveyed people partially disagree. Therefore, the results show most of the surveyed people consider the PEI course has a meaningful impact on their grammatical skills, something very encouraging. However, it is important to focus the attention on people who *totally disagree* and *partially disagree* because with the ideas they have, the course could be checked. In conclusion, there are favorable results to improve students' grammatical skills using the PEI course.

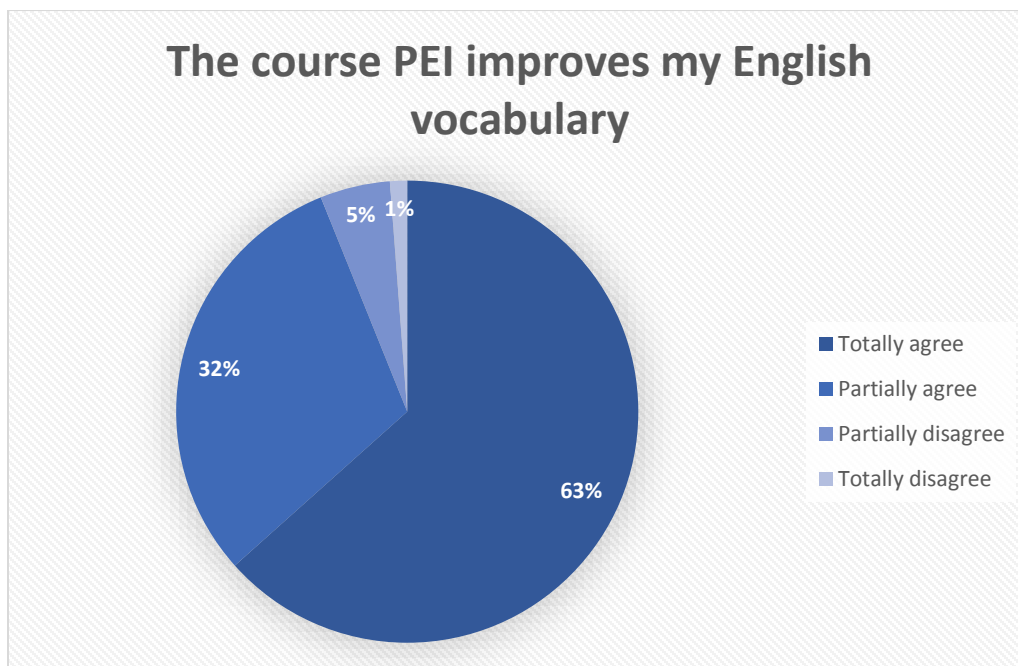


Figure 12. Improvement of the English vocabulary.

In this description *The PEI question is about how to Improve my English Vocabulary*, 63,4% of the students totally agree, 30,5% of the survey respondent partially agree, 4,9% of students partially disagree and 1,2% totally disagree. With the above, we can affirm that the PEI course helps students to improve their vocabulary. Although, it is necessary to work on this part of the course, considering that a little part of the surveyed students partially and totally disagrees with this affirmation. In conclusion, a bit more development is needed to improve how students improve their vocabulary.

**General conclusion for this category.** In conclusion, the results show that students feel comfortable with the course to develop their skills since they can practice using videos, audios, and grammatical exercises. Nevertheless, there is an important part of the surveyed students who consider the course doesn't help them as they want. Therefore, they think the course needs more elaboration to help them with their skills in the way they get a good English level. For instance, the course needs more guiding experiences because some students

did not understand how to use it correctly. On the other hand, students required more feedback to know more about the things they had to improve because they agreed the course did not help them to correct their mistakes.

### **Autonomy and self-directed learning.**

This is the last category and shows students' point of view about the autonomy they can get using the course, and the decisions they can take to work on the things they prefer or to improve in the aspects they want to. In other words, this category states how students can work in the course on their own and manage their learning process.

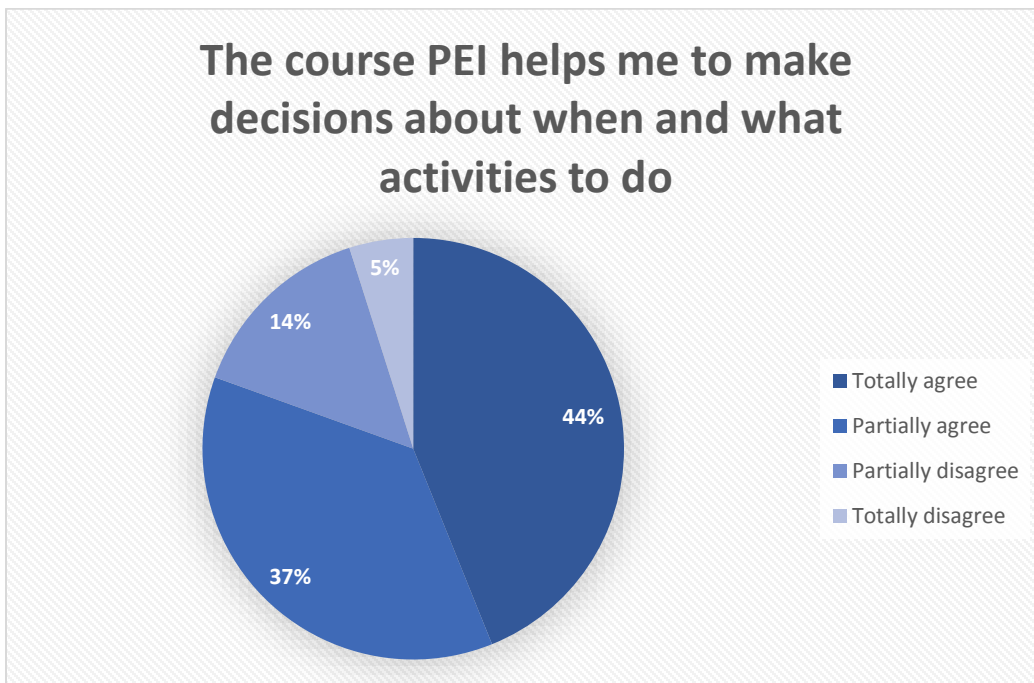


Figure 13. Making decisions about when and what activities to do.

About *make decisions about when and what activities to carry out* the results were very similar between *totally agree* with 43,9% and *partially agree* with 36,6%, followed by *partially disagree* with 14,6% and *totally disagree* with 4,9%. With the above, we can affirm that the PEI

course helps students making decisions about when and what activities they want to carry out, but the results are not enough to conclude the course improvement. Therefore, is necessary to work more on this part of the course, taking into account that a considerable part of the surveyed students partially disagrees with this affirmation. In conclusion, more development is needed to improve the way in which students are making decisions in the way they want to learn.

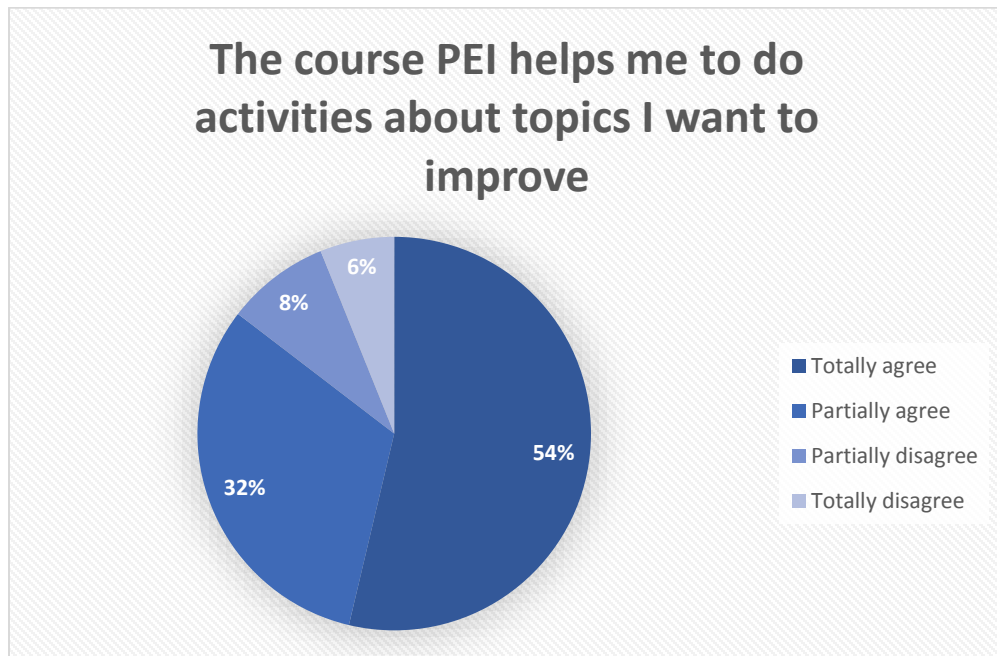


Figure 14. Doing activities about the topics that need improvement.

In this graph about how *The PEI Course helps them to do activities about topics they want to improve*, 53,7% of students totally agree, 31,7% partially agree, 8,5% partially disagree, and 6,1% totally disagree. Therefore, the results show the PEI course helps students to do the activities they want to improve, but there is an essential part of students who don't think the same. Thus, the course needs some adjustments to meet the expectations, and cover all students' needs.



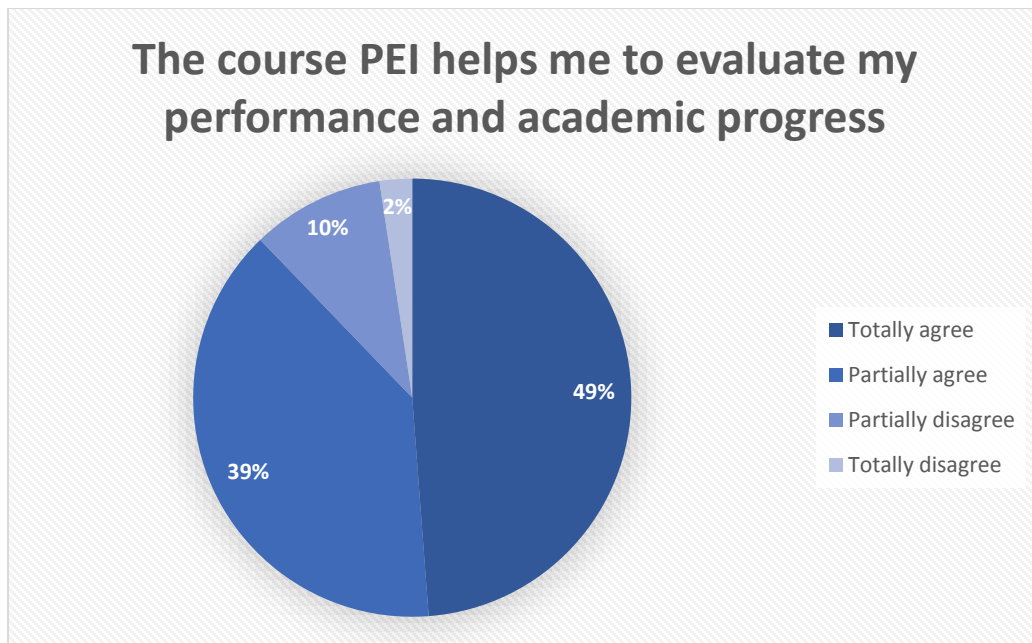


Figure 15. Evaluating the performance and academic process.

In this case, 48,8% of the surveys totally agree The PEI course allows them to *evaluate their academic performance and progress*, followed by the option *partially agree* with 39,0% of surveys, and the options *partially disagree* and *totally disagree* with 9,8% and 2,4% respectively.

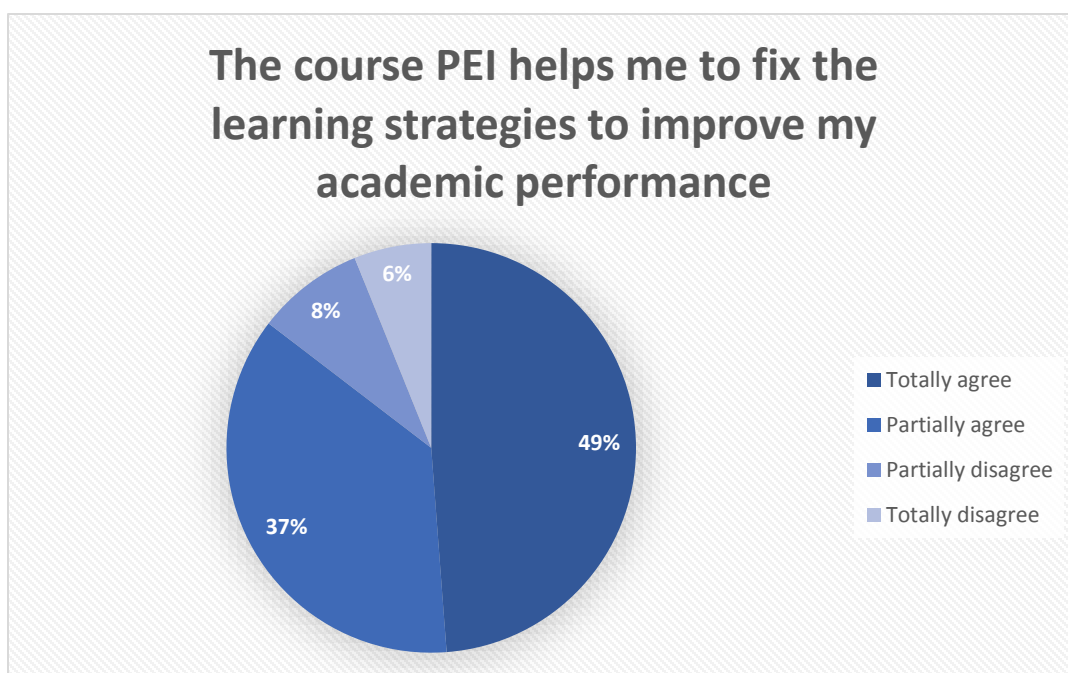


Figure 16. Fixing learning strategies to improve academic performance.

About *Fixing the learning strategies to improve the academic performance*, 48,8% of the surveyed people *totally agree*, 36,6% *partially agree*, 8,5% *partially disagree*, and 6,1% *totally disagree*.

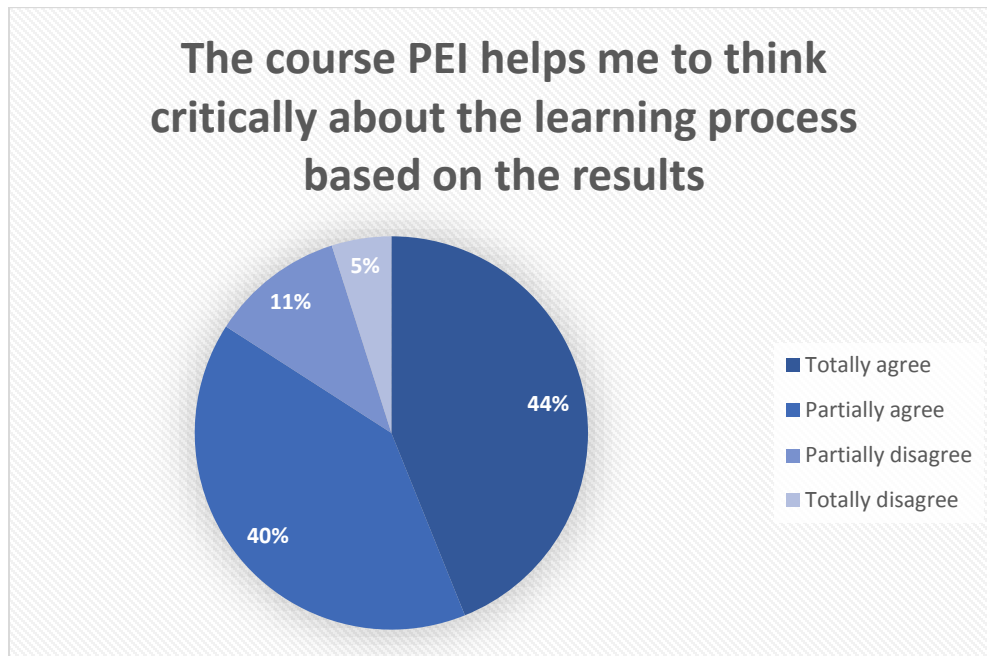


Figure 17. Thinking critically about the learning process based on the results.

In this case, about how The PEI course helps them to think critically about the learning process based on the results, the answers totally agree and partially agree have similar results with 43,9% and 40,2% of the surveys respectively, followed by partially disagree with 11,0%, and totally disagree with 4,9%.

**General conclusion.** To conclude this category, most of the surveyed students consider PEI course has an important role to develop their autonomy and manage their learning process because they can evaluate their process and select some activities to improve their skills. However, the comments show students are not sure about some aspects of the course. For example, some students affirm that the course is monotonous, and some levels are not available for them, something that makes the course boring and restricted.

On the other hand, the course does not specify some topics and students do not understand how to develop them. Moreover, they feel the course needs more material to support the learning process. Therefore, the course has to improve different aspects to allow students to do the exercises without problems and make from the experience something interesting and clear for them.

### **Discussion of the results**

The analysis of the survey about the use of the PEI course produced three categories. The first of these categories is related to the attitudinal and motivational aspects towards English learning, the second category has to do with the impact of the PEI course impact in the development of language skills, and the third one relates to the role of the PEI course in developing autonomy and self-directed learning.

In the first place, are the attitudinal and motivational aspects towards English learning category in which is evident the intention of identifying everything that motivates students to learn English. The results were based on the answers the respondents gave to questions about enjoying the English learning process; the commitment and the improvement of confidence for learning; and the rise of the student motivation when learning a second language.

The subcategories permit to identify benefits and aspects to improve in the course, talking about the pros, they are evident because the success the course has according to the student's answers since most of them agree that the continuous use of the PEI course helps them to develop all the points of each subcategory.

Furthermore, the cons according to the respondents' answers, prove the necessity of improving the course technical support, considering that it is not enough for the quantity of content and number of users that the course has. That technical support is also needed for

improving the course, for instance, an open answer says that *“the course requires a bigger interactive content and also gamification”* (Respondent 7), something that can catch their attention and get the goal of learning. Finally, the students suggest that *“the course can be used not only for evaluating or self-sufficient work but also as a friendly tool source of information and motivation in the learning process”* (Respondent 24).

Considering the ideas presented, the purpose of the course is to develop the knowledge and abilities of the students, allowing them to manage their learning process to use on their practice, making feasible the learning empowerment of the future teacher. Moreover, this goal can be fulfilled using the experience acquired by the future teacher in the pedagogical practicum in which he can strengthen his abilities, strategies and his identity, integrating the new technologies in his formative processes. Hence, this is a B-learning process because the PEI course helps to innovate the didactics and methodology the language teacher has had on his initial training.

Second, the impact of the PEI course on the ability's development of the student is showed as an important point because are the abilities to listen, speaking and reading the ones that allow students to show their language domain. In the survey's case, the students consider that *“the course helps to develop the important abilities for the language learning, the only fact is that the videos, audios, and grammatical exercises need more elaboration”* (respondents 4, 5 & 6). Moreover, it is something easy for them using the material, and they can choose the adequate resource for the ability they want to improve the most, strengthening the knowledge and domain of the English language. Nevertheless, some of the surveyed students mention that *“there is a lack of pedagogical and methodological orientation to use the resources of the course, something that makes difficult the achievement of the resources available in the course”* (Respondents 8, 10, 16 & 18).

Therefore, it can be inferred that, although the course helps students to develop their language skills, some pedagogical guidance or orientation are needed to take advantage of all the possibilities afforded by the course. In that way, the teachers' orientation to take advantage of the different resources of the course is a key factor. Consequently, a B-learning environment is needed, in which technological instruction has a balance with a face-to-face one.

Finally, the role that has the PEI course in terms of autonomy and autonomous learning is exposed, offering different elements to analyze. Currently, the idea is that the students have an active role in their learning process, this means, think on how learning and assess whether to understand which aspects should be improved or which must continue in some way. With this in mind, most of the students agreed with that course enables them to evaluate their learning process and decide on the aspects that want to improve, this, related to activities to enhance their skills, what is closely linked with the autonomy and the self-managed learning, where students decide what, how and when to learn. Thus, at the time of entering the course, they decide what skills need to be reinforced and choose the most appropriate activities to achieve it.

All in all, and taking into account the results, a significant part of students is inclined to believe that the course is monotonous, lacks guidance and that some activities are not available for them, which hinders the development of autonomy and self-management of the learning process.

## **Conclusions**

The following are the most relevant conclusions that emerged from the results of the data analysis:

First, ICTs should be integrated along the education process of pre-service foreign language teachers progressively and aligned with the language development stages of students.

This might enhance the level of language development attainment because the results indicate that students recognize the value of ICTs in supporting the language learning process and providing opportunities for overcoming learning gaps and difficulties.

Second, the pre-service foreign language teachers recognize the potential of ICTs to promote language learning autonomy; as well as, the development of skills and attitudes related to self-directed learning.

Third, the PEI course provides resources and tools that can bolster the development of language skills and improving the efficiency and effectiveness of the education process of the pre-service foreign language teachers, in this aspect.

Fourth, the integration of ICTs with the education of the pre-service foreign language teachers entails a comprehensive understanding of the pedagogical implications for all the curricular agents, especially teachers and students. This implies, as well, aspects related to training in using ICTs for educational purposes.

Fifth, the results indicate that the integrated use of ICTs along the education process of pre-service language teachers contribute to empower future educators with skills, competencies, and attitudes in using ICTs in their professional practice.

### **Pedagogical implications**

The following are some of the implications and questions that emerge from the conclusions. To start with, the integration and use of ICTs in the pre-service language teacher education require the development of a pedagogical and methodological guide that orients and articulates the process and the educational community. On the other hand, continuous, relevant, and efficiency pedagogical mediation and orientation of the teacher is valuable for pre-service

## THE ROLE OF ICTs IN THE INITIAL EDUCATION OF FOREIGN LANGUAGE TEACHERS

language teachers when using ICTs. This entails solid knowledge, skills, and positive attitude of the teacher in regard to ICTs use to foster language learning, which poses a challenge for teaching development and training. Lastly, the PEI course can be a good tool to teach English if it is more interactive, steadily guided by the teacher, including gamification and better monitoring support because the students' need more motivation, develop their language skills and increase their autonomous learning process.

Future research studies could revolve around the following questions:

What kind of training in ICTs is required on the part of teachers and students of the program?

How to design a pedagogical guide that orients teachers and students in the process of integrating ICTs with the education process of pre-service language teachers?

### References

- Bersin, J. (2004). *The Blended Learning Book: Best Practices, Proven Methodologies, and Lesson Learned*.
- Chew, E. (2008). Blended Learning Tools for Teaching and Training Esyin Chew Centre for Excellence in Learning and Teaching. *Educational Technology & Society*, 11(2), 344–347. Retrieved from <http://www.jstor.org/hemeroteca.lasalle.edu.co/stable/pdf/jeductechsoci.11.2.344.pdf?refreqid=search%3Ad4d236f4178a55171c5bf0ba9f654e3e>
- Common Sense Education. (2016). What is the SAMR model? - YouTube.
- Daspit, J.J., & D'Souza, D. E. (2012). Using the community of inquiry framework to introduce wiki environments in: library resources. Retrieved May 19, 2018, from <http://www.jstor.org/hemeroteca.lasalle.edu.co/stable/pdf/23412351.pdf?refreqid=search%3A584267d1c1d7751d76dc92c1eef10395>
- Daspit, Joshua J., & D'Souza, D. E. (2012). Using the community of inquiry framework to introduce wiki environments in blended-learning pedagogies: Evidence from a business capstone course. *Academy of Management Learning and Education*, 11(4), 666–683. <https://doi.org/10.5465/amle.2010.0154>
- Drew, P. (n.d.). Developing students' Higher-Order Thinking Skills (HOTS) through technology-rich tasks Technological Pedagogical and Content Knowledge (TPACK) technology and Higher-Order Thinking Skills (HOTS). Retrieved from <http://www.jstor.org/hemeroteca.lasalle.edu.co/stable/pdf/44429927.pdf?refreqid=search%3Ab2b81419230616b3cc93727acc17035f>
- Driel, J. H. Van, Berry, A., Driel1, J. H. Van, & Berry2, A. (2012). Teacher professional development focusing on Pedagogical Content Knowledge (PCK). *Source: Educational Researcher*, 41(1), 26–28. Retrieved from <http://www.jstor.org/stable/41413082>
- García, J., & Source. (2008). Blended learning: Using technology in and beyond the language classroom. *Journal of Educational Technology & Society*, 11(3), 289–291. Retrieved from <http://www.jstor.org/stable/jeductechsoci.11.3.289>
- Garrison, R., & Vaughan, N. (2008). Blended learning in higher education: framework,



- principles, and guidelines. EBSCOhost, 1, 135–137. Retrieved from <https://web-a-ebSCOhost-com.hemeroteca.lasalle.edu.co/ehost/pdfviewer/pdfviewer?vid=5&sid=d420a828-20d6-41db-a415-17a7131e778c%40sessionmgr4008>
- Ghadiri, K., Qayoumi, M., Junn, E., & Sujitparapitaya, S. (2012). The transformative potential of Blended Learning using MIT edX's 6.002x Online MOOC Content combined with student team-based learning in class. Retrieved from <https://www.edx.org/sites/default/files/upload/ed-tech-paper.pdf>
- Gill, L., & Dalgarno, B. (2008). *Influences on pre-service teachers' preparedness to use ICTs in the classroom*. Retrieved from [https://s3.amazonaws.com/academia.edu.documents/31070682/gill.pdf?AWSAccessKeyId=AKIAIWOWYYGZ2Y53UL3A&Expires=1555867333&Signature=OPRTRmU78hmzeMuDe2XcccQ43wQ%3D&response-content-disposition=inline%3Bfilename%3DInfluences\\_on\\_pre-service\\_teachers\\_prepa](https://s3.amazonaws.com/academia.edu.documents/31070682/gill.pdf?AWSAccessKeyId=AKIAIWOWYYGZ2Y53UL3A&Expires=1555867333&Signature=OPRTRmU78hmzeMuDe2XcccQ43wQ%3D&response-content-disposition=inline%3Bfilename%3DInfluences_on_pre-service_teachers_prepa).
- Graham, C. (2004). *Chapter 1.1 blended learning systems: definition, current trends, and future directions*. Retrieved from [www.pfeiffer.com](http://www.pfeiffer.com)
- Gülbahar, Y. (2008). Ict usage in higher education: a case study on preservice teachers and instructors. *The Turkish Online Journal of Educational Technology* (Vol. 7). Retrieved from <https://files.eric.ed.gov/fulltext/ED499580.pdf>
- Heinze, A., & Procter, C. (2004). Reflections on the use of blended learning title reflections on the use of blended learning reflections on the use of blended learning. Retrieved from <http://usir.salford.ac.uk/1658/>
- Holt, T. (2012). Digital discoveries - Intro to SAMR - YouTube.
- Hunt, V. (2016). Pros and cons of Blended Learning at College - eLearning industry. Retrieved April 28, 2019, from <https://elearningindustry.com/pros-cons-blended-learning-at-college>
- Jang, S.-J., & Chen, K.-C. (2010). From PCK to TPACK: Developing a transformative model for pre-service science teachers. *Source: Journal of Science Education and Technology J Sci Educ Technol*, 19(19). <https://doi.org/10.1007/s1>
- Koehler, M. J., Mishra, P., & Cain, W. (2013). What is Technological Pedagogical Content Knowledge (TPACK)? *Source: The Journal of Education PEDAGOGICAL CONTENT*

- KNOWLEDGE*, 193(3), 13–19. Retrieved from <http://www.jstor.org/stable/24636917>
- Margolis, A. R., Porter, A. L., & Pitterle, M. E. (2017). *Research best practices for use of Blended Learning*. Retrieved from <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5423065/pdf/ajpe81349.pdf>
- McKnight, K. (2012). Top 12 Ways technology changed learning | TeachHUB. Retrieved April 28, 2019, from <http://www.teachhub.com/how-technology-changed-learning>
- Ministerio de Educación nacional. (2017). RESOLUCION\_MINEDUCACION\_18583\_2017.
- Oliver, R. (2002). *The role of ICT in higher education for the 21 st century: ICT as a change agent for education*. Retrieved from [http://bhs-ict.pbworks.com/f/role of ict.pdf](http://bhs-ict.pbworks.com/f/role%20of%20ict.pdf)
- Pappas, C. (2016). Applying the SAMR model to create an effective blended learning strategy - eLearning industry.
- Puentedura, R. (2010). SAMR and TPACK: intro to advanced practice. Retrieved February, 12, 2013.
- Puentedura, R. R. (2012). Building upon SAMR. Retrieved from <http://hippasus.com/rrpweblog/archives/2012/09/03/BuildingUponSAMR.pdf>
- Shea, J., Joaquin, M. E., & Gorzycki, M. (2015). Hybrid course design : Promoting student engagement and success. *Journal of Public Affairs Education*, 21(4), 539–556.
- Smirnova, G. I., & Katashev, V. G. (2017). A study module in the logical structure of cognitive process in the context of variable-based Blended Learning. *European Journal of Contemporary Education*, 6(61), 48–56. <https://doi.org/10.13187/ejced.2017.1.48>
- So, H.-J., & Bonk, C. J. (2010). Examining the roles of Blended Learning approaches in Computer- Supported Collaborative Learning (CSCL) Environments: A Delphi study. *Journal of Educational Technology & Society Educational Technology & Society*, 13(133), 189–200. Retrieved from <http://www.jstor.org/stable/jeductechsoci.13.3.189>
- T., Hwee, J., Koh, L., Chai, C. S., & Tsai, C.-C. (2014). Demographic factors, TPACK constructs, and teachers' perceptions of constructivist-oriented TPACK. *Source: Journal of Educational Technology & Society*, 17(171), 185–196. Retrieved from <http://www.jstor.org/stable/jeductechsoci.17.1.185>

Vohle, F. (2017). Social video learning with a Blended Learning framework in German soccer trainer education. *International Journal of Advanced Corporate Learning (IJAC)*, 10(1), 15.  
<https://doi.org/10.3991/ijac.v10i1.6301>