UNIVERSIDAD DE ALMERÍA

Doctoral Thesis

Cooperative Project-Based Learning Methodology for Motivating and Engaging Students to Learn English: Difficulties of Implementation

Metodología de aprendizaje cooperativo basado en proyectos para motivar y comprometer a los alumnos en el aprendizaje del inglés: Dificultades de implementación

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Tesis Doctoral

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Dedication

This Thesis is for the most part dedicated to my dear mother, who throughout my life has continuously motivated and supported me during my most challenging times. The love I received from my mother gave me the strength I needed to set aside whatever was troubling or hindering me for me to instead focus on my research toward the completion of this thesis. My father has also inspired me over the years; the grandfather who also took on the responsibility of caring for my children in my absence. I am thankful for my wife by my side during the dissertation process who also took on so much throughout this period of my PhD, and particularly during my absence from the family; and to my son Rayan and daughters Nouha and Tasnim, for their support and patience when I was so far away, by allowing me the time and opportunity to devote myself entirely to my thesis. I thank as well my brother and sisters for their support and encouragement. You have all been an endless source of inspiration and joy to provide me with the strength I needed to navigate this wondrous but challenging journey. I dearly love you all and remain grateful for all times.

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I would further like to thank the principals of the educational centres in Almeria where this investigation took place. I appreciate that they granted me permission to undertake research as well as allow me access to facilities that I needed to make this work possible. I would like to express my sincerest gratitude to those teachers who opened their classrooms to enrich this investigation; who shared their experiences, points of view, and thoughts regarding the topic of my research. I was pleased by their willingness to collaborate with me as I sought to document their experiences and establish new ways of thinking about language teaching and learning. I am honoured to have met you and feel humbled to know that there exist such helpful and dedicated educators teaching in the Spanish education system.

Many other friends helped me along the way and for this, I want to thank Carlos, Chakib, Yohan, Enrique, Jakota and Ahmed, for their endless encouragement whenever I faced any challenges or difficulties.

In closing, this Doctoral journey has not been easy for many reasons; but what made it particularly special was the opportunity I had to meet so many incredible people who continuously encouraged and motivated me to realise my personal and professional growth throughout this entire academic process. I provide special thanks to the University of Almeria for offering me this life-changing opportunity and to whose educational and administrative staff I shall always be grateful; as I recall their kindness, nothing they did was ever too little, and for this, I will remember these times with great fondness.

CONTENT TABLE PAGE

TABLES INDEX

FIGURES INDEX

LIST OF ACRONYMS AND ABBREVIATIONS

ACBP	Aprendizaje Cooperativo Basado en Proyectos (its acronym in Spanish)
CCA	Creative Commons Attribution
CL	Cooperative Learning
CP	Cooperative Project
CPBL	Cooperative Project-Based Learning
DTs	Digital Technologies
DEN	Deeper education Network
EdTech	Education Technology
EFL	English as a Foreign Language
EI	Educational Innovation
EI	Emotional Intelligence
ELP	English Language Portfolio
ERT	Emergency Remote Teaching
FC	Flipped Classroom
GBL	Game-Based Learning
GPV	Grade Point Value
IBA	Inquiry-Based Activities
ID	Interdisciplinary education
IBA	Inquiry-Based Activities
IT	Information Technology
MFA	My Favourite Activity
MLP	My Language Passport
NICT	New Information and Communication Technologies
NT	New technology
NTN	New Tech Network
OET	Office of Educational Technology
PBL	Project-Based Learning
PD	Professional Development
RBI	Research-Based Instruction

RQ	Research Question
SDL	Self-Directed Learning
SNSP	Social Networking Sites Projects
SST	Social Sciences Teaching
TRP	Teaching and Research Practice
UNESCO	United Nations Educational, Science and Cultural Organization
UNICEF	United Nations International Emergency Fund for Children
WBL	Web-Based-Learning

ABSTRACT

Cooperative Project-Based Learning (CPBL) is an instructional model that involves students confronting real-world issues and problems that they find meaningful, determining how to address them, and then working cooperatively in groups for extended periods to investigate and respond to engaging questions and tasks to create innovative solutions. The CPBL instructional approach appears to be well-placed to become the principal model of teaching in the twenty-first century, and educators would be wise to embrace this innovative approach. As schools struggle to teach students in a world of low motivation, limited problem-solving abilities, highly restricted funds, and ever-changing instructional methods, CPBL has emerged as a classroom option for the twenty-first-century methodology that would be the most effective to keep pace with the changes that the world has witnessed during the current COVID-19 pandemic.

CPBL can greatly enhance students' motivation, autonomous learning skills, and technological literacy, which are key matters that help students to be lifelong learners who are able and responsible to build their knowledge and continue their learning under all circumstances. However, motivating teachers to implement CPBL in their classrooms is one of the critical challenges facing this methodology, due to several reasons, the most important of which is that most teachers have insufficient methodological knowledge of how to implement CPBL. In these circumstances, almost all teachers who desire to implement this methodology are willing to learn how they can do so. Certainly, the main reason behind this is the absence of teachers' relevant professional training. Unfortunately, this leads to a lack of motivation and willingness to adopt this methodology. Consequently, it is considered that the inclusion of continuous training for teachers while providing the necessary pedagogical equipment and materials would inevitably help in raising the level of motivation and, thus, the level of preparedness to plan, manage, and implement purposeful projects that help their learners improve their learning and increase their motivation for joint cooperative work during the completion of their project.

The present study explored whether teachers are motivated and willing to adopt CPBL and whether their age, gender and stage of teaching have any impact on the implementation of CPBL. The study also investigated the difficulties and challenges teachers of English encounter when attempting to implement CPBL, as well as the fundamental sources of these difficulties, to provide innovative solutions to enhance teachers' motivation to use this approach in their classrooms. Additionally, the study attempted to examine the teachers' perceptions, views, and attitudes regarding this methodology, as well as the integration of new technologies into CPBL to foster students' investigative, communicative, and autonomous learning skills. To facilitate teachers' tasks, a model of a cooperative project and its implications for planning will be provided.

Significantly, this research is exploratory in scope, quantitative qualitative in design and correlational-factorial in nature. This study used a mixed-method quantitative and qualitative data analysis technique that consists of questionnaires, interviews, and classroom observation. A concurrent triangulation technique was used to solve the research questions. Specifically, after collecting both quantitative and qualitative data at the same time and analysing the two databases individually, which allowed a comparison of the results to see if there were differences, convergence, or combinations. The main goal of integrating both quantitative and qualitative data was to place the obtained data into a comprehensive explanatory framework and gain in-depth knowledge about the subject under investigation.

Furthermore, employing this method emphasised objectivity in collecting data, testing hypotheses, revising theories, and replicating the participants' attitudes and views, thereby expanding the scope of the research and gaining a more holistic and individual-in-context perspective on the current investigated issue. Specifically, through quotes from participants, a detailed description of the results provides a voice to the teachers' opinions, attitudes, and experiences about the use of CPBL, level of motivation, difficulties, and challenges encountered. Specifically, to verify and evaluate the number of teachers who use CPBL and how often they use it. To demonstrate the results, descriptive statistics were used, which allowed for the explanation and conclusion of the gathered data from

the participants. In this study, a research methodology course that involved community-based research and followed the CPBL approach has been described.

Additionally, to fulfil the research objectives, questionnaires were distributed with sixteen close-ended questions and a five-point Likert scale was used ranging from "strongly agree" to "strongly disagree," were distributed and structured interviews were conducted to elicit the opinions of 84 teachers of English as a second language about the implementation of the CPBL methodology. The participants' gender equality number was taken into consideration. Males were 37 (44.05%), while females were 47 (55.95%). To guarantee a better understanding of the teachers' answers, structured interviews were developed. The information was collected from teachers who were implementing CPBL in their classrooms as well as those who had never used it before or were willing to adopt it.

Again, for the interviews, the participants were chosen using convenience sampling, with the following factors in mind: school accessibility and interview availability. The average age of the interviewees was 42 years old, and there were 6 females and 5 males among the interviewees. The interviews were based mainly on the objectives of the investigation and were guided by the questions of this research. Notably, most of those teachers work in public primary and high schools in the province of Almeria, and the other participants belong to different cities in Spain. Notably, 58 (69.05%) were primary education teachers; and 26 (30.95%) were secondary school teachers, who had experience teaching English as a second or foreign language for a range of 6 to 23 years. The participants responded to the questionnaires during the second semester (January to March) of the 2019/2020 school year.

The factorial analysis revealed that the age of teachers had a significant impact on CPBL implementation ($p < .001$). Accordingly, younger age groups of 21–30 and 31–40 showed a greater predisposition for the implementation of CPBL than the 41–50 range. The results of the study revealed that 36.9% of teachers were using this methodology. Besides, 69,76% indicated positive attitudes toward CPBL as a powerful constructional approach that improves students' linguistic skills, critical and creative thinking, and

autonomous learning. Additionally, the findings highlighted that the most important problem facing CPBL methodology is insufficient professional training. According to the findings, only 4 (4.76%) of teachers had been using this methodology for more than three years, 8 (9.52%) had been using it between two and three years, and 9 (10.71) used it occasionally, and 10 (11.90%) had been using it for less than one year, and finally, 53 which represents 63.09% had never implemented it before. Regardless of the challenges and difficulties, the findings indicated that 65% of the participants recommended it to other teachers.

The results of the study revealed a limited number of teachers who were implementing CPBL. One of the most important reasons was the lack of appropriate pedagogical training. Significantly, teachers need to carry out continuous, adequate, and attractive professional training and also need the motivation to permit CPBL accessibility to their classrooms to invert them into places where creativity and innovation are found.

Notably, this study supports CL work on projects more than it does with individual work. Considering that in the cooperative option, students benefit from each other's experiences, ideas, and interaction. Certainly, communication itself is fundamental to the development of their speaking abilities, capacity to listen and growth of their intellectual curiosity. Additionally, while working cooperatively on projects, students manage, judge, make decisions, and learn by discovering, which helps them develop complex and high-order skills.

The study's findings have important implications for curriculum and professional training course designers and English as a second or foreign language (EFL) teachers, particularly those who are having difficulty and those who want to broaden their knowledge and sharpen their professionalism as well as their proficiency to make the implementation of the CPBL innovative and successful.

RESUMEN

El Aprendizaje Cooperativo Basado en Proyectos (ACBP) es un modelo instructivo que involucra a los alumnos afrontando problemas del mundo real que encuentran significativos, determinando cómo abordarlos, para después trabajar cooperativamente en grupos durante periodos prolongados, con el fin de investigar y responder a preguntas y tareas atractivas, para crear soluciones innovadoras. El enfoque pedagógico del ACBP parece estar bien posicionado para convertirse en el principal modelo de enseñanza en el siglo XXI y para los educadores sería una buena opción adoptar este enfoque innovador. A medida que los centros educativos luchan por enseñar a los alumnos en un mundo de baja motivación, limitada capacidad de resolución de problemas, fondos muy restringidos y métodos de instrucción siempre cambiantes, la metodología del ACBP ha surgido como una opción metodológica para el aula del siglo XXI que sería la más eficaz para seguir el ritmo de los cambios que el mundo ha presenciado durante la actual pandemia de COVID-19.

El ACBP aumenta la motivación del alumnado, su autonomía de aprendizaje, y su competencia digital, cuestiones clave que ayudan a los estudiantes a mantener un aprendizaje permanente, ser capaces y responsables de construir sus conocimientos y continuar su aprendizaje en cualquier circunstancia. Sin embargo, motivar a los profesores para que implementen el ACBP es un reto por muchas razones. La más importante, es que la mayoría de los profesores carecen de suficientes conocimientos metodológicos sobre cómo aplicar el ACBP. En estas circunstancias, casi todos los profesores que desean aplicar esta metodología están dispuestos a aprender cómo pueden hacerlo. Sin duda, la principal razón para ello es la ausencia de una formación permanente del profesorado.

Desgraciadamente, esto conlleva una falta de motivación y de voluntad para adoptar esta metodología. Por consiguiente, se considera que la inclusión de la formación continua del profesorado, al tiempo que proporcionarle el equipamiento y los materiales pedagógicos necesarios, ayudaría inevitablemente a elevar el nivel de motivación y, por lo tanto, el nivel de preparación para planificar, gestionar y poner en práctica proyectos

con objetivos que ayuden al alumnado a mejorar su aprendizaje y a aumentar su motivación para el trabajo cooperativo conjunto durante la realización de un proyecto. Otro aspecto importante a analizar es la formación inicial universitaria, que sigue teniendo un modelo excesivamente academicista e individualista y el Máster en Educación Secundaria también necesitaría incluir más prácticas cooperativas en las herramientas que se les da a los futuros profesores y profesoras.

En el presente estudio se ha explorado si los profesores están motivados y dispuestos a adoptar el ACBP y si su edad, género y etapa de enseñanza (primaria y secundaria) tienen algún impacto en la implementación del ACBP. El estudio también ha investigado las dificultades y desafíos que encuentran los profesores de inglés cuando aplican el ACBP, así como las fuentes fundamentales de estas dificultades, y proporciona soluciones innovadoras para mejorar la motivación de los profesores para utilizar este enfoque en sus aulas. Además, el estudio se ha tratado de examinar las percepciones, opiniones y actitudes de los docentes sobre esta metodología, así como la integración de las nuevas tecnologías en el ACBP para fomentar la capacidad de investigación, comunicación y aprendizaje autónomo de los estudiantes. Para facilitar las tareas de los docentes, se proporcionó un modelo de proyecto cooperativo y sus implicaciones para la planificación.

Cabe destacar que esta investigación tiene un alcance exploratorio con un diseño cuantitativo-cualitativo y una naturaleza correlacional-factorial. El estudio utiliza una técnica mixta de análisis de datos cuantitativos y cualitativos a partir de cuestionarios, entrevistas, y observación en el aula. Para resolver las preguntas de investigación se utilizó una técnica de triangulación concurrente. Concretamente, tras recoger y analizar datos cuantitativos de forma individual, permitió comparar los resultados para ver si había diferencias, convergencias o combinaciones. El objetivo principal de la integración de los datos cuantitativos y cualitativos es situar los datos obtenidos en un marco explicativo global y profundizar en el conocimiento del tema investigado.

Además, al emplear este método se hizo hincapié en la objetividad a la hora de recopilar datos, comprobar las hipótesis, revisar la teoría y replicar las actitudes y opiniones de los participantes, con lo que se amplió el alcance de la investigación y se obtuvo una perspectiva más holística e individual en el contexto del presente tema investigado. En concreto, a través de las citas de los participantes, una descripción detallada de los resultados da voz a las opiniones, actitudes y experiencias de los profesores sobre el uso del ACBP, el nivel de motivación, las dificultades y los retos encontrados. En concreto, se trata de verificar y evaluar el número de profesores que utilizan el ACBP en la enseñanza de la lengua inglesa y la frecuencia con la que lo utilizan. Concretamente, la mayoría de estos profesores trabajan en centros educativos públicos de Primaria y Secundaria de la provincia de Almería y el resto de participantes pertenecen a distintas ciudades de España. En particular, el 69% de ellos eran profesores de educación primaria; el 29% eran profesores de Secundaria y Bachillerato; que tenían experiencia en la enseñanza del inglés en un rango de 6 a 23 años. Los participantes respondieron a los cuestionarios durante los meses de enero a marzo del curso 2019/2020.

Para sustentar los resultados, se utilizó la estadística descriptiva, que permitió explicar y concluir los datos cuantitativos recogidos de los participantes. En este estudio, se ha descrito un curso de metodología de investigación basada en la comunidad y que seguía el enfoque del ACBP. Además, para cumplir con los objetivos de la investigación, se utilizaron cuestionarios con 16 preguntas cerradas y una escala de Likert de cinco puntos que iba desde “muy de acuerdo” hasta “muy en desacuerdo.” Se distribuyeron cuestionarios y se realizaron entrevistas estructuradas, recabando las opiniones de 84 profesores de inglés sobre la aplicación de la metodología ACBP. Se tuvo en cuenta en el número de participantes la igualdad de género, mujeres 47 (55.95%) y hombres 37 (44.05%). Para garantizar una mejor comprensión de las respuestas de los profesores, se realizaron entrevistas estructuradas.

La información se recogió entre los profesores que estaban aplicando el ACBP en sus aulas de enseñanza del inglés en los niveles de Primaria y Secundaria, así como entre los que nunca lo habían utilizado o estaban dispuestos a utilizarlo. Una vez más, para las entrevistas se seleccionaron a los participantes mediante un muestreo de convivencia,

teniendo en cuenta los siguientes factores: accesibilidad al centro educativo y disponibilidad de la entrevista. La edad media de los entrevistados era de 42 años, y había seis mujeres y cinco hombres. Las entrevistas se basaron principalmente en los objetivos de la investigación y estaban guiadas por las preguntas de esta investigación.

El análisis factorial reveló que la edad del profesorado tenía un impacto significativo en la implementación del ACBP ($p < 0,001$). Así, los grupos de edad más jóvenes, de 21–30 años y de 31–40 años, mostraron una mayor predisposición a la implementación del ACBP que el rango de 41–50 años. Además, los resultados volvieron a revelar que el 36,9% de los profesores aplican la metodología. Además, el 79,76% de las respuestas indicaron actitudes positivas hacia esta metodología como un poderoso enfoque constructivo que mejore las competencias lingüísticas, el pensamiento crítico y creativo y el aprendizaje autónomo de los alumnos. Además, las conclusiones pusieron de relieve que el problema más importante a que se enfrenta la metodología del ACBP es la falta de formación inicial del profesorado.

Según los resultados de los hallazgos relativos al periodo en que los profesores estuvieron aplicando esta metodología, sólo 4 (4.76%) dijeron que la han estado utilizando durante más de tres años, 8 (9,52%) la han utilizado entre dos y tres años, 9 (10,71) la han utilizado ocasionalmente, y 10 (11.90%) la utilizaban desde hacía menos de un año. Independientemente de los retos y las dificultades, los resultados indicaron que el 65% de los participantes recomendaron el ACBP a otros profesores. Los resultados del estudio revelaron un número limitado de profesores que estaban implementando el ACBP, siendo una de las razones más importantes la falta de formación pedagógica. Es significativo que los profesores necesiten llevar a cabo una formación profesional continua, adecuada y atractiva, y también necesitan la motivación para permitir que el ACBP tenga acceso a sus aulas para invertirlas en lugares donde se encuentra la creatividad y la innovación.

En particular, el estudio apoya el trabajo cooperativo y colectivo en el proyecto más que el trabajo individual. En la opción cooperativa, los alumnos se benefician de las experiencias e ideas de los demás y la propia interacción y comunicación es crucial para

su desarrollo. Además, al trabajar de forma cooperativa en los proyectos, los estudiantes gestionan, juzgan y toman decisiones y aprenden haciendo, lo que les ayuda a desarrollar habilidades completas y de alto nivel.

Estos resultados señalan algunos aspectos importantes para los diseñadores de cursos y para los profesores que trabajan en el área de la enseñanza de inglés como segunda lengua. Especialmente los que tienen dificultades, como para los que están dispuestos a ampliar sus conocimientos y su profesionalidad en la aplicación del ACBP.

CHAPTER 1.

APPROACH AND JUSTIFICATION OF THE INVESTIGATION

1.1. Introduction

The 21st century will be remembered for its rapid change and development, both of which have affected all aspects of human existence, economically and scientifically (Komljenovic, 2021). It is thus important to take into consideration which methodology would be the most effective to track these changes, particularly during or after the current COVID-19 pandemic that the world has recently witnessed. Arguably, if a nation can offer high-quality education, this can be effective in the development and growth of its economy that, in turn, will improve the lives of its citizens. Thus, for nations to reach their potential, it is equally critical to unleash the potential of the human mind so that its citizens can keep in step with scientific, technological, or developmental changes; as well as maintain and/or improve upon these changes, as needed. Now, more than ever, there is a great need for those who can adapt and apply their knowledge toward technological growth and change. In this regard, preparing educational programmes that offer the most suitable or appropriate methods and techniques, and then applying these programmes to improve upon science education, can be considered an essential issue (Nbina, 2010).

Accordingly, it is assumed that the main objective of any educational system in our modern world is to provide students with opportunities to contribute in ways that demonstrated their diverse talents and creativity (Kalyaniwala & Ciekanski 2021). In facing and adapting to the ever-changing challenges and complexities of today's information age, students should be equipped with a broad range of abilities such as communication, critical thinking, and collaborative skills (Liesa-Orús et al., 2020).

Project-Based Learning (PBL) and Cooperative Learning (CL) are considered among the best methods of empowering students with the most needed skills in the twenty-first century, especially if these two approaches are combined so that one method reinforces the other, with one major aim, which is involving students in cooperative work during the incorporation of their project. PBL and CL are indeed regarded as highly constructive teaching strategies that can influence students' motivation to learn English as a foreign language by cooperating and sharing experiences among classmates. In this manner, students may be better equipped to make use of others' knowledge, foresee

imminent real-world problems, and follow scientific methods in resolving problematic situations (Chen et al., 2021).

Similarly, to fulfil the aim of a good educational system, Walton (2014) emphasised the significance of teachers' participation in groups of professional development training; collective participation that entails a group of instructors from the same or different schools attending professional training on the most important and latest educational practices to facilitate "interaction and discourse, which can be a powerful tool for teacher learning" (Desmone, 2009, p. 184).

It is therefore recommended that teacher practitioners use methodologies and procedures in which knowledge is used more efficiently (Kessler, 2013). More recently, studies related to new learning environments and modern instructional practices have emerged. These studies suggest that the PBL approach can increase academic achievement if the learning process is made more amusing, enjoyable, and meaningful. For this reason, PBL has been considered among the most considered and sought-after learning methodologies, including its integration with other methods and disciplines (Korkmaz and Kaptan, 2002). Previous literature reviews have claimed that the use of PBL as an approach can provide students with a richer variety of learning experiences when compared to other more traditional learning approaches (Gültekin, 2007).

In this way, PBL can be a very rich tool to motivate students by giving them the possibility to be involved in their learning in different ways that can in turn leave them feeling that they are the real protagonists of their learning. According to Leask (2020), instructive establishments should formulate scholars to "live and work in a complex, globalised world" (p. 2). However, keeping students motivated and engaged can be the biggest challenge that teachers now face in the classroom; particularly since students might come equipped with a range of learning styles and variable skill levels and abilities relative to their life experiences and cultural backgrounds.

Teacher creativity is thus critical to identify these challenges, as applying innovative methods can then help students explore their areas of interest within the

curricular framework to both promote deep learning and encourage autonomy in the students' use of technology. One such example is mobile devices in the flipped classroom model, in which students can access course contents whenever and wherever they may be. This, in turn, can augment their engagement in project tasks to both facilitate their learning of English; and guide them in their use of technology to meet their own needs, thus empowering them as independent learners (Alberto et al., 2020).

PBL is therefore one avenue for differentiated instruction that is highly recommended for 21st-century classrooms (Bell, 2010; Bender & Waller, 2011; Ghosh, 2010; Laboy-Rush, 2011; Partnership for 21st Century Skills, 2009). The main intent of CL environments is to promote the development of individual and group skills through interaction and communication in which students begin to take responsibility for their learning. Group work requires greater effort on the part of students to remain focused on the tasks they need to complete which, in turn, can improve the quality of their efforts. When Jooste & Helete (2017) analyse the concept of universal social responsibility, they similarly propose an educational aim that empowers students to "understand the world and their place in it and become competent, ethical, and responsible individuals with global perspectives in their respective fields" (p. 43).

To pave the way for teachers to implement CPBL, attention should be directed to how they can encourage students to construct their knowledge in a motivational way, work cooperatively, and look for information on the internet, books, or other such resources (Cosgun & Atay, 2021). After students finish their investigations, they then present their work to their classmates, thus sharing what they have learned to reinforce what they know and to similarly discover what they do not. The entire CPBL process is structured around an open-ended exercise, one developed by the students themselves and connected to particular content, a relevant issue, or a challenging question that catches their attention by triggering their curiosity. It is thought that this can motivate students toward exploring, investigating, and then resolving the learning exercise; perhaps even fueling their appetite for further problem-solving and knowledge.

More importantly, it is recommended that teachers consider applying CPBL techniques in their classrooms so that they can reflect upon its potential as a tool and connect their curriculum to real-world situations, thus setting in place innovative activities that are both useful and creative (Egbert & Roe, 2014). PBL has become more widely recognised as student-centred pedagogy, a powerful instructional practice based on knowledge related to contingent facts about the world (Fernandes et al., 2021). Researchers however also view PBL as "an instructional method centred on the learner" (Bas, 2011, p. 2). Bell (2010) has pointed out that students in a PBL classroom are provided with a topic to develop through research or project work via individual or group learning, and their teachers should monitor these projects accordingly. In this learning framework, students are thus expected to be critical thinkers who are responsible for their learning (Bell, 2010; Postholm, 2005, 2006) which, for example, can be achieved via problem-solving activities.

According to Kloppenborg and Baucus (2004), students can be more motivated and find their lessons more meaningful through the PBL technique and particularly when they complete their projects cooperatively. The PBL approach typically allows students the freedom to plan and manage their own projects that they will then present either in their classroom or in a public forum. Critical to this approach is how students will then "have the opportunity to construct their creative knowledge, and demonstrate their creative thinking and skills through their project" (Simpson, 2010, p. 44). Barge (2010) points to two key requirements for a successful implementation of PBL is "a high level of self-motivation and personal responsibility for learning" (p. 14) from the students themselves. Without these two factors, students may otherwise grow tired and simply give up if and when they face demanding projects. That said, the role of the teacher is critical to monitor the students' motivation and confidence throughout the entire process (Maleki, 2005).

One way of enhancing student motivation so that they will take responsibility for their own learning is setting up "a collegial atmosphere" in which "students actively cooperate and engage in substantive dialogue with faculty members, regarding their course work and the application of knowledge within the context of their project" (Barge,

2010, p. 15). Ongoing encouragement, support, and feedback are other ways that the student's motivation and confidence can be bolstered (Dornyei, 2001), thus reducing their anxiety when learning EFL. Acquiring a wider range of linguistic skills, prepare students to communicate more effectively in English in broader contexts (Casado & Dereshiswsky, 2004; Goshi, 2005; Kondo & Ling, 2004; Marwan, 2007).

For many reasons, research-to-date has not yet had any substantial influence on the actual practice of CPBL in the EFL classroom. First, because CPBL is a relatively new approach to language teaching and learning, educators who are new to the profession may not have been exposed to its theory and practice in any substantial way. Second, even if professional development is offered to practising teachers, there are few accepted frameworks or theories of CPBL upon which quality training can be based. Third, much of the current research may be in fact irrelevant to actual concerns that teachers have in their classrooms. Because of this, teachers might simply dismiss CPBL as impractical when they consider more immediate problems that they do face on a daily basis. Even so, teachers could still be encouraged to develop CPBL projects on their own or in collaboration with colleagues at their schools (Jung & Kong, 2017).

However, in many cases, teachers' knowledge of how to teach cooperatively through project-based learning is fairly limited and incomplete (Tal et al., 2021). For these reasons, it is likely that very few educational institutions encourage the CPBL approach on any consistent basis. This is likely the biggest obstacle that teachers face when contemplating the actual use of CPBL in their classrooms, thus explaining their general lack of motivation and interest to try out this methodology. This accounts for why teachers who are willing to try the CPBL approach in their classrooms also need guidance on how to put it into practice.

Although there are studies that discuss CL and PBL, research on the methodology that integrates them is very scarce, especially when it pertains to the teaching of EFL. Hence, this study supports the combination of Project-Based-Learning (PBL) and Cooperative Learning (CL) to form "Cooperative Project-Based Learning," under the

acronym "CPBL." CPBL can be described as a teaching approach that focuses on involving students to participate and cooperatively accomplish their projects.

After a deep review of previous research studies on the topic of this investigation, it was found that there is a lack of studies regarding the impact of teachers' age, gender, and stage of teaching on the implementation of the CPBL methodology. Specifically, in the context of teaching English to non-native speakers, as in the case of the Spanish educational system, where this investigation took place. In Spain, according to the recent legal reference document 8/2013, the Organic Law for the Improvement of Educational Quality (LOMCE) (Ley Orgánica, 2013) structured the education system at a national level according to the following pattern: (1) early childhood education from birth to 6 years; (2) compulsory primary education between 6 and 12 years; (3) compulsory secondary education until the age of 16, including baccalaureate and professional education; and (4) university studies (Rojo-Ramos et al., 2022).

By investigating the impact of the referred variables on the methodology, many related issues could be identified. For example, whether there are significant gender differences in the adoption of CPBL among teachers in primary and secondary schools. Or whether some age group implements CPBL more than others, what motivates them, and so forth. Having identified which variables most affect CPBL implementation, alternative strategies can be developed to minimise the challenges and motivate teachers to incorporate this approach into their EFL classrooms and guide their students toward a bright academic future.

The objective of this study is to thus investigate if teachers can be motivated and willing to adopt CPBL in their classroom and if teachers' age, gender, and stage of teaching (primary and secondary) have an impact on CPBL implementation in the EFL classroom; as well as to highlight the difficulties and challenges that teachers may face when implementing this methodology. Recommendations to overcome these challenges will be provided that, at the very least, might reduce their resistance to applying the CPBL methodology in their classrooms.

1.2. Background and identification of the problem of the study

It should be noted that understanding the variables that are involved in academic activities has been a major focus. This is supported by research such as that of the authors (Barret et al., 2017; Daniel et al., 2007; Konings, Bovill, & Woolner 2018; Tse et al., 2015), who investigated the relationship between constructive methodologies; as well as the teachers' motivation to apply them and the influence these have had on both the teaching-learning process and students. According to Maxwell (2016), the design, quality, and appropriateness of curriculum play a major role in encouraging students to take a positive role in their learning process toward stronger academic outcomes. The relationship between the methodology applied by the teacher and how students look upon their projects is thus crucial, influencing them to take on the role of active learner to henceforth feel that their work holds personal value (Pérez & Ramirez, 2015).

Literature related to this theme shows there is a strong link between a positive learning environment and higher student performance. That said, if students feel valued and connected to the space where they spend much of their daily lives, this will likely impact their motivation, attention, engagement, and performance in positive ways (Hopland & Nyhus, 2015). Innovative educational methodologies and the use of new technologies can also have a strong impact on language teaching and learning, enriching the social engagement in the classroom. This research proposal thus holds value in how it can identify teachers' interest to implement CPBL in their classroom; as well as proposing that integrating digital technologies into the learning process can strengthen students' competencies as engaged citizens learning EFL.

It has been emphasised that teaching and learning through real-life engagement can position and encourage students' preparedness to then respond effectively to complex situations in their future lives. On the other hand, students who have been held back from exploring their potential could then lack the motivation to engage in meaningful projects and will also have poor problem-solving skills (McBreen & Savage, 2021). In real terms, this has generated a high level of incompetency in young people who know how to consume but lack the interest and the means to produce (Zhang-Wu, 2021). Such students

also lack the much-needed skills to face real-life challenges as part of 21st-century living, at a time when technological transformation is changing exponentially (Wilson, 2009).

As global variables shift and evolve and at times in unexpected ways, the education system similarly needs to reinvent itself to adapt to these changes, so that the schooling process remains relevant to engage students. The consensus is that a high-quality educational system is a foundation for society as a whole; toward the ideal goal of the next generation being stronger than the last, engaged learners who are protagonists of knowledge.

Central to this study is the utmost importance of promoting solid teaching and learning to reach the objective of high-quality education. This would include methods that actively engage students in the learning process so that they project, reflect upon, and carry out activities that are connected to their lives in the classroom and the broader world around them. Such activities may range from taking on case studies or writing articles; to engaging in public speaking, performances, class discussions and debates; to using technological aids in producing short videos, recordings, and podcasts. In this way, students play a central role in the learning process, which leads to the development of different lifelong learning skills that are extremely important to their academic success.

PBL springs to mind when considering a methodology that can cultivate all these students' skills because research has confirmed its effectiveness and its significant results when it is adopted. Furthermore, this methodology can be supported with CL and the integration of digital technologies, and the result can be fascinating, especially in the domain of language teaching, as in the case of this study, which investigated the effectiveness of these methodologies in the teaching and learning of English as a second or foreign language. Besides, investigating the main challenges facing this methodology to provide innovative solutions to enhance teachers' motivation to implement it.

This study purports that CPBL can be a powerful instructional method capable of impacting student learning by providing hands-on opportunities that promote self-discovery to engage students in meaningful ways. As a compelling and motivational

methodology that can help students develop and master skills required in 21st-century life and living, CPBL is a strong contender when it comes to enhancing problem-solving skills. Students can gain, for example, deeper learning outcomes related to their critical thinking skills, collaboration and problem-solving, to strengthening their ability to communicate what they have learned; and others related to self-management and life skills.

Through this study, the importance of teaching and learning through projects will be proven. Besides, practical guidelines with vital projects will be offered to facilitate the educators' function. The significance of the current study lies not only in its attempt to gain a better understanding of why CPBL methodology is not widely used in Spanish schools or why teachers are not motivated to use it but also in its purposeful contribution to the long-running discussions that have dominated the area of research on teaching a foreign language in the last decades. This study presented a review of the most recent research in the field while also considering existing motivational ideas in EFL and L2 literature. Furthermore, as it progresses, it adopts a comprehensive perspective to investigate the complex and compound nature of the topic under investigation.

1.2.1. Reasons motivating the development of the study

Actually, the present research has been conducted to motivate teachers to implement modern, active, and effective methodologies such as CPBL, making use of digital technologies in the teaching and learning of English, to develop students' linguistic skills in a way that they can be prepared for effective oral and written communication, think critically and solve problems, speak publicly, access and analyse information, cooperate across networks, and lead by influence.

For this reason, it was decided to investigate, assuming an additional motivation since the research to be carried out offers the University of Almeria and other universities a new research document to address this issue. The results of the study represent a unique and original contribution to the Spanish university, allowing them to carry out actions in the educational model and make proposals for future improvement. In this manner, the

general objective of the doctoral thesis is to investigate facts about the use of CPBL methodology in the teaching and learning of English in the Spanish context, mainly based on teachers' perceptions, to provide recommendations for improvement.

Finally, the general aim is to contribute scientifically to enriching English language teaching methodologies along with the use of the most appealing technological devices. The aim is also to increase the attractiveness of learning and develop the desire for it to enhance students' communicative competencies, critical thinking, and creativity, and to encourage them to take initiative in learning, to enable them to become autonomous learners who always carry out their learning every time and everywhere, regardless of the difficulties or emergencies they may face in their lives. As a result, the following primary research questions constitute the foundation of the current study.

1.3. Objectives of the study

This research aims to enhance teachers' motivation to engage their students through cooperative learning projects in making use of the available technology to stimulate students toward both self-directed and cooperative learning opportunities.

Thus, the general objective of this doctoral thesis is the following:

1.3.1. General objective

To motivate the teaching and learning of English through Cooperative Project-Based Learning (CPBL) methodology and digital technology.

1.3.2. Specific objectives

1. To identify the extent to which English teachers implement CPBL in their classrooms.

2. To explore English as a Foreign Language (EFL) teachers' perceptions, attitudes, and points of view regarding the effectiveness of CPBL and its implementation difficulties.

3. To explore the impact of teachers' age, gender, and stage of teaching on CPBL implementation when teaching EFL.

4. To investigate CPBL implementation difficulties and the reasons behind them, as well as possible solutions to these difficulties to motivate and facilitate teachers' tasks.

5. To search for the best practical methodology for implementing CPBL along with digital technology to improve English teaching as well as learning innovation.

1.4. Research questions

This study is guided by the following primary research question:

Do teachers of EFL motivate the teaching and learning of English through Cooperative Project-Based Learning (CPBL) methodology and digital technology?

This general research question has been specified into five exploratory specific questions:

1. To what extent is CPBL used by EFL teachers in their classrooms?

2. What are the attitudes, perceptions, and points of view of English teachers regarding the effectiveness of CPBL and its implementation difficulties?

3. Do teachers' age, gender, and stage of teaching have an impact on the implementation of CPBL when teaching EFL?

4. What are the implementation difficulties and the reasons behind them, as well as possible solutions to motivate and facilitate teachers' tasks?

5. Which is the best practical methodology for implementing CPBL along with digital technology to improve English teaching as well as learning innovation?

To investigate the possible challenges and difficulties teachers and students face when implementing CPBL to find solutions to the encountered problems and enhance teachers' motivation to use this methodology, the formulated specific questions serve in driving the research objectives. Additionally, the investigation included the exploration of the effectiveness of ICT integration in the process of planning and elaborating projects cooperatively. The study also attempts to gain valuable insight and personal perspective from educators about this approach and finally provides samples of CPBL projects and their practical implementation steps. It is worth noting that a sample project was carried out by the author of this thesis in a secondary school in Almeria, and is included in the didactical application section of this thesis. This study is considered to be a PBL guideline that can help language teachers develop their professional competencies and facilitate their tasks as they implement CPBL.

Based on a substantial number of current findings from international-base studies and reports, in the preliminary phase of the current investigation, we were able to formulate the primary research hypothesis as stated in the following.

1.5. Hypotheses

Hernández, Fernandez, and Baptista (2010) emphasise that the number of hypotheses that must be included in each doctoral thesis is determined by those necessary to guide the study, not one more or one less. Similarly, as Lau and Yang (2009) recommended, extracting more than one hypothesis provides us with greater rigour in the predictive possibilities of the theory, being able to cover various aspects that make it up. Based on a substantial number of current findings from international-base studies and reports, in the preliminary phase of the current investigation, and Following the formulation of the research questions and the definition of the objectives of the study, we can coherently formulate the following research hypothesis: (1) the absence of relevant training could be one of the most important challenges facing teachers when asked to

consider the CPBL approach in their teaching of English, accounting for their lack of motivation to apply it in their teaching practices; (2) the implementation of CPBL may be impacted by teachers' age, gender and stage of teaching; (3) offering teachers examples of innovative approaches, successful projects, and appropriate tools could both enhance their willingness and strengthen their ability to apply project-based learning opportunities in their classrooms that could, in turn, motivate their students' interest and engagement.

Concerning this study's questions, predictions or possible answers are derived based on previous theoretical knowledge that requires exploratory verification. Through the deductive, the predictions derived from a theory are formulated into propositions, indicating the existence or otherwise a relationship between two or more in a given situation (Gonzalez, 2014). Similarly, concepts and propositions that together form a theory will also be translated into indicators that will allow us to explore them later. Many authors refer to this process as the operationalization of theoretical concepts (Lazarsfeld, 1973).

The relevance of the hypotheses is essential because of their importance in the research process. Among the important criteria, Hernandez et al. (2010) mentioned the following:

- It requires verification if being proved or not in reality.
- It must be in harmony with the theoretical framework and supported by a solid foundation.
- They must be based on a defined context and respond to the problem.

The most relevant recommendations and aspects discussed above were taken into account when developing the hypothesis. According to the classification presented by Hernandez et al. (2010), four types of hypotheses can be distinguished based on how the expected results are expressed in the study. The hypotheses developed in our study are of

the directional hypotheses type. This is because of the existing relationships between two or more indicators, the relationship between them and what direction they follow.

1.6. Structure of the thesis

It is significant to present reasonable and well-structured steps of the different parts through which this doctoral thesis has been developed to make it clear and comprehensive for readers. It is divided into eight chapters that have been organised as follows:

The first chapter presents the approach and justification of the investigation, including the background as well as the study's main questions and objectives that guided the study.

The second chapter is about the literature review that describes previous studies about PBL and CL and presents a systematic review of the most relevant literature focused on the topic under investigation to establish its theoretical basis and conceptual delimitation. The objective, indeed, is to offer powerful and deep theoretical support to the research objectives, in addition to corroborating persuasively the importance of the topic chosen for the doctoral thesis.

The third chapter, titled "Incorporating technologies into CPBL," highlights the importance of embracing the digital technology that our rich information and digital age offer, and making good use of it to promote students' learning skills. Additionally, this chapter analyses the role of those technological items and electronic applications to enhance students' outcomes in the teaching and learning of English as a foreign language as well as sheds light on the role of ICTs to facilitate the implementation of CPBL for teachers and develop students' motivation to become more innovative, autonomous, and life-long learners, depending more on themselves in the process of constructing projects and solving problems by utilising multimedia resources. It should be noted that this chapter cites the most relevant studies and sheds light on the use of the most recent

practices, applications, and technological features that are used in the teaching and learning of English.

The fourth chapter points out the methodology of the research and describes the technical framework, processes, and procedures that have led to the results. Additionally, it demonstrates and defines the research instruments, population, and methods that were used for data collection. Similarly, the variables and their operationalisation modes are justified, ensuring that they are coherent with the proposed objectives and illustrative of the indicators to be evaluated. Ultimately, the quality standards met by the instruments were specifically created for the fulfilment of the objectives of the present investigation.

The fifth chapter, which represents the 'results and discussion,' is considered one of the fundamental chapters of this doctoral thesis. It breaks down the data into sentences, tables, and figures to represent the main outcomes of the study as well as discuss and interpret the core findings derived from the methods applied. The data from the two questionnaires were analysed descriptively and interpretatively, with a total of 84 participants. In the end, practical steps for the English language projects along with samples of cooperative projects were provided. This chapter offers comparisons of other studies from the literature review, differences or coincidences are established, and the recognition of the limitation or contribution of the study was stated.

The sixth chapter, with "conclusions," reiterates the key points of the research and explains the relevance and significance of its components. Furthermore, it includes contributions and significant implications. Recommendations for improvement, which can be implemented in the methodology of learning spaces as well as future lines of research that can provide new knowledge and research, are provided. In this chapter, the major limitations of the study are presented.

The seventh chapter contains all the references that are considered of great relevance to the topic of this research. These references play a vital role in giving light to this scientific research since it has provided important clues that clarify aspects of the topic under study. The list of references that this chapter includes gives the reader

convenient documentation to support facts, ideas, or arguments on the page on which they appear. Furthermore, it gives the readers a chance to broaden their knowledge and read more to fulfil their desires.

The eighth chapter includes appendices, which provide supplementary information to support the dissertation's arguments, background, and material. The appendix contains research questionnaires, project assessment questionnaires, certificates, and the thesis published data in the form of an article.

1.7. Conclusions

Throughout this chapter 'Approach and justification of the investigation', we intend to give a brief outline of the current literature and highlight the gaps that need to be addressed and investigated to enrich the literature with new results concerning the teaching and learning of English as a Foreign Language (EFL) through cooperative projects. The current study's importance lies in the fact of answering new questions and adding innovative and authentic ideas to the field of didactical and methodological research in language teaching supported by the existing literature.

Before conducting this research, a deep review of the previous literature was carried out to discover the existence of scarcity concerning the variables investigated by this study and how they impacted the implementation of CPBL in the EFL classroom. The impact of the study's variables on the methodology was examined, which led to the identification of a variety of related issues; accordingly, the study's questions were addressed. Additionally, several recommendations are provided to overcome or at the very least reduce the challenges teachers face when implementing CPBL.

CHAPTER 2.

LITERATURE REVIEW

2.1. Introduction

PBL has its origins in the mid-1960s at McMaster University Medical School in Hamilton, Canada (Loyens et al., 2011). PBL refers to the process of learning that focuses on carrying out a task that integrates different resources, people, and materials through which students practise an array of skills and language systems (Ngadiso et al., 2021). According to Fried-Booth (2021), PBL is a methodology that is commonly used in multiple levels and contexts to advance students' language learning skills by addressing issues or topics rather than language elements to create an end-product. Such products can be public speaking events, written reports, a handbook or file, technology-based presentations, etc. (Bouqetyb, 2021).

Constructivism presumes that effective language learning occurs in student-centred settings that focus on motivation, cooperation, and PBL (Lopez & Herrera, 2015). Available literature provides many definitions to explain the meaning of Cooperative Learning (CL). CL emerged in the 1970s from American Society, and it was developed into a practical teaching theory in the 1980s. Available literature provides numerous definitions of CL. Johnson et al. (2000) described CL as an instructional approach involving students working in teams to accomplish common goals, assignments, and projects set up with specific criteria that should be met. Neo et al. (2012) explain that CL provides a favourable environment for students' interaction, participation, and learning. Bas (2011, p. 2) also views CL as "an instructional method centred on the learner."

Ning and Hornby (2014) note that CL may solve the problem of eroding the motivation of EFL students and allow students to refine and hone their language skills and abilities through the completion of projects both inside and outside the classroom. CL requires that teachers foster a culture of engagement and creativity in their classrooms, one in which students share their work and reflect on the processes they use to complete their project assignments (Murphy & Cooper, 2016). CL moves away from a teacher-centred approach and impassive students' roles to giving them the chance to put their ideas into action and inquiry and practise their language skills in an authentic setting (Leat, 2017).

2.2. PBL and innovative learning environments

A review of the literature suggests that there is no consensus about the definition of PBL. Despite this fact, researchers agree that "PBL is an instructional method centred on the learner" (Bas, 2011, p. 2). PBL is a comprehensive approach to classroom teaching and learning that is designed to engage students in the investigation of complex, authentic problems and carefully designed products and tasks (Thomas, Michelson, & Mergendoller, 2002). Moreover, projects encompass a spectrum ranging from brief projects of one to two weeks based on a single subject in one classroom to yearlong, interdisciplinary projects that involve community participation and adults outside the school (Thomas, Michelson & Mergendoller, 2002). Most importantly, students find projects fun, motivating, and challenging because they play an active role in choosing and applying the project and in the entire planning process. Additionally, PBL provides an environment for the application of knowledge and skills (Thomas, Michelson & Mergendoller 2002). The use of project-based learning in class is possible after providing the information needed for the project. The classroom activities should be student-centred, cooperative, and interactive. Group members are responsible for their learning, and the teacher plays the roles of collaborator and facilitator (Moursund, 1999).

Bell (2010) points out that in a PBL classroom, students are provided with a topic, which they should develop through research or project work for their individual or group learning, and teachers should monitor the project performed by students. Students, in this learning framework, are trained to be critical and responsible for their learning (Bell, 2010; Postholm, 2005, 2006) and this, for example, can be done through problem-solving activities (Barge, 2010; Bas, 2011; Kloppenburg & Baucus, 2004; Moss & Van Duzer, 1998).

Simpson (2010) explains that starting the project involves selecting a topic that is of interest and relevance to students. The teacher can create guiding questions. The project should be challenging and motivating so that students can develop and have the flexibility to work at their level. Then, project development involves research, which is undertaken by all group members. In Hutchinson's (2001) view, in PBL, evaluation should not be

targeted at students' language competence (i.e., grammar and linguistics). However, in assessing the project, teachers should put more emphasis on the project-making efforts and processes. In short, assessment integration (i.e., multiple assessments) is becoming an issue in a PBL environment (Simpson, 2010).

As suggested by the literature, PBL can be understood as a teaching approach that focuses on learners and focuses more on the processor efforts. If this type of innovation aims to assist learners to be more responsible for their learning, and if they can develop this sense of responsibility, they can then optimise their learning gains. Thus, effective learning is linked to opportunities to discover, learn, solve difficult problems, and think and react critically (Asghar et al., 2012). As such, there have been concentrated reform initiatives across many content areas that have integrated authentic and student-driven instructional approaches. Like the Chinese proverb best explains the purpose of the PBL: "Tell me and I forget, show me and I remember, involve me and I understand."

PBL enhances students' creativity and creative thinking, which can be defined as an integral set of cognitive activities used by individuals regarding a precise object or effort toward a specific event and the problem grounded in the capacity of the individuals (Brigili 2015). By using their previous knowledge, intelligence, imagination, insight, and ideas students are required to suggest a new and authentic design to solve the problem they face with the help of discovering and finding new applications (Glass, 2004; Young & Balli, 2014).

With great fortitude and determination, everyone inside the group recognises their knowledge gaps and attempts to close the gap by gaining new perspectives by looking at the problem from multiple standpoints, making unusual connections, and taking risks based on their understandings to produce alternative solutions to the problem or situation (Brigili, 2015).

In general, critical thinking and problem-solving are linked to creative thinking. It seems to be important to mention that there are three dimensions of creative thinking, which are synthesis, articulation, and imagination, each of which has the attributes listed below (Arslan, 2007; Sternberg, 2009).

- **Synthesising:** This dimension encompasses a variety of actions, such as implementing analogous thinking to solve a problem, deducing original results from minor parts, and presenting innovative and authentic solutions to a problem.

- **Articulation:** Entails combining old and new knowledge, or broadening present knowledge with the help of new knowledge, as well as generating unique relationships to provide genuine solutions.

- **Imagination:** This dimension entails forming connections between legitimate and consistent ideas, offering flexible methods of thinking with the use of imagination, and coming up with new ideas during the production progression.

Based on the dimensions of creative thinking, its overall features can be stated as the following (Gilhooly, Ball & Macchi, 2015; Kember & Leung, 2009; Liu, He & Li, 2015);

- Authenticity
- Flexibility
- Multiple thinking
- Wondering
- Rationalism
- Being suspicious
- To be open to Criticism
- Thinking fast and independent
- To realise and define the problem
- To realise or come up with different solutions

In recent years, creativity has been regarded as a universal skill that can be used in the teaching of the English language as well as in a variety of contexts. Sternberg defines creativity as an innovative action designed to produce both unique and valuable results (Craft et al., 2006; Strenberg, 2003; Robson, 2013). Wright (2010) also points out that creativity integrates both problem-solving skills and meaningful solutions (cited in Robson, 2013). Furthermore, CPBL is important to develop both creative and critical thinking abilities, which are crucial for students, especially those who confront difficult situations. According to Baum (2012), in today's technology-driven world, attitude disposition, self-regulation, and reflective judgement are required.

Table 1 below depicts the dimensions of the instructional design process. It starts with a diagnostic evaluation to determine what each learner needs to develop to select the most appropriate instructional strategy based on developing measurable objectives and taking into account learner outcomes and context analysis. To achieve this goal, an instructional strategy such as CPBL should be chosen to promote the learner's creative and critical thinking skills. Besides, many researchers and studies show the effectiveness of CL and PBL in developing such skills. For instance, Batdi (2014) found in his study that PBL was more effective when compared to traditional teaching techniques.

Table 1. *Dimensions of critical and creative thinking within the instructional design*

Create instructional design	Dimension	Reason
Learner analysis	Creative Thinking Skills (Different approaches to problem-solving).	To establish the requirements for which instruction is the solution.
	Critical Thinking Capabilities (Keeping a wary eye on events and conditions)	
Context analysis	In a school atmosphere, a well-organised teaching and learning environment is essential.	To decide on a teaching approach and technique
The organisation of instructional goals	As considered with learner and context analysis	Considering the learner and the situation, set measurable objectives for target instruction.
	PBL, CL, problem-solving, brainstorming, role-playing, and case	Analytical thinking and thought development.

Instructional Development Strategy	study are all examples of creative thinking skills.	
	PBL, CL, project management, and questioning, are all critical thinking skills.	Analytical thinking and thought development.
The process of implementation	Delivery of instruction in a classroom setting.	
Techniques of Assessment	Authentic or formative assessment of performance.	Multiple thinking and solutions. Looking at an issue from various angles. Improve higher-order thinking skills.

Source: Adapted from Brigili (2015)

2.3. Motivating students to be part of global development

One of the biggest challenges facing education in today's world is how to train students to be able to integrate themselves positively into the development of society (Ressekh, 2001). Accordingly, research assumes that there are many reasons behind this, but one of them is the narrow focus of the curriculum. Otherwise, there should be a focus on preparing a generation of citizens and leaders through training students for future careers and developing their needed skills to be successful in a real world that needs a great amount of creativity, problem-solving, cooperation, communication, and leadership skills (Baker, 2013). To fulfil this, students have the right to a curriculum that is interesting and of great importance and relevance to them and their lives. Schools can have both equity and excellence if they do not have achievement standards based on race, ethnicity, language, culture, or gender, and by excellence, all the students reach the same high standards. Widespread research (Scheurich & Skrla, 2001; Scheurich & Skrla, 2003) claims that it is possible to create high-performing schools for any group of students.

The excellence of education is the work and the duty of the people running the schools (school administrators, teachers, etc.) and also other participants in the community (parents, grandparents, associations and other community members). In contrast, students should not be blamed, though they certainly must be skilfully taught by adults to take personal responsibility for their learning and school behaviour (Baker,

2013). Nevertheless, they prepare, coordinate, educate and direct the classroom and create schools that accommodate all the students effectively. Nelson (2016) argued that developing practical, workable, applicable, and powerful classrooms are tools to accomplish excellence and well-prepared students to face the challenges that face them in their life. Accordingly, science education investigators are particularly interested in those tools that can enhance learning for those student groups. In other words, they are interested in developing and implementing classroom tools that significantly improve learning in the lower scoring student groups, while also being of positive benefit for higher scoring students (Marx & Soloway, 2002).

The major challenge facing today's education is how to build a curriculum that helps develop "the imagination, critical thinking, and lifelong learning of students." According to Leask (2018), educational institutions have a responsibility for preparing students to "live and work in a complex, globalised world" (p. 2). To achieve these goals, an internationalised curriculum and teaching and learning methods are crucial. International Projects mobility programmes are noted as one approach to prepare ideal global graduates (Lilley, Barker, & Harris, 2015) and have been associated with the development of intercultural learning and competence (Bennett, 2009; Deardorff, 2006; Trede, Bowles & Bridges, 2013) and global citizenship (Lilley, Barker, & Harris, 2015). Communication and ethical decision-making are also cited across the global learning literature (Jones, 2013). In their critique of the notion of global citizenship, Jooste and Helete (2017) propose an educational aim that empowers students to "understand the world and their place in it and become competent, ethical, and responsible individuals with global perspectives in their respective fields" (p. 43).

The use of PBL in the occupational curriculum represents the intentional use of a learning process, which places students as active learners (Billett, 2009). High-impact learning has been described concerning (some or all) ten key learning activities or features (Kuh, 2009). The PBL programme embraces four of these features, namely, that learning occurs through cooperative assignments and projects; learning occurs through a focus on diversity and/or global learning; learning is internship-based, and learning occurs within a capstone project. Students' learning occurs in the setting of an authentic

partnership in a community context in which students are having worthy expertise to bring to the partnership (Bovill, Cook-Sather & Felten, 2011). Some of the capabilities associated with PBL include the ability to harness creativity; exercise leadership; develop political skills, communication, and teamwork; make ethical decisions; and manage time, budgets, and stakeholders (Bell, 2005).

Being and becoming a global citizen has been associated with the acquisition of capabilities (Lilley, Barker, & Harris, 2017) achieved through a process of transformative learning (Hanson, 2010; Lilley et al., 2015). According to Cranton (2006), transformative learning is evident in changed beliefs, values, and perspectives, most often arising from critical reflection on experience. Implicit in these views is that the learning experience is significant enough to prompt a critique of one's current worldview. Clifford and Montgomery (2011) highlight that counter-hegemonic approaches that challenge "current course content and pedagogy" to provide "transformative education experiences" are needed to best position students for active global citizenship (p. 13).

Durham (1998) points out that when he was hired to join the faculty at the Michigan School, where he had once been a student, Durham took a stroll down the halls, indulging in a little nostalgia as he wandered past his old classrooms. He then asked himself a critical question: "What had I done in those rooms?" He could remember getting good grades on tests and assignments, but he could not come up with a single memory of a project that had made him excited about learning. On the spot, he promised himself—and his future students—that he would pursue "teaching differently."

Indeed, one of the best methods that give life to the classroom is PBL, especially when it is "powered by contemporary technologies." Then it can turn traditional classrooms upside down when students learn by engaging in real-world projects, nearly every aspect of their experience changes (Podgórska & Wdonek, 2022). The teachers usually design the project as the framework for learning, and their role shifts, as they are no longer the content experts, doling out information in bite-sized pieces (Noble et al., 2020). Instead of following the teacher's lead, learners pursue their questions to create new knowledge and develop their linguistic skills. Students have more agencies and may

wind up using technology to access and analyse information from all corners of the globe (Hansen et al., 2010).

Liu et al., (2007) asserts that connections among learners and experts can happen in real-time, which means new kinds of learning communities can come together to discuss, debate, and exchange ideas. Preparing students for college and careers is a global goal that is driving these changes in education. Part of this urgent demand comes from the world of work (Daggett, 2010). Today's companies are looking for candidates who know how to work as a team, adapt to change, access, and analyse information and think creatively to solve problems (Robles, 2012). The same skill set will prepare the next generation of citizens to tackle complex social and environmental problems, both locally and globally. However, the educational shift required to realise this vision of competent, creative young people is far from complete (Hodson, 2003).

We may already be familiar with traditional PBL, influenced by important early thinkers such as John Dewey and Maria Montessori, who confirmed that learning by doing has become a solid record of accomplishment as an approach that increases student motivation while improving students' problem-solving and higher-order thinking skills (Stites, 1998; Thomas, 2000). In broad strokes, PBL is about students investigating open-ended questions and applying their knowledge to produce authentic products. PBL allows for student choice, setting the stage for active learning and teamwork. Researchers are finding a host of benefits from updating PBL, including a deeper understanding of academic content and enhanced problem-solving skills (Finkelstein et al., 2010; Mergendoller, Maxwell, & Bellisimo, 2006). Students who learn primarily through digital-age PBL in high schools are not only enrolling in college at a rate that exceeds the national average but also staying in college longer (Virtue & Hinnant, 2013).

Projects encourage students to engage in activities in the real world and apply the techniques used in genuine disciplines. They work cooperatively in national and international contexts to address issues that are of interest to them (Axelrod & Keohane, 2018). Technology is used as a tool for discovery, collaboration, and networking, taking learners places they could not otherwise go and helping teachers achieve important

teaching goals in new ways. Teachers are continually working together to design and implement programmes that transcend geographic boundaries or even leap time zones. They exchange ideas by networking and developing their PBL education (Schleicher, 2011). The energy generated by a good project will have a virtuous circle effect that extends far beyond the English classroom of origin.

Projects that "go high" could also attract the attention of the media and make the public understand the importance of the project approach (Standlee, 2019). When these elements come together in a successful project, the result can be profound for both teachers and learners. Durham (1998) teamed up with his school's technology expert to develop collaboration where students use multimedia collections. Developing his latest teaching methods took Durham some time, as students had to learn new skills, such as reading texts written in an ancient language. To successfully plan cooperative projects with some publicity experts, he had to refine his teamwork skills. However, the return on his savings has been enormous, as he has had to find some satisfaction in realising that his students are free to find their sense.

When seeking those rewards, individual teachers are not alone. As mentioned earlier, technology-rich, student-driven projects take root as engines of school change across entire school networks (Graham et al., 2019). These curriculum models are included in the Deeper Education Network (DEN), which together accounts for 500 schools across the United States; even in scale, these actions can be global. Kumar et al., (2019) stated that PBL encourages teachers to “Teach Less, Learn More.” These strategies include “less telling and teacher talk” and “more active and engaged learning.” In addition, teachers around the globe are forming PBL communities of practice through initiatives such as Discovery Educator Network (DEN) and Microsoft Partners in Learning (MPL), which host an online community and an annual showcase of award-winning projects. When teachers incorporate well-designed projects that use digital tools, they do much more than create unforgettable learning experiences. They prepare students to thrive in a world that is certain to continue changing (Song, 2009).

Boss and Krauss (2007) interrogate, to get ready, what will help teachers make the transition to using the redefined PBL approach with their students? How can they assess their readiness for making this shift? As a first step, teachers need to get comfortable in the learner role as they start mapping their journey toward PBL. They may find themselves rethinking many aspects of how they teach, including how they have used projects in the past; they will not know all the answers in the beginning. Teachers may encounter questions that take them in unexpected directions and open more opportunities for their learning (Soulé & Warrick, 2015). It is important to be able to adapt to change for the future success of their students. It is just as important to their development in the field.

In the chapters ahead, there will be clear examples of every aspect of planning, implementing, and reviewing projects that meet digital-age learners' complex needs. When infusing reinventing PBL, one should find common core state standards. To design projects that develop essential digital age skills such as innovation, fluency in knowledge, critical thinking, and digital citizenship, teachers have to prepare and reconsider the assumptions about what the students learn and do, and the way they interact with each other, then be prepared to step off the stage and communicate differently with their students (Lenz, Wellz & Knigston, 2015).

Teachers also need to be confident with "messier learning," communicate more autonomously and be prepared to help the students handle their activities better. The physical layout of the classroom should be redesigned to facilitate coordination and make use of new technology during the assessment process, teachers have to be ready to re-evaluate what they need to pay attention to and change their teaching plan based on what they find throughout the learning process (Giabbanelli & Tawfik, 2019). Furthermore, teachers are considered to link their students outside the classroom with experts and other useful resources and encourage parents and other members of the community to find ways to support project work. They may, for example, provide input to the group, share their experience, or help with field research planning.

Boss and Krauss (2007) argue that English teachers manage to succeed with a project that helps their students develop complex language and unfamiliar cultural references. By making use of social media, Boss and Krauss added, students can get the extra academic help they need. To approach Shakespeare differently, they designed a project titled “Literature at our Fingertips”. Students formed a Facebook group, and then they invited pre-service teachers from a nearby university to join their in-depth discussions of Julius Caesar. This was a novel use of the social network for students, but they quickly warmed up to use Facebook for academic conversations. As students became more familiar with Shakespeare’s timeless characters, they started looking for similar archetypes in their political landscape. Boss and Krauss said that their students wanted to find out, “Who is the Julius Caesar of Lesotho? Who is our Brutus?” They understand now that these themes and characters are widespread. Students wove those universal themes into their production of scenes adapted from Julius Caesar but set locally, which they filmed and shared on YouTube.

The project helped not only students understand Shakespeare, but their creative efforts have helped students from many other schools gain better access to the play. For an encore, their young dramatists planned to produce their version of Macbeth, Lesotho style. The project won national honours in the Microsoft Partners in learning competition, earning the teacher a trip to Prague to share her work and gain new ideas for future projects by connecting with PBL advocates from around the world. As you design and introduce successful projects and see your students engage more deeply in meaningful learning, you will discover your good reasons for continuing this journey, you may find that projects help your students get at ideas and make connections they would not otherwise see.

Projects inspired by the Flat Classroom example are grounded in inquiry and reflect key elements of effective PBL (Land & Zembal-Saul, 2003). Students use technology tools for authentic purposes, operating as content creators and not just consumers. They are accountable to team members and work against deadlines. At the same time, projects are open-ended enough to allow for student choice and personalisation. Cooperation is essential to project success, giving students experience

with the interdependence that is a hallmark of today's flattened world. Student work is presented to an audience of expert judges and assessed against common criteria. At the end of the experience, students reflect on what they have learned together.

Teachers continue to innovate and keep learning experiences exciting for students because each project we do includes some sort of creativity. Davis (2012) says that "There are some untested sections where we are wondering what would happen if... the new wrinkle maybe just 15% of the overall design of the project," she says, "but that is enough to keep us innovating. And that lets the students see that we are still learning, too." One such project was underway in 2012 when Superstorm Sandy hit the East Coast, knocking out power to some households for weeks. Students from the affected region used their mobile phones to update their project partners. "In the middle of the storm, these kids were worried about their partners depending on them. When a kid cares enough to get on a Smartphone and leave a message for a partner halfway around the world, then you have fundamentally transformed that student," Davis states (p.27) "They understand that people depend on them, they get what it means to collaborate."

2.4. New perspectives in English teaching through Cooperative Project-Based Learning

English is considered one of the worldwide spoken languages that can build bridges and help people from diverse cultures communicate. It has been spreading to many parts of the world and serves various purposes (Presbitero, 2020). For instance, in all academic domains, English is the language that dominates scientific publications in peer-reviewed journals (O'Neil, 2018). This fact has created positive interactions between global and local economic forces and has had serious linguistic, ideological, socio-cultural, political, and pedagogical implications. Because of that, English helps in communication within and between communities of speakers around the world. The discussion addressing its function as a worldwide language needs to continue to broaden (Nuñez et al., 2019). Accordingly, the teaching of English should be of great importance, and the renewal of the methodologies is very fundamental. The new perspectives open to

English language teachers are wide and include types of traditional and modern methods that can be classified as the urgent necessities of our new modern world. Adaptation is required not only in the way of learning but also in the way of teaching. Students need to master the language to meet the needs and demands of the globalisation of knowledge, business, commerce, and industry (Careless, 2020).

Current teaching practise continually stresses the importance of recognising and preparing for learners' individual needs. English-language classrooms are varied places, not only in terms of where they are located but also in terms of taking into consideration the students' necessities (Ahmed & Yamat, 2020). The materials developed by teachers can be sensitive to the inherent heterogeneity of the classroom, which in this manner borders the learners' language capacity, their learning needs, and their experiences. A teacher can develop materials that integrate elements of the language ability of the learners, and provide opportunities for the recognition and correct use of English. In addition, teacher-prepared materials provide the opportunity to select texts and activities exactly at the right level for specific learners, ensuring adequate challenges and success levels. Teachers can also make decisions about the most appropriate organising principle or the focus of the materials and activities when designing their materials, and this can be changed if necessary throughout the programme.

When teachers use the CPBL approach, they become facilitators and mentors, provide adequate guidance, and input to students, and give them more space to choose how to handle the challenge that motivates them to become more autonomous. In addition, students work together in groups, assign tasks, help, and support each other, seek information, share experiences, create activities, and focus on the knowledge and social skills that are important for lifelong learning. Bell (2010) summarises the remarkable advantages of PBL as it motivates students to be fully engaged in the process of learning and gives them a feeling of satisfaction. Students also observe that PBL encourages students to collaborate in solving problems and it promotes self-learning as students become more responsible for their learning.

As PBL involves a range of activities, it meets various learning needs and interests of learners. PBL is a teaching method through which students can discover the challenges and problems in the world around them. The responsibility of learning is transferred from the teacher to the students (Grant, 2011). According to Gubacs (2004), learners have the chance to self-assess their final products; they can also evaluate their classmates' projects and give constructive feedback to each other. This would assist them in becoming aware of their strengths, which could be improved as well as their weaknesses which could be eradicated.

What separates PBL from standard projects usually undertaken by students at the end of their term or academic year is that the projects do not end up with predefined results or take restricted paths determined in advance by the teacher. Projects based on PBL create more freedom for students, so they can select the suitable topic, resources to be consulted, responsibilities among group members, and the way they design and display their final products (Marwan, 2015). A study conducted by Thomas (2000) indicated that students who learn through PBL can develop better social interactions and are more punctual in terms of attendance.

2.5. Benefits of PBL on the teaching of English as a second or foreign language

Learning English as a second or foreign language is never easy, particularly if the learning is outside of an English-speaking country. It is the case that English language learners in Spain face many challenges because English is not their native language. Besides, when learners attempt to learn English as a second language, they encounter several difficulties while communicating. Indeed, English major skills are very important to improve English language learning properly. However, it typically depends on the efficacy of the teaching practice intentionally used to fulfil this aim. One of the most difficult skills in learning English is speaking (Gilakijani & Ahmadi, 2011). Many students experience a feeling of unease and anxiety when speaking in a second or foreign language (Suleimenova, 2013). Many Spanish students are nervous about speaking English in front of teachers and peers for fear of being mocked if they make grammar or

pronunciation mistakes. Another factor affecting spoken English is the use of the mother tongue in and outside the classroom (Oyinloye, 2002). In addition, most English textbooks focus more on written English than spoken English, which makes students memorise vocabulary rather than develop speech skills (Taiwo, 2013).

To improve oral communication skills, students need to participate effectively in the oral activities of the classroom (Derakhshan, Tahery, & Mirarab, 2015). Accordingly, adopting CPBL can help students develop their essential oral skills efficiently. For example, it would allow students to overcome their speech anxiety and nervousness by interacting continually with peers or groups about a motivational matter (Sirisrimangkorn, 2018). In turn, it will help teachers control their large classes and offer constructive feedback as students are divided into smaller groups. PBL learning is defined as an instructional technique that uses a small group of students or pairs in classroom activities (Storch, 2005). It offers students the ability to develop skills that are required in today's world through community experience when interacting with others.

From a pedagogical point of view, interactive learning has been essential in a communicative approach to second-language teaching and its focus on creating resources for learners to use the second language. Therefore, based on these viewpoints, learners should be motivated to engage in programmes that promote intellectual exchange and co-construction (Kessler, 2013).

Various researchers have identified various benefits of group learning, including the improvement of cognitive skills, coping abilities, critical thinking capabilities, and academic success (Laal & Ghodsi, 2012). PBL often facilitates interpersonal relationship development, reduces anxiety, develops oral communication skills, and promotes reciprocal contact, collaboration, and sharing of information among learners (Yong, 2010). Finally, it trains learners for challenges inside and outside the classroom, where cooperative tasks and problem-solving are essential aspects of many future careers. Sharing and exchanging information with peers can be of great benefit because they are familiar with each other. As students interact in pairs or small groups, one person

verbalises her/his responses while the other listens, posing questions or remarks depending on what she/he has learned (Kessler, 2013).

Clarification of one's reaction is a very important aspect of the communication process, which represents higher-order skills. This section highlights the great benefits of PBL to develop English-language skills and improve cognitive and analytical skills for students. Through this section, we have emphasised the need to implement interactive learning strategies in English language classrooms to develop the students' learning. Aliyu (2017) states the following guidelines for teachers:

1. Students should be assigned to work in pairs or smaller groups to help each other inside and outside their classrooms.
2. Teachers should engage students and provide them with enough opportunities to participate actively in the classroom.
3. Teachers should assess students and make them contribute through open-ended questions during group discussions.

PBL is a constructivist-based instructional framework intended to promote more active learning. This approach uses “projects” as a tool to inspire student engagement and to provide a way of illustrating and describing what they have learned (Ravitz, 2010). Therefore, the goal of PBL is not only for the students to grasp a definition, but also to clarify its relevance and application to their learning. In other words, why is this topic important to me, my classmates, and to our lives outside of this classroom?

PBL is one presumed way of promoting deep learning and has been investigated in the last decade (Anthony et al., 2014). Deep learning refers to "the capacity to extend this knowledge to new challenges and scenarios and a variety of human experiences and self-management skills" (Huberman et al., 2014, p. 1). Network schools are focused on the idea that there is an interest in deep learning activities, which frequently contribute to greater academic results than instructional approaches that do not promote deep learning (Huberman et al., 2014).

Ravitz (2010) suggests that, for initiatives to succeed, they will require a professional plan that will inspire students to work hard to accomplish the goals. Boyd and Hipkins (2012) clarify that learning is important because the topics discussed apply to students and the "real world". One way teachers make PBL important is by making students interact cooperatively within their groups. Such relationships have a "strong impact on the experience of learning by students" (Mosier, Bradley-Levine & Perkins, 2016, p. 13). Mosier and colleagues are building on this notion and discovering meaningful connections between using PBL and participation, learning in the 21st century, group culture, and school culture. Conley (2007) claims that "academic openness, inquisitiveness, analysis, logic, argumentation, and evidence, interpretation, consistency, precision, and problem-solving are essential cognitive techniques relevant to college performance" (p. 13–14). As Conley describes them, these approaches form the foundation for school achievement since they act as models for critical thinking and train students for higher-level learning standards. Such skills could be measured at the high school level so that students and their teachers can ensure proper readiness for college (and a career).

As schools face low-test scores or lack of participation, educational approaches have risen in popularity to tackle the need for schools in distress. Active pedagogies have become of great importance due to the services they provide to the learner and their contribution to raising the quality of education in general and teaching English in particular. Among these pedagogies, we find the project pedagogy based on cooperative learning, which contributes to increasing the learners' desire to learn, and thus their scores are high. Some policy frameworks use PBL as a key tool to alter results. Ravitz (2010) states that reform model schools are "setting the bar" (p. 308) for PBL use and student culture transformation.

Fleishman and Heppen (2009) explain that reform outcomes are considered "mediators of improvement" (p. 110). they outline five outcomes that reform models address: (1) a "personalised and orderly learning environment"; (2) "poor academic skills"; (3) "improved instructional content and practice;" (4) "preparation beyond the

high school classroom, including higher education or career readiness," and (5) "positive change in overstressed high schools" (p. 110).

The New Tech Network (NTN) is a "leading design alliance for systematic school reform" (Virtue & Hinnant, 2019), which prioritises PBL for school teachers and educators in the classroom and career growth. Although the NTN enjoys good learning results from students who are enrolled in their institutions (Data Report, 2017), little is understood about the expectations students have about their work. Teachers in NTN schools observed, "high levels of motivation, engagement, and performance" (English, 2013). In NTN schools, students are "more likely to have developed views about their school experience" (Mosier, Bradley-Levine, and Perkins, 2016, p. 4). Learners and teachers alike can be greatly benefited as they develop their independence for lifelong learning and teachers can evaluate their proficiency and thus work to develop it.

As Ravitz (2010) points out, the behaviour of each instructor towards PBL can vary. Nonetheless, knowing how NTN goes about educating and helping teachers is important for the study background, rather than educating teachers to execute programmes, NTN focuses on educator-led career growth (Virtue & Hinnant, 2019). This type of teaching, which may take place in face-to-face seminars or summits, interactive sessions, or on-site (at school), not only helps teachers to learn the skills needed to incorporate PBL but also gives them the flexibility to create assignments depending on their students and classroom needs. In this case, the classroom instructor decides the duration, variety, and size of tasks to incorporate subject matter material to further include students in the quality of the language course.

According to Corney and Reid (2007), interdisciplinary research is focused on constructivist approaches to learning that allow students to co-construct knowledge. Jickling (2003) argues that students are exposed to a plurality of thoughts which help them gain many new experiences. Boix, Miller, and Gardener (2000) identify one of the expected outcomes as cognitive development due to the students' "integrating skills and modes of thinking from two or more disciplines to create and produce, solve problems, and offer explanations of the world around them" (p. 18). McPhail (2018) says connecting

subjects was a way to "hook in" students who would otherwise be less interested in one or more of the subjects. Beldaro et al., (2017) found that combining subjects "brings personal meaning and relevance to an individual's learning experience" (p. 217).

Chances for deeper learning remain sparser than PBL supporters would prefer. The literature tells us that students from disadvantaged backgrounds are more commonly subject to didactic, teacher-centric pedagogies in response to accountability demands (Diamond, 2012). Although these strategies offer short-term results, we do know that they leave students behind in the workplace of the 21st century in possessing the skills required to perform at optimal levels. As Song et al. (2022) states, students in more affluent schools are given the kind of problem-solving education that befits the future managerial class, whereas students in lower track and higher-poverty schools are given the kind of rule-following tasks that mirror much of the factory and other class work. To the degree that race mirrors class, these inequalities in access to deeper learning are short-changing (p. 2).

This resembles Dewey's (1916) assertion that in the early 20th century, to have many values in common, all the members of the group must have an equable opportunity to receive and take from others. People must share undertakings to enrich their experiences; otherwise, the influences that educate some of them to be masters, educate others to be slaves.

PBL derives from constructivism as it provides teachers with research methods to empower the students to become active participants in their learning process. PBL helps the learners combine the theory they have studied with practice (Lee, Blackwell, Drake, & Moran, 2014; Savery, 2006). While PBL can offer multiple educational advantages, such as the improvement of critical thinking and problem-solving skills, students will be encouraged to build practical and concrete real-life tasks (Bell, 2010).

Some scholars, Chen et al. (2013) and Verma et al. (2011) indicate that PBL may enhance the learners' learning and motivation. In this regard, Capraro and Morgan (2013) and Markham (2003) point out that teachers have an important role in giving guidance to

the teams of students during the project, facilitating their learning, promoting reflection sessions, and keeping the pupils focused on the creation of the product or service. Blended learning may allow the use of different learning tools, such as pre-recorded video lectures, collaboration software, electronic forums, mixed reality, video games, and simulations.

Donnelly (2006) and Giani and Martone (1998) suggest that the use of PBL in blended learning environments may improve learning since the online environment may make it easier for students to socialize, share ideas and knowledge, reflect together on the issues raised during face-to-face meetings, and contact tutors or professors, receiving guidance and assistance. On the one hand, making the students participate in real-life tasks inspires them to be involved, seeking answers to their problems. By doing so, they learn and improve their competence in project management. Furthermore, the students feel good about the achievements of their English language projects, which in turn increases their motivation and commitment to the course. The more motivated the students become, the more they use the materials from the online course, which in turn enhances the development of their project management skills.

In addition to the educational benefits that the projects offer to the pupils, they also provide benefits for the development stakeholders and broader development. For many years PBL has been considered one of the most effective methodologies used to better engage students in their English language learning material, and for this purpose, many instructional experts now suggest PBL as the best practice (Barell, 2010; Cole & Wasburn-Moses, 2010). PBL is an engaging, creative educational model in which students select multiple aspects of their task and are inspired by real-world issues that will, and often do, contribute to their society. However, there is still a lack of data about the challenges of using CPBL.

2.6. PBL and student's autonomy to learn English

Barillaro (2011) defined the term "learner autonomy" as the ability to take charge of one's learning. In other words, it refers to the learning activities which give the learners more opportunities to determine objectives, define the contents and progression, select methods and techniques to be used, monitor the procedures of acquisition and to evaluate what has been acquired Balcikanli (2010). Learner autonomy is a very important aspect since it gives students more chances to be independent in learning. The meaning of learner autonomy can be expanded by assessing how effective the learners are in meeting autonomous requirements and that cannot be avoided if we want to create a successful CPBL to enhance students' requirements in English.

According to Kuramavadievelu (2003) "autonomous individuals are those who are willing and able to think independently and act responsibly" (p.131). Borg and Al-Busaidi (2012) asserted that the rationale for a lot of recent studies on learner autonomy and the rationale for promoting it is due to its implications in language education. According to Benson (2011), although learner autonomy, a multidimensional construct, has been defined and interpreted diversely depending on the settings in which it is studied, a consensus has been shown among scholars that "language learners naturally tend to take control of their learning. Learners who lack control are capable of developing it, and autonomous language learning is more effective than non-autonomous language learning" (p.16). Consequently, regarding the factors supporting the development of autonomous learning such as freedom, choice and negotiation it is quite challenging for promoting learner autonomy in English language teaching and learning (Dang, 2010).

As many scholars have proposed in the field of language education that learners should develop the ability to learn autonomously, the teacher's responsibility cannot be absent (Benson, 2011; Crabbe, 1993; Han, 2014; Little, 2007; Yan, 2012). Little (2007) confirms that teachers need to involve their learners in their learning process: "learner autonomy is the product of an interactive process in which the teacher gradually enlarges the scope of her learners' autonomy by gradually allowing them more control of the process and content of their learning" (p. 27).

On the other hand, Borg and Al- Busaidi (2012) claim that most of the studies on learner autonomy tend to focus on the learners' role, giving the teachers' role little attention. Additionally, Benson (2011) suggests that future research should focus on the roles of the teachers in developing autonomous learning, which covers self-instruction, self-direction, self-access learning and individualised instruction Kuramavadivelu (2003). Indeed, the more these criteria are fulfilled, the higher learner autonomy is developed.

By developing learner autonomy, many advantages can be yielded in the learning process. As proposed by Dickinson Kumaravadivelu (2003), through a lengthy process, the learners master self-instruction, referring to a situation in which the learner operates without the teacher's direct control. Self-direction, meaning circumstances in which the learner takes responsibility for all the learning decisions, self-access learning, where learners make use of self-access teaching material or teaching devices and individualised instruction, relating to circumstances where the learning process is modified, either by the instructor or the learner, to suit the specific characteristics of an individual learner. Mainly, by implementing learner autonomy, the learners have more chances to be autonomous in learning, even in life.

As described before, the learning process shifts from teacher-centred to student-centred learning by introducing learner autonomy. Currently, teacher-centred coaching is not useless; there is still a benefit from it. However, as far as implemented in many classroom activities, teacher-centred minimises the opportunities for the learners to be autonomous (Lengkanawati, 2016; Rukim, 2010).

Kesli (2015) states that the only meaningful interaction in the target language is based on the drills provided by the teacher, because students do not actively take part in classroom activities, especially in reading comprehension. There is little contact between the teachers and the students. Usually, the teacher spends a lot of time talking and explaining to the class while students are required to sit passively and listen carefully to the teacher.

Similarly, Wang (2010) states that the teachers who implement teacher-centred activities believe that their main duty and activities are to transfer their knowledge to the students. Thus, the only interaction allowed to occur in the classrooms is examinations or quizzes in which students have to answer the specific questions given by the teacher.

Reviewing the conditions of English instruction in many countries, the teacher-centred activity offers the learners little opportunity to manage their learning. It produces more dependence of the students on the teacher and the learners do not master strategies to solve problems during the project learning process. Ramirez (2014) finds that the learners can interact and learn from their own mistakes whenever they are given meaningful choices and control of their learning. As result, the learners are confident enough to control their learning and they chose beneficial ways to improve their learning in the classroom. Kim's finding (2014) is that the use of technology helps the students build learner autonomy successfully.

PBL's reporting process is the last step in the project-based operation where the learners express their stage of development in both written and spoken language. Instead, during the project, they track and assess the previous task, and decide how the next project will look like. There are three steps in the project-based learning management process: explaining the assignment in front of the classroom, addressing group work, and determining the next step. Ramirez (2014), the learner develops active learning and they are encouraged to have comprehensive development of language skills. They are self-motivated to improve their English by implementing particular learning strategies.

Ramirez (2014) explains that these findings suggest that PBL enhances the students' interest in access to the learning material from different available resources. In other words, PBL gives learners the freedom to explore their preferences. The participants' individualised instruction is reflected in the way they are prepared for communicating the project as well as their attempt to master the communication skills perfectly. Given more opportunities to be autonomous, the learners chose the method which they think is more convenient and easier to implement to gain the goal effectively.

Indeed, it is suggested that cooperative work in PBL fosters a high degree of autonomy because it offers the learners the freedom to explore their preferences and to decide what activities are best for accomplishing their common goals (Ramirez, 2014).

(Lengkanawati, 2016) states that the students must be trained to learn autonomously; otherwise, they will not be able to reach higher-order thinking skills which are important to handle complex problems in their daily life. Regardless of this fact, teachers need to improve their professional skills to be able to implement effective teaching methods that provide independent learning opportunities as much as possible for the learners. Hence, they can strengthen their learner autonomy.

In the last decades, the term learner autonomy in language learning has been a topic of interest for many researchers (Balcikanli, 2010; Barillaro, 2011; Barnard, 2014; Benson, 2012; Borg and Al Busaidi, 2012; Dam, 2008; Gardner; 2011; Kamberi, 2013; Kim, 2014; Lengkanawati, 2016; Ramirez, 2014; Rao, 2012; Shahsavari, 2014). Some of the previous research indicated how some strategies of learning, such as CPBL and portfolios, student's journals or blogs, and technology-based learning, promoted learner autonomy. The findings indicated that the implementation of these learning strategies improved students' autonomy. Nevertheless, there are many constraints in implementing it, because it is not considered such easy work. Therefore, Lengkanawati (2016) notes that to be successful in learner autonomy, it needs a full commitment of the teachers' duty to make their position a major factor in their success. Learner autonomy can be developed using CPBL to achieve common interests and support each other (Ramirez, 2014).

PBL promotes learner autonomy in case those students fulfil the criteria of self-instruction, self-direction, self-access learning and individualised instruction in every stage of PBL, namely the planning process, the implementation process and the monitoring process. Certainly, learner autonomy varies among learners and there is a linear relationship between learners' achievement and learner autonomy. Learner autonomy requires a process, and the process reveals abnormal patterns (Yuliani & Lengkanawati, 2017). Among the three stages of the PBL activity, the learners achieve a strong degree of learning autonomy in the implementation process.

Regarding autonomy in an English Foreign Language (EFL) classroom through PBL, it is suggested for the teacher to keep encouraging the students to improve PBL autonomy. The teacher must, however, inspire and encourage the students to carry out the assignment enthusiastically and entirely. It is worth noting that both the teacher as well as the students must have a determination to implement the responsibility for the learning process.

Finally, yet importantly, the effectiveness of the implementation of learner autonomy relies on the strategy of the organisation that promotes the learning process. That is why, to promote learner control, the school system must also be controlled as much as possible.

2.7. CPBL enriches relationships between teachers and students

A review of research shows that authors have a lot to say about positive relationships between teachers and students. Thompson (1998) says “The most powerful weapon available to secondary teachers who want to foster a favourable learning climate is a positive relationship with our students” (p. 6). Equally important is that we need to discover how to get all the students to want to learn together. Canter (1997) states that “classes in which we did not try very hard because we did not like our teachers” (p.95). This reminds us how important it is for our students to have good and healthy relationships to learn better, improve self-confidence and then behave better. Kohn (1996) goes a step further, saying that “Students are more likely to be respectful when important adults in their lives respect them, they are more likely to care about others if they know they are cared about” (p. 111). Good student-teacher relationships do not always turn into academic achievement, but students who develop a close bond with their educator do better than students whose teacher relationships entail some sort of tension.

Marzano (2003) states that students resist the rules and procedures along with all the consequent disciplinary actions if there is no foundation for a good relationship. He goes on to claim that relationships at elementary and junior high levels are perhaps more important than at high school levels. According to Zehm and Kottler (1993), students will

never support us or be open to hearing what we have to say until they know we appreciate them and respect them.

Positive relationships with students, in which high levels of affiliation prevail, are considered to be one of the most important reasons for teachers to stay in the profession (e.g., O'Connor, 2008; Veldman, van Tartwijk, Brekelmans, & Wubbels, 2013) and one of the most crucial sources of enjoyment and motivation for teaching (Hargreaves, 2000). On the opposite, problematic teacher-student relationships, which are characterised by conflict and low levels of affiliation, are mentioned by teachers to be sources of stress and negative emotions (Yoon, 2002).

Indeed, there are many advantages of promoting healthy relationships among educators and pupils of all ages, among which, is the improvement of self-esteem, which increases the percentage of engagement and cooperation between the classroom members. Educators and students can experience many other benefits by using the CPBL method including communicating positive expectations, showing caring, and developing confidence in the classroom. As positive student-teacher relationships continue to develop, the long-lasting favourable effects of CPBL can be of great benefit in the process of teaching and learning English. Teachers will help boost student academic performance by specifically voicing realistic goals for each student, providing a fair opportunity for students to engage in class discussions, and reminding students that they are sure of their abilities to learn when it comes to their assignments when completing their projects.

One more advantage of positive student-teacher interactions is a classroom free of behavioural distractions, which allows enough time for teachers to construct their projects. A positive student-teacher relationship helps to create a learning environment where educators and students show mutual respect, rather than conflict-involving exchanges. Achieving this balance depends on how instructors approach students as they misbehave. Teachers should keep a calm attitude when communicating with students and avoid frustration.

Several examples of non-confrontational correction of student behaviour (Walker, 2017) includes:

- Speaking with students privately about their behaviour to avoid embarrassment.
- To consider the emotions of the students to grasp the origin of their behaviour.
- Updating school policies or procedures in the classroom so that students are aware of the laws they have broken and then they become more responsible about how they behave.
- Follow-up discussion with immediate consequences for misbehaving students.
- Motivate students for their positive actions and when they have been well-disciplined.

CPBL helps in preventing a conduct problem from happening because it highlights the importance of relationships between students and teachers, in which student behaviour is handled in a manner that allows them to think about how they have misbehaved and what action they might take to improve it in the future (Horan et al., 2016). Good interactions between students and teachers are more effective for specific categories of students, including students who face difficulties in their learning or those struggling with learning disabilities or those who suffer from low economic status. To help students develop a sense of self-worth, it may sometimes be necessary to look for opportunities with good academic accomplishments to give them praise to motivate them to do better. Learners with low self-esteem can react positively to their teacher's positive feedback, giving a sense of deep pleasure and satisfaction. On the other hand, students are not the only ones benefiting from healthy relations between them and their instructor.

A primary benefit for the educator is that they have improved their interpersonal and professional skills by working strategically to develop those relationships. To communicate concepts and escape the anger, teachers need to find ways to handle their

stress successfully. For some educators, improving their interpersonal communication skills, in addition to positive Relationships with parents and administrators, help to reduce stress and develop positive student-teacher relations. The additional advantage of enhanced communication skills is personal and professional development, which can be favourably expressed at an educator's level of contact with students and the higher level of student interaction that happens because of enacting CPBL. The successful student-teacher relationships provide another major benefit which is "a thriving classroom" where students feel a sense of satisfaction, and teachers can communicate effectively with their students, both then are building a thriving classroom, where students and teachers can concentrate on education rather than conflict.

CPBL can foster a positive learning environment and relationships between peers, especially when they share an optimistic outlook towards integrating CPBL in the English classroom because a modern and appealing learning style and a non-threatening classroom with a harmonious environment are provided to them.

2.8. Cooperative learning (CL) and PBL

CL and PBL are ideally suited for each other, that PBL as a frame in which an instructor can fit other pedagogies. Hence, CL fits into PBL like a hand in a glove. Used together, they create a dynamic classroom environment where student-driven learning happened. CPBL can be considered one of the best active learning methodologies. Hence, applying this methodology in the learning of English will provide great results. Many educational leaders now recommend PBL as a best instructional practice (Barell, 2010; Baron, 2011; Cole & Wasburn Moses, 2010). PBL is an exciting, innovative instructional format that allows students' voice and choice and enhances their motivation by real-world problems that can, and in many cases will contribute to their community.

CL and PBL are linked to academic achievement, critical thinking, and the development of social skills, which is why they should be incorporated into instructional design. Through cooperative and PBL activities, students learn to work cooperatively in a coordinated manner to solve academic tasks and, in turn, deepen each other's learning

skills. Markhan (2011) affirms that PBL integrates knowing and doing, students learn knowledge and elements of the core curriculum, but also apply what they know to solve authentic problems and produce results that matter. PBL students take advantage of digital tools to produce high-quality, collaborative products. PBL emphasises the education of the student, not the curriculum. Greeno (2006) has associated PBL with the "situated learning" perspective and with the constructivist theories. PBL is defined as using authentic, real-world projects, based on a highly motivating and engaging question, task, or problem, to make students learn academic content in the context of working cooperatively to solve the problem (Barell, 2007; Baron, 2011; Grant 2010).

Since PBL increases students' motivation to learn, teamwork, and collaborative skills, it is well recommended as a 21st Century teaching technique (Cole & Washburn, 2010) Partnership for 21st Century Skills. Cooperative learning is important to PBL, and because of that, this study aims at linking them together to make the learning process more powerful and students' learning outcomes deeper. Therefore, organising the class cooperatively means, first, converting the class group into a small "learning community" and begin to be so at the moment that those who form it are interested in each other; they realise that there is a goal that unites them: learning school content and learning to work as a team, (that is, cooperating to learn and learn to cooperate...) and that they achieve this goal more easily if they help each other (Pujolàs, 2006). In this manner, students may develop their viewpoints learn how to analyse and solve problems from different perspectives, and produce multiple solutions (Hsiao, 2004). In this process when contributors can express themselves, the construction of new ideas reaches a higher level (Saban, 2004). This situation reflects the "shared understanding". Within this cooperative learning process, students work in harmony with their peers that they choose, support ideas that can positively affect their learning process, enhance their level of participation in making decisions and taking roles which leads to learning enjoyably altogether.

Teachers in this active learning approach play the role of facilitators who help learners determine their learning goals. Students decide which learning approach is most appropriate following their own learning pace and study methods (Demithans & Demirel, 2002; Kasel & Aksu, 2005; Moallem, 2001; Ozdan, 2003).

Cooperative and PBL learning contribute to the specific development of interpersonal intelligence. That is to say, they provide the students with the necessary skills for successful social interaction, establish and maintain positive relationships with others, work as a team, plan activities and organise tasks, make decisions and negotiate agreements, exercise shared leadership, communicate clearly and effectively, resolve conflicts constructively, give and ask for help and support. Cooperative work always offers a relaxed and safe environment that encourages students to participate openly in activities, which allows them to put their different skills into practice.

2.9. Main characteristics of Cooperative Learning (CL)

CL has been considered an important factor in the field of education for decades; accordingly, the following paragraph will clarify the benefits of CL suggested by previous research, to understand the power of cooperation when using the PBL method in teaching English. It is necessary to understand what cooperative effort is, the types of CL, the five basic characteristics of cooperation work (Johnson & Johnson, 2000), (positive interdependence, individual accountability, face-to-face interaction, social skills, and group processing), and the outcomes that result when cooperation is successfully structured (achievement, psychological health, and social competence).

Cooperation has by far the most powerful and positive influence on instructional outcomes. When efforts are structured cooperatively, there is considerable evidence that students will achieve better, learn more, use higher-level reasoning strategies, build more complete and complex conceptual structures, retain information learned more accurately, build more supportive and positive relationships (including relationships with diverse individuals), and develop in more healthy ways (psychological health, self-esteem, ability to manage stress and adversity). Five Basic Elements of Cooperation for a lesson to be cooperative are essential and need to be included (Johnson & Johnson, 1989; & Holubec, 1993). The five essential elements are described as follows:

2.9.1. Positive interdependence

Positive interdependence and interaction are the insight that students are tied to each other in a way so that they cannot succeed unless they do (and vice versa); that is, their work benefits each one of the group members. It promotes a situation in which students work together in small groups to maximize the learning of all members, sharing their resources, providing mutual support, and celebrating their joint success. Positive interdependence is the heart of cooperative learning. Students must believe that they fail or succeed entirely together. Within every cooperative project, a positive goal interdependence must be established through exchangeable learning objectives (learn the assigned material and make sure that all members of your group learn the assigned material). For a learning situation to be cooperative, students must perceive that they are interdependent with other members of their learning group.

Positive interdependence creates the overall superordinate goals that unite students in a common effort. Also, positive interdependence results in a joint superordinate identity. Students need to develop a unique identity as individuals, a social identity, based among other things, on their ethnic, historical, and cultural background, which matches with all the other members of their society. Together they need to understand the social identity of classmates and respect them as collaborators and friends. It is positive interdependence, otherwise, that underlies a common culture that defines the values and nature of the society in which the students live.

2.9.2. Individual accountability

Individual accountability appears when the performance of each student is assessed and the results are given back to the group and the individual. The group must know who needs more assistance, support, and motivation to complete the missions. It is also very important that group members know that they cannot "hitch-hike" on the work of others. The purpose of cooperative learning groups is to make each member a stronger individual in his or her own right. Students learn together so that they can subsequently perform higher as individuals. To make sure that each member is strengthened, students

are held individually accountable to do their share of the work (Johnson & Johnson, 2003). Common ways to structure individual accountability include (1) giving an individual test to each student, (2) randomly selecting one student's product to represent the entire group, or (3) having each student explain what they have learned to a classmate.

2.9.3. Face-To-Face primitive interaction

Once teachers create positive interdependence, they need to maximise the choices for students to promote each other's success by helping, assisting, supporting, motivating, and praising each other's efforts to learn. There are cognitive activities and interpersonal dynamics that only happen while students get engaged in promoting each other's learning. This includes orally explaining how to solve problems, discussing the nature of the concepts being learned, teaching one's knowledge to classmates, and connecting the present with past learning.

Accountability to peers, the ability to influence each other's reasoning and conclusions, social support, and interpersonal rewards all increase as the face-to-face interaction among group members increases. In addition, the verbal and nonverbal responses of other group members provide important information concerning a student's performance. Silent students are uninvolved, and they are not contributing to the learning of others as well as themselves. Promoting each other's success results in both higher achievement and a strong relationship between them. To get meaningful face-to-face interaction the size of groups needs to be small (two to four members). At last, when positive interdependence creates better conditions for working together, it is the actual face-to-face interaction, in which students work together and promote each other's success that the personal relationships are formed that are essential for developing social values.

2.9.4. Social skills

Making cooperative efforts successful requires interpersonal and small group skills. Students must be taught social skills for high-quality cooperation. Leadership, decision-making, trust-building, communication, and conflict-management skills have to

be taught just as purposefully and precisely as academic skills. Procedures and strategies for teaching students social skills may be found in (Johnson, 2000). Finally, social skills are required to interact effectively with peers from other cultures and ethnic groups to make the PBL successful and fruitful.

2.9.5. Group Processing

Group processing exists when group members discuss how well they are achieving their goals and preserving strong working relationships. Groups need to describe which actions are helpful or unhelpful and decide to continue or change. Students must also be given the time and procedures for analysing how well their learning groups are functioning and the extent to which students are employing their social skills to help all group members to achieve and to maintain effective working relationships within the group. Such processing enables learning groups to focus on group maintenance and it facilitates the learning of social skills. Additionally, it ensures that members receive feedback on their participation and it reminds students to perform collaborative skills consistently.

Some of the keys to successful processing are allowing enough time for it to take place, making it specific rather than vague, maintaining student engagement in processing, reminding students to use their social skills while they process, and making sure that clear expectations as to the purpose of the processing have been communicated. Finally, when difficulties in relating to each other arise, students must be engaged in a group process, define, and solve the problems collaboratively

To use cooperative learning effectively, teachers must understand the nature of cooperation and the essential components of a well-structured cooperative lesson. Understanding what positive interdependence, primitive interaction, individual accountability, social skills, and group processing are, and developing skills in structuring them allow teachers to adapt cooperative learning to their unique circumstances, needs, and students and fine-tune their use of cooperative learning to solve problems students are having in working together.

Students benefit greatly from cooperative project-based learning because it allows them to engage in more exciting and relevant learning experiences. According to the Buck Institute for Education (http://www.bie.org). The main characteristics of this approach are the following:

1. The teaching material is significant since it includes the use of many techniques such as cooperation critical thinking, problem-solving, and a variety of ways of communication are all required.

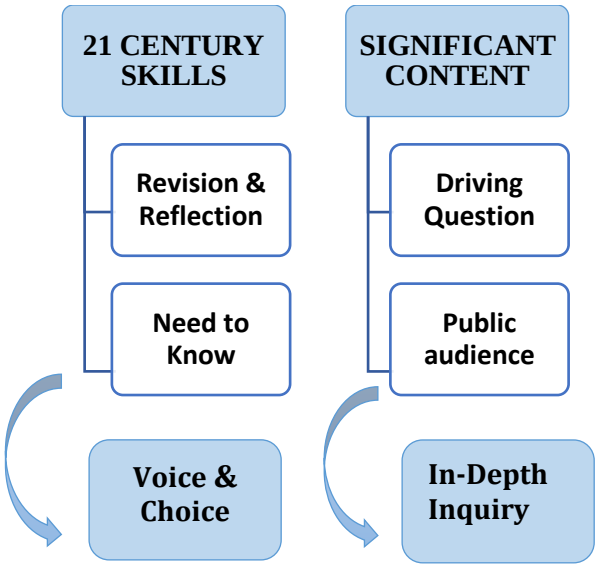
2. Create something new by requiring enquiry as part of the learning process.

3. Organized around questions that pique your interest and create a desire to understand key concepts and abilities.

4. It provides pupils opportunities to debate and makes decisions.

5. It Includes a process of improvement and reflection when involving the community in the presentation of the final product or project results. Illustratively, the characteristics of project-based learning can be described as shown in Figure 1.

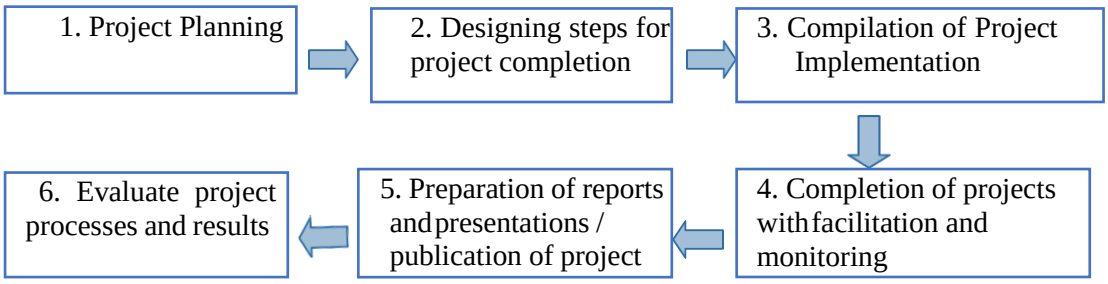
Figure 1. *Characteristics of Project-Based Learning*



Note. Adapted from: Back institute for education (2022).

Students are actively involved in solving challenges presented by the teacher in the form of a project in project-based learning. Students actively manage their learning by working in a real-world setting, reducing competition in the classroom, and encouraging students to collaborate more than working independently. Working to construct learning (new knowledge and skills) and manifest it in real products can also be done independently. Figure 2 illustrates the essential steps of PBL that can be decomposed into the following categories:

Figure 2. *Project-based learning steps*



Note. Adapted from Keser & Karagoca (2010).

2.10. Techniques for selecting and managing students' cooperative groups

CL is more than merely having students sitting together, helping to do their work. Directing students who finish their work early to assist others is not a form of cooperative learning either. It is not assigning a group of students to "work together" unless you assure that all will contribute their fair share to the product. In cooperative learning, students work together in groups to complete a project or task. The goals are for students to learn how to contribute to a team, demonstrate individual responsibility, and share accountability for the outcomes of the group.

Student-centred approaches such as cooperative learning, improve English Language communicative skills. Therefore, teachers in schools need to be aware of the benefits and importance of cooperative learning and thus change the practice of teacher-

centred teaching methods to student-centred teaching methods. As Nilson (2016) points out, change is not easy because “old teaching paradigms and habits die hard. If we had no trouble learning with them when we were in college, we can’t understand why our students do” (p.128).

There are positive changes taking place when teachers change their teaching methods toward a more student-centred approach. Teachers need to master the English content to be delivered and plan how to implement cooperative learning better. Cooperative learning should be employed so that students can help each other in small groups. Therefore, teachers are encouraged to perform these methods regularly and effectively. The results showed that cooperative learning could have a positive effect on the formation of a more positive attitude towards English among students. Teachers who deliberately form teams or pairs based on student heterogeneity set the stage for critical thinking. Brookfield (1987) and others have emphasised that critical thinking depends on identifying and challenging assumptions and subsequently exploring and conceptualising alternatives. These challenges will not occur when students all think alike.

Group heterogeneity also aids students to build a needed workforce and community skills by learning to value their interactions with others. It is also important to build in processing activities so that students acquire not only teamwork skills, but also the metacognitive skills advocated by (Bransord et al., 2000). Cuseo (1992) notes that “Such metacognitive processing involves students’ reflection on (a) individual steps involved in their thinking or problem-solving, (b) specific strategies or approaches they used in the process of reaching problem solutions, and, (c) underlying rationales for their ideas” (p.73). Structured group work (active learning and interactions) can also promote problem-solving much better than individual effort alone. Springer, Stannne, & Donovan (1999) provide strong evidence that the use of small groups can result in greater academic achievement, more favourable attitudes, and increased persistence.

Webb (1989) has found that giving detailed; elaborate explanations-activities that occur with cooperative learning small group discussions increases student achievement. Bransford et al. (2000) conclude: ‘The emerging science of learning underscores the

importance of rethinking what is taught, how it is taught, and how learning is assessed' (p.13). Teachers who understand this emerging science of learning including the premises behind deep learning and cooperative learning are prepared to bring theory into practice. Cooperative learning offers a concrete, coherent way to strengthen classroom and online practices that empowered the principles of learning.

As noted previously, to make cooperative learning successful, heterogeneous teams are important. Accordingly, gender, ability and scholastic interests are very essential for this heterogeneity. As to ability, the use of a student's undergraduate grade point average (GPV) as a surrogate measure can be effective. This crude statistic may measure motivation as well as ability. Scholastic interest allows students to spread among the groups where they will receive coaching from accounting peers. Groups can be organised with a deck of playing cards. Before the beginning of the class, the teacher can place playing cards on the seats so that students will find them when they enter.

The appropriate number in each group is four, even though cooperative learning practitioners and theories differ about whether the convenient group size should be three, four, five, or six. The use of rotating roles between students is essential for work organisation. For example, in each group, there should be a discussion leader or facilitator, a recorder or scribe, and a reporter or spokesperson. Rotating roles enhance the social skills component of cooperative learning, and it reinforces the positive interdependence between students. Student groups can be changed each semester. Students in well-functioning groups often dislike leaving cooperative friends, so teachers can explain that working with new groups allows them to work with new people and learn new skills.

Many instructors from disciplines across the world use group work to enhance their students' learning. Whether the goal is to increase student understanding of content, build transferable skills, or some combination of the two, instructors often turn to small group work to capitalise on the benefits of peer-to-peer instruction. This type of group work is formally termed CL. Felder and Brent (2010) define CL as students working in teams on an assignment or project under conditions in which certain criteria are satisfied.

Such requirements involve team members who are responsible for completing the material individually, which in turn encourages the completion of the task or project.

Johnson and Holubec (2013) define CL as the instructional use of small groups so that students work together to maximise their own and each other's learning. CL has the potential to meet more learning style needs than individualised direct instruction (Shindler, 2004) and it has the potential to produce a level of engagement that other forms of learning cannot (Salvin, Hurley & Chamberlain, 2003). CL can be a powerful tool toward several transformative goals including building communal bonds, learning conflict resolution skills, learning to consider others' needs, and learning to be an effective team member (Watson & Battisitish, 2006).

Algazor and Odey (2016) affirm that when a teacher is not well trained on the concept, CL can degenerate into confusion in the classroom. Kauchak and Eggen (2011) conceive classroom management as a comprehensive action teacher takes to create an environment that supports and facilitates both academic and social-emotional learning. This is where the teacher determines what to do in the class to eliminate misconduct and improve learning. Ryan and Cooper (2004, p. 66) see "classroom management as a process, a set of activities by which teacher establishes and maintain those classroom's conditions effective and efficient instruction". For teachers, effective management of classrooms offers an atmosphere for successful teaching and learning that supports this claim. In the words of Evertson and Weinstein (2013), "Classroom management is a topic of enduring concern for teachers, beginning teachers consistently perceive students discipline as their most serious challenge." (P. 3).

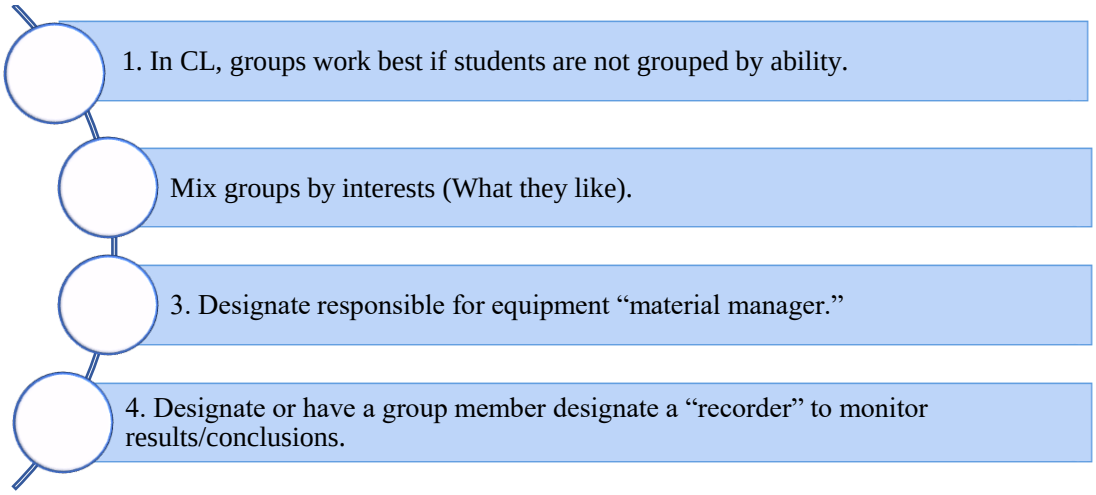
To better engage students and keep them motivated and participating in well-structured guidance, specific goals and objectives, individual group roles and clear requirements for performance assessment are very important considerations, Shindler (2009) summarises how this can be accomplished as follows.

The teacher carries out student groups' formation without allowing the intervention of any student, considering that they must be heterogeneous, compensated

with students of different levels of capacity and attitude towards the subject, sexes, participation capacity, etc. Friends should not be in the same group to avoid interference at work. Assigning students' roles within the groups has many advantages (Hurley & Chamberlain, 2003). First, it gives students a clearer sense of their assigned role and what they should be doing during the process. Second, assigned roles increase the possibility that the required tasks and duties are eventually fulfilled. For example, if no appointed management or recorder existed, a group's role may be restricted and some activities may never be performed. Third, students learn that tasks are important in social endeavour. Fourth, if roles are rotated regularly, students could have the opportunity to take on positions that they might not otherwise have taken on. Many students may feel completely comfortable taking on the role of the recorder, but may never volunteer to be in a position of leadership unless they are given the role.

Additionally, students are also made to understand that participants in the team are not only rewarded based on the group's performance but are also responsible individually for their work. It ensures that all group members are involved in all class activities and reduces wrongdoing, thereby improving learning. As a result, Figure 3 outlines recommendations adapted from the School Improvement Network (2013) for maintaining the effectiveness of highly productive (CL) groups by incorporating the following steps:

Figure 3. *Tips to maintain highly productive CL groups*



Note. Adapted from School Improvement Network (2013).

Traditionally, teachers have been educated and trained to be always in charge of giving information and students remain merely recipients of education permanently. Teachers think they are a house of information store that can be passed on to students during lessons; in this case, many students hardly go home with any skills or knowledge in this area. Abram (2010) finds in a study on learner retention that students learn better and retain more from the methods in which they are actively involved (teaching others, discussing, making presentations), than when they are passive learners. Freire (2007, p. 20) affirmed that some teachers have been taught from day one that they always need to be in control and have been banking concepts of education.

When pupils are assigned groups and tasks given to each member, the teacher now keeps track of what the students are doing by calling their attention from time to time. This helps to maintain discipline, if a student is held accountable for group success or failure that student would not want to take responsibility for failure and so he will sit up instead of disturbing in the classroom.

Kagan (2016) maintains that the issue of control is a key to successful CL, some teachers think they could lose control of their classrooms by allowing students to speak and interact through CL. Otherwise, CL helps to save a lot of energy as students are allowed to learn the way they like and they learn how to stay on task, respect the ideas of others that vary from their own and deal with a teammate who is bossy, offensive or shy. Brown and Parker, (2009) and Siltala (2010) support the following seven elements to be included in effective CL:

- Students must fully participate and put forth effort within their group.

- Each group member has a task/role/responsibility, therefore; they must believe that they are responsible for their learning and that of their group.

- Group members promote each other’s success.

- Students explain to one another what they have or are learning and assist one another with understanding and completion of assignments.

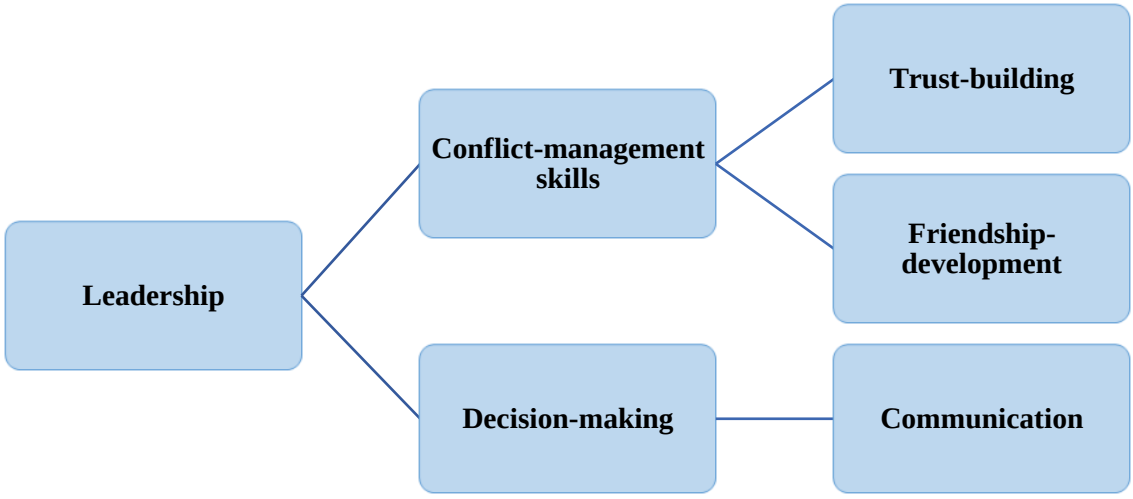
- Each student must demonstrate proficiency in the content being studied.

- Students are accountable for their learning and work, therefore eliminating social loafing.

- Social skills must be taught for successful CL to occur.

Along with the seven elements that Siltala addressed for CL to be effective, Figure 4 illustrates the most important skills that are honed during CPBL implementation.

Figure 4. *Skills include effective communication, interpersonal and group skills*



Source: Own elaboration

CL consists of students supporting each other to fulfil a double objective, to become experts in the knowledge of the content, and to develop teamwork skills. Likewise, students share goals, resources, achievements and understanding of each other's roles. Team members change important information and materials, which help each other

efficiently and effectively. In addition, communication offers feedback to improve their performance in the future and analyse the conclusions and reflections of each one to achieve higher quality thoughts and results.

2.11. Cooperative learning strategies within PBL

It is possible for instructors to make the best of these vigorous instructional opportunities to optimise student learning as well as enrich their professional development by forming learning activities that require students to cooperate and compete against one another. In fact, how teachers use these methodologies to enhance student learning indicates how effective they are at training well-prepared future experts (Attle & Baker, 2007).

PBL provides many opportunities to work collaboratively and share work with small or large groups of students (Schlemmer & Schlemmer, 2008). To use the strategy teachers, pose a question or problem to the class and each student is required to think individually for a defined amount of time to have a personal and clear opinion or solution to the posed problem. Students are then situated in pairs where they discuss their answers. This technique allows the students to interact, share their ideas, and know about other partners' ideas. In this manner, students have time to jointly construct meaning from the content as well as reflect on their understanding and synthesise their concepts with information from their peers. Finally, the pairs are indeed required to share their findings with the larger PBL group and sometimes with the entire class. Therefore, to prepare for this large presentation, some teachers provide a template that helps students record their ideas during the partner activity.

The following Table 2 of William (2012) helps the students to process their ideas while cooperating with their peer partner, guarantees accountability for the fulfilment of the Think-Pair-Share activity and provides documentation of student effort for the teacher.

Table 2. *A Think-Pair-Share template*

A Think-Pair-Share Template
Think Review the information you have on this topic and then list several ideas you have about the topic. Write enough down to help you remember the whole idea. 1. _____ 2. _____ 3. _____ (Continued)

A Think-Pair-Share Template (Continued)
Pair Talk with your partner and explain each of your ideas. Then have your partner explain his or her ideas to you. While you talk, record any new ideas that you discover together. 1. _____ 2. _____ 3. _____ **Share** Looking at all these ideas, you and your partner have to decide which idea or ideas are the most important. You can share some important ideas with the whole group (but no more!). List these ideas here that you intended to share. 1. _____ 2. _____ 3. _____

Note. Adapted from *PBL: Differentiating Instruction for the 21st Century*, William, (2012).

Once students are placed within their groups for the PBL experience, they will be working cooperatively on many of their learning activities. While PBL instruction includes some tasks that can be done individually or with partners, indeed, much of the work of PBL involves cooperative problem-solving in groups with other students. Thus, students in PBL are expected to work in a collaborative, cooperative fashion, as well as independently (Johnson & Johnson, 2010; Johnson et al, 2007; Tsay & Brady, 2010).

Like PBL, cooperative learning is built upon the idea that students learn most effectively through social context and interaction with their peers to build each other's conceptual understanding (Adams & Hamm, 1994; Johnson et al, 2007; Tsay & Brady, 2010). This is one advantage of cooperative instruction that certainly results in higher levels of student engagement. Precisely, teachers have recognised that students frequently pay more attention to other students in the class than to teachers and cooperative learning, like PBL, takes advantage of this fact (Adams & Hamm, 1994; Johnson & Johnson, 2010; Tsay & Brady, 2010).

It is noticeable that many teachers nowadays use cooperative learning assignments in a stand-alone manner while cooperative instruction is an integral part of PBL projects. Several cooperative learning assignments may be implemented as small parts in a longer term. In addition, these cooperative learning assignments may allow teachers to use different ways of instruction by having students work hard to finish these assignments to reinforce their understanding of the subject matter; while more advanced, students may skip some of the cooperative assignments in a PBL instruction unit to spend further time on other project assignments. Certainly, unlike PBL projects in general, many cooperative learning activities can be easily completed in a single instructional period (Johnson & Johnson, 2010; Johnson et al, 2007; Tsay & Brady, 2010).

To make CPBL implementation successful, there are several aspects that must be considered. These aspects are related to different areas; the relevance of investigated topics to the students, to the line with their tendencies and desires, if they are considered a source of inspiration to them, if the learners actually contribute to building and planning their learning, collecting, analysing and presenting data to other interrelated topics, etc.

Table 3 represents the most important factors; the list, however, is only intended as an example and can be updated or amended to include other components as well.

Table 3. *Characteristics to consider in order to make CPBL implementation successful*

Which aspects have we treated in our adventure?	Yes/ No/Not entirely
1. Is the topic or situation problem relevant to the group's interests? Is it a problematic issue that they have voted and reached an agreement?	
2. Have students planned the possible tasks to be completed?	
3. Have they created a set of topics that favour analysis, interpretation, and critical skills?	
4. Did they prevail on cooperative attitudes?	
5. Did they establish connections and discuss ideas?	
6. Is the teacher an apprentice or an expert?	
7. Do they involve different types of information?	
8. Does the teacher motivate listening and dialogue among the group members?	
9. Have students tried the same tasks at different levels?	
10. Has the teacher realised previous planning?	
11. Did the tutor take into consideration the group diversity, the contributions that each one can make, and the deficits and limitations that can occur?	
12. Has been linked to learning by doing, manual activities and intuition, fostering thinking and reflection.	

Source: Own elaboration

2.12. Basic students' roles in cooperative learning

To make PBL an effective instruction, teachers should understand that students need cooperative learning skills. It is not adequate to place students in cooperative groups for PBL and assume that those students can work effectively together in a problem-solving context. Successful cooperative learning is more structured than the occasional group project type task in a traditional classroom and apart from brainstorming cooperative learning should include more skills like group processing, individual and group accountability, and interpersonal skills (Johnson & Johnson, 2010; Johnson et al, 2007; Tsay & Brady, 2010). Extra time might be needed for teachers to teach their students conflict resolution, decision-making strategies or effective personal communication skills (Johnson & Johnson, 2010; Tsay & Brady, 2010), to make the cooperative learning experience effective for all class members.

Additionally, to make students' roles clear inside groups, enough time must be given to them to facilitate their tasks while working together, allowing for questions, critiques, challenges and suggestions (Tsay & Brady, 2010). Students need to work individually on the project for some reason. On the other hand, it is also important to integrate them into face-to-face interaction among group members. These techniques enhance students' communicative skills and provide opportunities for students to learn from each other and monitor group progress. Furthermore, students should have enough opportunities to rotate group management roles and express their feelings about working together in groups. Gradually, the teacher assigns activities that increase the level of responsibility that students have for their learning and their teammates learning. As students and teachers gain confidence in the practice of cooperative learning, teachers can add long-term strategies to their repertoire.

Students' role is very essential in cooperative learning when they face complex instruction such as group investigation that presents students with meaningful and relevant multifaceted problems and use a variety of resources and solutions. Either in the context of the simplest cooperative learning strategies or the more complex, students learn to seek solutions by combining their own experiences and backgrounds with the new

information they find. Thus, students learn how to make meaningful connections between what they learn and the outside world. When teachers feel that their students are used to working together to achieve academic goals they can introduce the long-term model of Group Investigation (Sharan & Sharan, 1992). This model is particularly suited to today's intercultural classroom because the content of the inquiry is determined by the diversity of students' interests, experiences, and knowledge. According to Baki (2008), group investigation was defined as a learning process involving four fundamental stages. This technique consists of the stages of determination of instructional goals, the establishment of groups, implementation of the group investigation and evaluation of it.

Group investigations afford numerous benefits to students. Regarding cognitive skills, students are confronted with an academic problem that they must address in a group through inquiry. Critical thinking, decision-making, and problem-solving are all essential elements required in this cooperative learning model. Students are highly responsible for their learning, they work together and seek information, discuss, and analyse their findings and relate them to the knowledge and ideas they already have. Each of these activities happens in a different stage of the investigation, in which the teacher guides the students and helps supply the needed resources and materials, assesses how well the students work in a group and how comfortable they feel with the diversity of interests and attitudes that show up when they are investigating.

The teacher creates a cooperative classroom by developing cooperative learning characteristics, as the roots for all cooperative methods. The central features of cooperative learning are an integral part of group investigation, when students seek information based on what they want to know they are motivated to learn and recall relevant facts and ideas. Normally, before starting a new project the teacher offers a variety of material to stimulate thinking about it and conducts a few activities that give ideas about the problem to be investigated and prepare students to ask questions. During the project, the teacher helps students to plan their investigation and carry it out, coordinates groups' findings and presentations, helps them to incorporate a variety of cooperative learning strategies, and aids to maintain them.

Otherwise, students raise questions about the general problem and then organise the questions into categories that become subtopics and they form groups based on the subtopics of their choices. Students plan their investigation, identify sources, and carry out their plans. Groups discuss, assess, and summarise their findings, and then plan how to present their findings to the entire class. The teacher collaborates with students to evaluate the presentations and the findings, and guides and motivates them from the beginning to the end. This type of active construction develops the needed skills for today's world such as critical thinking, problem-solving and social interaction. Indeed, the best-qualified schools in our modern world are schools that initiate and manage productive teamwork and problem-solving skills that allow students to learn more about themselves, other people, and the world around them so that they become lifetime learners, an ability that was described as "metacognition" and regard as one of the key learning principles (Bransford et al., 2000).

2.13. Distinctions between cooperative, peer and individual learning

Teamwork is now a basic requirement for a 21st-century society, and it benefits shared knowledge use, mutual assistance, and the management of new cooperative development models. To do this, students should be encouraged to interact cooperatively at all levels of their lives to maximize the educational potential of groups and the processes that occur within them (Conneely et al., 2013). This requirement is in response to the vast worldwide changes that have an impact on our social, economic, cultural, and political environments. Society has realised that education may be a means for providing, if not ensuring, a response to these new requirements, and that it is an excellent opportunity to introduce these new needs.

Cooperative learning refers to a heterogeneous range of structured instruction approaches in which students collaborate on academic problems in groups or teams of 4-6 students. When students interact with one another, the most important skills developed in cooperative learning are listed as social skills, which include communication, constructive conflict resolution, participation, and acceptance of others. These skills are put into practice when students interact with one another. Furthermore, when group

members spend time together reflecting on the work process based on their relationships and the work's goals, they are purposefully building self-reflective skills (Hall & Simeral, 2015).

2.13.1. Cooperative learning

PBL methodology makes use of different learning strategies and CL is considered a principal feature, but there are other types of learning strategies such as peer and individual learning. In this chapter, a distinction is made between these techniques. Because PBL strongly emphasises social learning, much of the work is done in groups (Barell, 2010; Boss & Krauss, 2007), and various authors recommend different group sizes for PBL projects, while others have discussed groups that range in size from eight to twelve (Barell, 2010; Bender & Crane, 2011). These recommendations will result in different numbers of PBL groups within the class, and more PBL groups result in more monitoring of different group projects for the teacher. Still, teachers monitor group work all the time in their classes and that will not be an undue burden in the PBL framework. In addition, teachers should have the flexibility to use the groups for some PBL projects and smaller groups for other projects. However, not all grouping considerations involve size.

Schlemmer and Schlemmer (2008) described a variety of grouping options, with the groups based on the ability levels of the students in the group, student interests, or group learning styles. In some PBL tasks, it could be advantageous to form group discussion that involves students from different PBL groups for various mini-lessons or specific tasks.

A small group discussion is simply a group that has been organised to discuss a topic of interest, ostensibly for learning about a new topic. The typical small-group discussion can serve intellectual, emotional, and social purposes. Emotionally, the participants may be involved in the issue they are discussing, making it important to them (Brewer, 1997; Brewer et al., 2001). Socially, group discussion builds a sense of cohesion and trust with one another (Lee & Ertmer, 2006; Sweet & Michaelsen, 2007). A well-

conducted group discussion will end in acceptance of different opinions, respect for well-supported beliefs, and improved problem-solving skills. Overall, it will promote the sharing of information and all members will gain insight concerning the thoughts of others before reaching a consensus on a topic (Young, 2007).

2.13.2. Peer Work within PBL

As Cooperative work just described, PBL provides many opportunities for peer bodies or partner work within the context of the broader PBL project. The tried-and-true think a better tactic (Adams & Hamm, 1994; Johnson & Johnson, 1999; Johnson, Johnson, & Smith, 1991, 2007) fits nicely with the PBL framework. Students are put into pairs to share their answers to the posed problem. This partner-pairing step provides opportunities for students to articulate their ideas and listen to the ideas of others. This step also allows time for students to jointly construct meaning from the content as well as reflect on their understanding and ultimately synthesise their concepts with information from their peers. Additionally, this step in the process can provide fodder for students to consider reflectively in their journals within a PBL project. Finally, the pairs are called upon to share their findings with the larger PBL group or perhaps with the entire class.

It is worth mentioning that peer tutoring is significant for learners' academic progress. Peer tutoring is a paired education approach in which one partner informs the other about how to solve a problem, complete a task, learn a strategy, or master a procedure in an externally designed framework in which the classroom is viewed as a learning community. Indeed, students create unstructured peer tutorials, with the focus mostly on more experienced students assisting those who are having the most difficulty, primarily through peer work with no prior planning.

According to Kagan and Kagan (2008), it is still confusing that some teachers do not see the need for gradual implementation of basic successful social interaction and cooperative behaviour, even though this is widely recommended. Teachers should always be encouraged to implement various useful methodologies and techniques for the benefit of their students. According to Sharan (2010), when cooperative learning is implemented

successfully, it provides students with a learning experience through an environment where knowledge is dynamic and creative, growing out of student interaction even when they come from different backgrounds, interests, experiences, and ideas.

2.13.2.1. Reflective peer-assessment

CPBL is intended to improve learners' problem-solving skills and cooperation by providing them with an opportunity to complete a project in teams. Research has indicated that it is important to offer guidance for students to help them reflect and compare during project elaboration. Therefore, peer-assessment is an effective approach to boost students' CPBL performance.

Peer assessment is another option that can be regularly included in CPBL (Barell, 2007; Boss & Krausse, 2007). As students engage in more team-based PBL experiences, they frequently begin to provide informal feedback to one another within their instructional team, even when formal feedback is not required. The nature of the CPBL product experience motivates nearly all students to improve the CPBL product by assessing their teammates within the CPBL group, and peer-assessment can be seen as an extension of this naturally occurring phenomenon (Belland et al., 2009; Laboy-Rush, 2011).

When using peer assessment, however, teachers must keep in mind that some students have not rated their peers before and may lack the necessary skills required to make it effectively. Correspondingly, if teachers want to use peer assessment efficiently, they will have to teach these abilities to their students preferably before the beginning of the project. To facilitate teachers' tasks, generic rules and guidelines for the completion of peer assessment are presented to them in the following Table 4.

Table 4. *Procedures for completing peer assessment*

Generic rules for the completion of peer-assessment
• General overview: The objective of conducting peer assessment is to provide advocation to the student or group of students that produced the final product, presentation, speech, report, etc., to help them optimise their product. At this stage, the following rules should help: 1. Always examine the product attentively in completing your assessment. (Continued) 2. Then, before meeting with the students whose work you are evaluating, prepare your written evaluation remarks and points again to double-check them and remove any harsh criticism. 3. Always start with some positive thoughts. This facilitates the evaluation debate and makes negative critique smoothly discussed. 4. Even when discussing negative aspects, try to be as positive as possible. For example, "while I like how you did… I was concerned about one point of that." 5. Be precise in both favourable and negative feedback. Examples: "that was an excellent section of the digital video when you mentioned…" (topic here). "I believe that this could have been done much better if you had additionally included information on…" 6. Be brief in your responses. A paragraph of six to ten sentences is usually more than enough to discuss both the strengths and weaknesses of a project. 7. Prepare yourself to explain any unfavourable observations and provide examples of how you believe the project might be improved. 8. After you have written your feedback, discuss it with the instructor and ask for suggestions on how to strengthen the language. Then give your teammate the evaluation. 9. Never argue your points, and always allow students to make comments about your evaluation; any major evaluation opposition should be directed to the teacher.

Note. Adopted from *PBL: Differentiating Instruction for the 21st Century,* by N. B. William, (p. 175). 2012 by Corwin.

Teachers may feel free to use a numeric scale for peer evaluation, an open-ended question style of peer evaluation, or a combination of the two now that those methods for peer assessment have been established. Table 5 presents a sample for peer evaluation using a Likert scale.

Table 5. *Likert scale peer assessment model*

Likert scale peer evaluation model

Please give your feedback of …….. on the questions that follow, with a 5 indicating excellent or "could not be done any better," and a 1 indicating "requires significant improvement." When you finish, your teacher will discuss your evaluations with you, and points will be awarded if your assessment agrees with the teacher's assessment of the same question.

PBL group name ……. **Date** ……

Name of the assignment assessed …….……..

This PBL group:

• This subject has been thoroughly researched	1	2	3	4	5
• Presented several different research sources	1	2	3	4	5
• Presented a reasonable set of concise information	1	2	3	4	5
• A good synthesis of the data	1	2	3	4	5
• Presented a critical assessment of the evident	1	2	3	4	5
• Submitted adequate, clear, and comprehensible work	1	2	3	4	5
• Offered numerous points of view or evidence	1	2	3	4	5
• Presented the project in the most adequate form	1	2	3	4	5
• Overall, I would rate this work as	1	2	3	4	5

Signature: ……...

By signing this work, you affirm that it is an ethical and accurate assessment.

The teacher will check and discuss this evaluation with you and will sign below after the meeting.

Teacher's signature: …….

Note. Adapted from *PBL: Differentiating Instruction for the 21st Century*, by N. B. William, (p. 174). 2012 by Corwin.

Table 6 contains a sample of an open-ended questionnaire that teachers may use to assess their students' projects**.** Teachers may modify or add more indicators as necessary to meet their needs.

Table 6. *Form for Peer Assessment*

Peer Assessment Form
1. Is a list of content items prepared to be shown by this project. ……... 2. Is this project finished based on that list of ideas or concepts? ……... 3. Is it necessary to include any additional information here? If so, what is it? ……... 4. Should this information be presented differently? If so, what do we propose? ……... 5. Is this project well-designed, and are the concepts clear and concise? ……... 6. Are the ideas presented here related to one another? Are those connections in this project clear? ……... 7. Is this a project that our class will be excited to share with the entire school? ……... 8. What is the best advice I (We) can give this student(s) for product improvement? ……... 9. What numerical grade would I assign to this project based on these evaluation points, with 100 representing a perfect grade? ……...

Note. Adopted from *PBL: Differentiating Instruction for the 21st Century*, by N. B. William, (p. 175). 2012 by Corwin.

2.13.3. Individual work within PBL

Individual learning is an instructional learning method in which students work individually according to their level and rate to achieve an academic goal. The learning process is based on the autonomous study of learning materials structured, tailored, and developed explicitly to be used for self-study. There are many opportunities within a PBL framework for students to engage in individual projects. For example, for English learning students working within PBL projects like presenting breaking news, preparing an advertisement document, describing an amazing vacation, demonstrating knowledge, and relating to the broader PBL project is necessary. Certainly, PBL offers the opportunity to differentiate the lessons based on the individual talents of the students within a PBL group, and teachers should use and differentiate assignments within it to increase students' motivation to participate in the PBL project.

For example, virtually every veteran teacher has worked with linguistically talented students who likewise demonstrate low motivation to participate in groups. In planning differentiated instructional activities within a PBL assignment, those students should be provided with an opportunity to use their linguistic talents in individual work that provides an artefact for the PBL group. Other students may be skilled or highly motivated to participate in class activities when group interaction is involved. These students may be satisfied to develop their linguistic abilities through the PBL project topic that fits with their interests and curiosity.

2.13.3.1. Reflective self-evaluation in PBL

Researchers of PBL emphasised self-evaluation options for students in PBL (Barell, 2007; Partnership for 21st Century skills, 2009). To prepare students for the world of work in the 21st century, self-evaluation is an important needed skill that must be improved over time. Because of this, reflective self-evaluation tends to become emphasised more in PBL than in more traditional teaching (Barell, 2007).

Some teachers prefer to give a numeric scale on which the learners rate their work, such a self-reflective rating can be easily converted into grades. Table 7 shows an example of how a simple numerically based Likert scale evaluation can be of great benefit to students in helping them evaluate their work within a PBL. Indeed, such a numeric scale assessment motivates students to not only assess their product but also decide in a corresponding sense on the whole quality of their work in particular areas.

Table 7. *A numerically Based Likert Scale Self-evaluation*

Likert scale self-evaluation model

Please rate yourself on the following questions, with a 5 indicating excellent or "could not be done any better," and a 1 indicating "requires significant improvement." When you finish, your teacher will discuss your evaluations with you, and points will be awarded if your assessment agrees with the teacher's assessment of the same question.

Student or project name …… **Date**……...……

Name of the assignment assessed …….

• I researched this subject thoroughly on time	1	2	3	4	5
• Presented several different research sources	1	2	3	4	5
• I presented a reasonable set of concise information	1	2	3	4	5
• My work is a good synthesis of the data	1	2	3	4	5
• This work presented a critical assessment of the evident	1	2	3	4	5
• My work is adequate, clear, and comprehensible	1	2	3	4	5
• Offered numerous points of view or evidence	1	2	3	4	5
• Presented the work in the most adequate form	1	2	3	4	5
• Overall, I would rate my work as	1	2	3	4	5

Signature: ……...

By signing this work, you affirm that it is an ethical and accurate assessment. The teacher will check and discuss this evaluation with you and will sign below after the meeting.

Teacher's signature: …….

Note. Adopted from *PBL: Differentiating Instruction for the 21st Century*, by N. B. William, (p. 168). 2012 by Corwin.

It is worth mentioning that when students consider an indicator of one's work about the "excellent" criteria as addressed in the evaluation in Table 7 (i.e., could not have done any better), students tend to determine more sufficiently the value of their complete effort and work. Of course, many students will inflate their marks, while others may score themselves too harshly. In any case, those assessments are considered opportunities for the teacher to discuss the quality of the work with the student in question as well as coach those students in self-evaluation.

2.14. Portfolio for student's assessment within CPBL

A portfolio assessment is a designed, organised endeavour to offer the most precise image of student accomplishment possible by incorporating a variety of work samples and evaluating them as a whole for the sake of discovering strengths and weaknesses to support the improvement of student outcomes.

Many teachers have a propensity to focus solely on their students' grades and test scores, neglecting how or why particular aspects of language proficiency have increased or not improved. The portfolio provides a clear picture of the student's development and evolution. As teachers grow more conscious of the necessity of modelling effective practice in methods classrooms, portfolio assessment is becoming more common in teacher education courses. Implementing portfolio instruction, on the other hand, is a difficult task. Preservice students often struggle to define how they can develop portfolios that represent their learning because this method of evaluation is so different from previous educational experiences (Brender, 2012).

The usage of portfolios is another type of assessment that is frequently emphasis ed in PBL work (Barell, 2007; Salend, 2009). Larmer et al. (2009) suggest that instead of providing a single grade for a PBL assignment, they suggest that teachers create many different grades associated with different artefacts inside the larger PBL. They also advocate a mix of individual end-group scores with a variety of grades, as this emphasises both self-assessment and the skills associated with peer evaluation.

A portfolio assessment for PBL appears to be a wonderful fit with this differentiated instruction option in mind. A portfolio is more than a compilation of a student's work. A portfolio, on the other hand, is a planned, structured effort to offer the most accurate image of student success possible by incorporating a variety of work samples and analysing them as a whole to discover strengths and weaknesses to aid student progress. Portfolios commonly include an index of the work samples presented, as well as evaluative comments about the work or the entire collection of work. In the context of a typical PBL project, students are likely to have a large number of work samples and, as a result, a vast number of assessments in their portfolios. Some evaluations may be based on the teacher's examination and amendment of individual artefacts, some on peer evaluation of specific assignments and artefacts, others on teacher-developed rubrics linked with certain products, and yet others on the ultimate impact of the final PBL result. A portfolio allows a teacher and a student to create a folder with several items from a specific PBL project, as well as an evaluation of that work, to get a semester grade.

Portfolios, on the other hand, can be used to demonstrate work from several PBLs throughout time. For example, if a fifth-grade English class completes two different PBL projects throughout a nine-week grading period, things from both projects may be included in a student's portfolio. Again, the goal of the portfolio is to accurately portray the student's work, and in most portfolios, representative things can be added or removed by the student and teacher to reflect that work appropriately. If a student in this math class did particularly well on a creative work assignment in the first project but not in the second, the creative endeavour from the second project might be eliminated from the portfolio, while the first creative product and its evaluation would be kept. Of course, the decision to include or exclude work from the portfolio is made jointly by the student and the teacher.

Portfolios provide teachers with great flexibility along with the possibility of discussing individual students' work on a regular basis (Salaberri & Appel, 2003). When teachers use portfolios, they are more likely to interact with students about their work

more frequently, emphasising the importance of the work. For many students, the extra notice might serve as a motivator to devote more time and effort to their studies.

The new curriculum promotes alternative evaluation methods as being more appropriate for young learners. Even though creating a portfolio takes time, it can be a beneficial tool for assessing students' skills and development without putting them under pressure. Portfolios were also deemed ideal for the teaching setting in consideration, as they increased motivation and helped English students acquire a more positive approach toward learning (Axton, 2012).

According to Ryan and Deci (2000), intrinsic motivation arises from the right circumstances; more specifically, students do not have to fear failure because they oversee their work, including its selection and arrangement. When submitting portfolios, there are a few things to keep in mind, such as the instructional goals, motivation, and encouragement are the goals of the portfolio application. Language proficiency, on the other hand, should not be overlooked. Each student has his or her folder that they organise since this is a fantastic method to build the "feeling of ownership," and, more broadly, the skills development is supported through the tasks that are applied in the class, because when the "feeling of ownership" is developed, more importantly, student’s engagement is also enhanced during the learning process.

Another key stage is portfolio introduction in class, which takes one teaching hour and involves informing students about the application procedure as well as the goal of the application. During new sessions, students can present the materials to be included in their portfolios. A meaningful class discussion should also be realised when students seek information and clarification. The base of the portfolio format can be modified and simplified to meet the pupils' age, language level, and cognitive development.

A portfolio can be divided into different sections: A. The table of contents. B. My Language Passport (MLP). Students can use this space to give basic personal information about themselves. C. My Favourite Activity (MFA): Students can use this section to attach materials from a class activity that they thought was entertaining. This might be

followed by a checklist on which students could reflect on their activities. These forms promote self-directed learning and self-evaluation. D. Presentation of guidelines: The importance of portfolio organisation and layout is highlighted in this step. This method motivates students to look after their work, and because theft is a common occurrence, portfolios can be gathered and stored safely after each session. The time required for the application during the preparation period is critical, although it is generally possible to spend one session every week, students frequently do not request their portfolios to complete something or organise them.

Teachers who adopt this strategy can be excellent facilitators, offering help and guidance when required. When it comes to assessment and feedback, the portfolio entries can be chosen by the students and scored using checklists. Students are allowed to self-reflect and take charge of their learning during this process (McDonald, 2011). Furthermore, because visuals are such driving variables, the solutions are primarily given graphically. Students can be encouraged and advised throughout the process when it comes to feedback. The goal is to get students interested in portfolio application by stimulating them. Students can be nominated for certificates after the defined period to help them create a much-needed sense of accomplishment and success. Communication between teachers and parents is very important and beneficial for students since they can be directed and encouraged by their parents who get recent information from teachers about the academic development of their children.

Perclova (2006) reported on the attitudes of pupils toward various evaluation methods. More precisely, the majority of participants thought that the English Language Portfolio (ELP) was interesting and rated it positively. It is worth noting that, in the previously mentioned study, portfolios were more popular among primary school pupils than among lower-high school students. Finally, Barabouti (2012) reported on a study of portfolio application among primary school EFL students, claiming that the children valued good organisation and clear presentations in their portfolios. This data shows that portfolios are widely accepted among young learners.

2.15. Evaluating CPBL to identify its deficiency and improve its quality

An evaluation plan is a fundamental part of a proposal that provides information to improve a project during development and implementation to guarantee CPBL quality and success in reaching outlined objectives. Indeed, the assessment of the initial, as well as the ongoing project activities, is very significant since it provides new and sometimes unanticipated insights into improving the outcomes of the project. Furthermore, the CPBL evaluation process helps in creating a conceptual model of the project and identifying critical points for evaluation. This helps emphasise the project's most important parts by ensuring that all participants understand the project's structure and expected results (Nelson, 2007).

Trujillo (2014) conducted a very important project assessment questionnaire (See Appendix 3). This tool was licensed under a Creative Commons Attribution (CCA). The questionnaire contains questions that require the evaluator to respond by marking an "x" on a Likert scale with five levels (values ranging from 1 (low value, totally disagree) to 5 (high value, totally agree), with the option to add some comments on each of the aspects in the form of questions so that the respondents can share any consideration they deem appropriate.

2.16. Conclusions

Historically speaking, in educational actions, it has been of great importance the interaction between equals, which is established between educators. Piaget and other psychologists in education had set it very clear that the interaction between members of groups (children, young or adults) is as important as the relationship with who teaches them. From this intellectual point of view, the relationship between equals is the most comprehensive to favourite the exchange of ideas and discussion, educating the critical mind, objectivity, and discursive reflection.

Research by scholars has shown that CL among students in classroom settings has considerable advantages in both cognitive and social climates as it helps to reduce the disruptive behaviour of students. It should be noted that teachers at all levels of education who have used CL are aware that their influence extends awareness that their impact extends beyond classrooms. The benefits include positive relationships with adults and their social-psychological well-being. The objective of learning cooperatively is also to develop the competition "Learn to learn", and "Sense of initiative and entrepreneurial spirit" interpersonal relationships (solidarity, respect for differences, mutual help, and respect for the teacher) socialisation and academic performance are enhanced because of the high degree of interaction between students. Teams should evaluate their self-appraisal; which actions have been useful and which have not. Team members set goals and periodically evaluate their learning activities. They identify the changes that must be made to improve their work in the future, favour the learning of all teammates, promotes acceptance of differences, include those in support need, or those who are unmotivated.

Recent literature analyses support the need to develop the willingness of students to cooperate with others. They found that while the ability to perform technical skills such as reading, speaking, and listening is valuable in managing students, cognitive skills such as writing, computing, and problem-solving are valuable in the CL engagement with other people in the workplace, family, and community environments. It is important to note that operating in a shared learning environment is the most appropriate way to develop knowledge and skills.

Research findings indicate that cooperative learning is an effective way to improve students' achievement and, thus, it is evident that cooperative learning is a much-needed teaching strategy for student academic development as students learn through active participation in the classroom. According to the literature, cooperative learning affects all areas of students' learning and it is considered a special learning strategy that students with different abilities can use their understanding of a subject. Students who make research learn better when they are associated with each other in different educational environments. The results of every participant's effort in the cooperative learning environment belong to every single student in that group. Progress occurs

successfully with reasonable ease and satisfaction, the tasks are accomplished and students are successful, the classroom then is transformed into a place of positive and active interaction.

The successful application of the cooperative learning method in PBL depends on the teacher's understanding and familiarity with that learning strategy. A teacher must also be able to determine the learning style, which is best, suited for a particular task. In using cooperative learning with students working cooperatively, the teacher has to consider the group size, functions, norms, skills, and roles that make learning fruitful. Cooperative learning provides teachers with another tool, which produces a learning-centred environment. Because it contains a strong small group component, when teachers use PBL hand in hand with cooperative learning, we can say that they have turned out to make a beautiful marriage made in educational heaven.

CHAPTER 3.

INCORPORATING TECHNOLOGY INTO CPBL TO ENHANCE ENGLISH LEARNING

3.1. Introduction

PBL is a teaching model used widely all over the world. In this model, the real task is designed and the learning content is set under a complex and meaningful project situation. Through self-inquiry and cooperation, students solve the problem to learn the implicit knowledge, and then the abilities of problem-solving and self-directed learning are formed (Solomon, 2003). Furthermore, blending technology into PBL can positively impact student learning outcomes.

Web-Based-Learning (WBL), PBL and Cooperative Learning (CL) are currently considered among the most powerful educational options. These approaches can assist English language students to improve their creativity, critical thinking and collaboration. On the other hand, the term New Technology includes communication techniques for language teaching in which the personal computer plays a central role (Davies & Hewer, 2012; Nomass, 2013). There are, however, other technological tools that can be used in language learning besides computers. Each technological tool has specific applications and benefits for each of the five language skills (reading, writing, listening, speaking, and talking). However, to use these techniques successfully, the English language learning student should be familiar with using computers and the internet, as well as being capable of interacting with these techniques.

The effect of technology has become hugely significant in teaching and learning the language in addition to the instructor's role. In other words, the role of the instructor together with the role of technology can lead to advanced learning results (Sharma, 2009). Many techniques can be used to help both teachers and students, among which we find online English language learning websites, computer-assisted language learning programmes, presentation software, electronic dictionaries, chat and email messaging programmes, podcasts, and educational video clips. The use of these techniques and tools in the English language classroom is very useful for both teachers and learners.

Currently, numerous software application programmes are projects available such as vocabulary, grammar and pronunciation programmes, spelling check utilities, electronic workbooks, reading and writing programmes, and different learning packages to assist instructors in creating many tutorial activities to enhance their English language courses in a professional way (Kim & Kwon, 2012).

By English language skills we mean the development of the main parts or elements of the language which are reading, writing, listening, speaking, talking, and culture. Each language subject or area has different educational tools that are likely suited to it. The use of several technical tools has a significant effect on the learning process of each area of the language (Sharma, 2009).

Recent advancements in technology, especially in the last decades, have created new opportunities and possibilities to extend and enhance learning, teaching and assessment. Besides technological and computer science innovations, new models of where and how learning can take place mediated by smartphones, tablets, computers, and other smart devices allow using various types of innovative applications to enhance learning in general and the learning of English in specific, are now available (Shin et al., 2011). Blending these new technological features in PBL and CL can certainly offer new potential to design inclusive, engaging pedagogy in a range of diverse learning contexts.

Therefore, the appropriate time is now to bring forward state-of-the-art technological learning opportunities and see them applied widely in the education of the English language. The use of technology in the teaching of the English language has assumed even greater importance considering the current global (COVID-19) pandemic and the need for access to education, schools, and training while people must maintain a physical distance. It is now imperative that we can innovate and explore the best approaches and strategies for learning with portable digital technology. Furthermore, the latest challenges we are facing force us to rethink, redesign and reimagine education, learning and teaching in ways that override automated outmoded approaches that previously prevailed and try to motivate students to learn and solve problems cooperatively taking advantage of all that the new technologies can offer.

Chen et al (2006) put forward the implementation of PBL in the network environment, focusing on the analysis of the impact of network technology on the implementation of PBL, but did not explicitly put forward the concept of technology and PBL integration. It had the shortcoming that the students often paid too much attention to practical operation and neglected the formation of curriculum knowledge (Chen & Deng, 2014; Guo et al., 2017; Zhu, 2018). Zhu et al (2018) combined PBL with Micro-Lessons, applied it in Electronic Design Technology Course teaching, and promoted the implementation of PBL by using the flipped classroom where students can carry out collaborative work via the virtual classroom and view the contents at home, then in the face to face training "apply" the content. To avoid having problems while implementing this, teachers should be knowledgeable about the use of modern technologies, and approaches to teaching and learning. The virtual classroom should be set up with materials, activities and forums that allow distance learning to continue.

Munezero (2016) applied the PBL approach in extracurricular activities, improving the participating students' technology, interdisciplinary and interpersonal skills. The combination is a logical outcome of the development of educational technology and PBL. However, the existing research has not given a generalisability of the combination of the two learning models. Therefore, this chapter is committed to building a better teaching model and discussing its elements, including teaching contents, teaching resources, teaching strategies, and teaching evaluation. Therefore, to establish a new teaching model it is necessary to study how to construct these teaching elements organically. So, the important questions to be asked here are how to construct the fifth teaching element and how to study the new teaching model empirically. To achieve this goal, firstly the characteristics of PBL and technology should be theoretically studied, and secondly, the new teaching model should be designed systematically. Finally, the teaching model should be verified and improved by a specific course teaching, and a PBL implementation scheme with good generalisability should be given.

Regardless of all the positive aspects that have been mentioned, it cannot be denied that problems and difficulties in the implementation of these approaches do exist. For example, when implementing Web-Based activities, many teachers take online

learning as a supplement to traditional teaching and fail to change the traditional classroom teaching (Zheng, 2018). Moreover, learners may not get timely feedback and guidance from teachers in the process of autonomous learning and lack effective collaboration and supervision management (Zhao et al., 2017). In the implementation of PBL, there are also problems such as less communication and cooperation between teachers and students, and the difficulty in evaluating students' learning processes (Bilgin et al., 2015; Zhou et al., 2016).

3.2. Planning and development of digital activities to innovate and embrace inclusive students' diversity

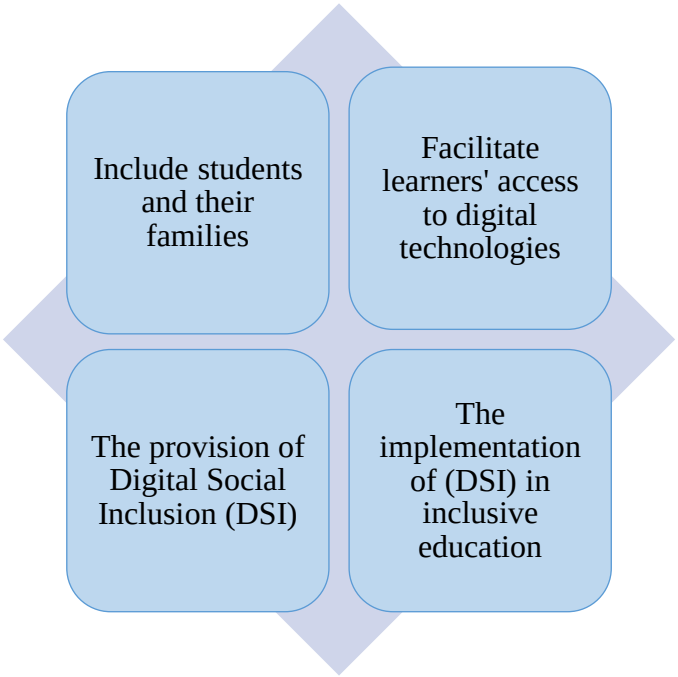
ICTs have progressed rapidly in the last few decades, which has influenced the education domain by the integration of these new technologies into projects and courses. More significantly, it is required that innovation in education carry out the current change that is happening in the world to be able to solve educational complications efficiently (Whattananarong, 2011). High-quality educational innovation can improve students' learning skills and allow them to learn more in a shorter time.

Kanchanachaya (2012) addressed the actual preservice instructor pre-planning courses, particularly those involving the creation of educational media for practical teaching, and he proposed that several key components, such as analytical thinking, critical thinking, opinion sharing, expressing rational ideas, and open-mindedness development, should be considered when designing courses.

Indeed, when a variety of motivating media are used, they instantly support learning by providing opportunities for learners to acquire new knowledge and investigate information from different resources whenever and wherever they are. Padkasem (2013) recommended the use of technology as well as other approaches such as PBL, role-modelling, and service-learning in classroom teaching to engage students in active learning.

The European Agency (2014) recommended the use of digital innovations by developing a pervasive culture of innovation in all areas of education as well as professional training because technology skills are now indispensable for global citizenship and for students, particularly those with special needs, who are vulnerable to the digital divide and exclusion from some educational opportunities. According to Facer (2009), technological innovation represents both opportunities and challenges for inclusive education. Such digital innovation aids in the preparation of learners from different backgrounds (with immigrant backgrounds, with disabilities, from poor families and rural areas) with the necessary skills that help them integrate into education. Planning and developing technological activities for students with intellectual disabilities or specific learning problems involves removing physical, content, and cognitive barriers. However, the use of these digital items for students' integration necessarily requires a wide range of skills from teachers (European Agency, 2014). Figure 5 indicates the principles of digital technology for inclusive education.

Figure 5. *Principles of digital technology for inclusive education*



Source: own elaboration

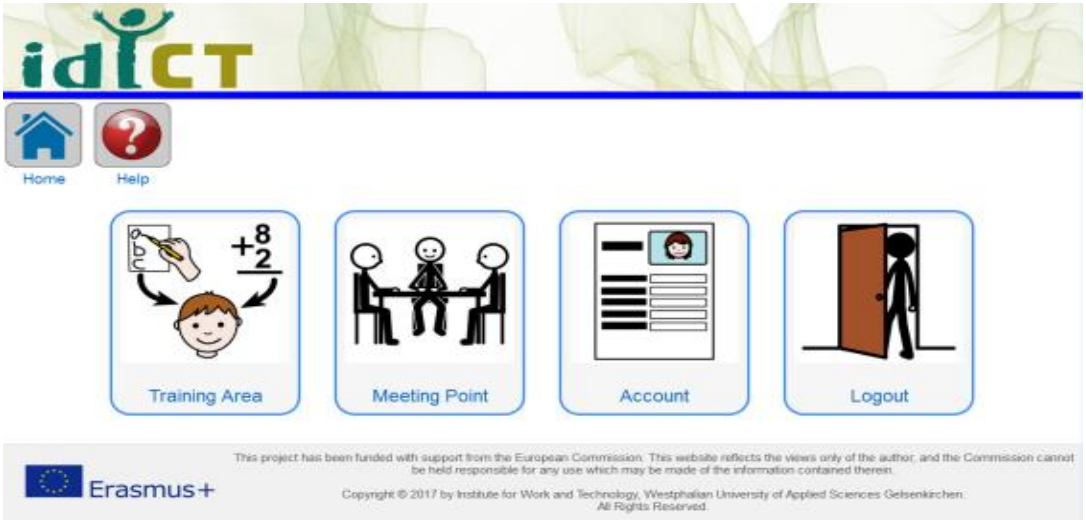
The challenge is to use technology to improve and revolutionise learning to raise students' interests and motivation. It is suggested that instructors implement learner-centred apps in which their pupils can manipulate or generate innovative information or learning products. This ability will transform student learning to produce content, particularly for learners with special needs (Bucksh & Haburg, 2015; Gonzalez, 2014). Therefore, teachers should be trained to gain experience in facilitating the use of content creation or support apps so that their role will be to ensure that students can explore their learning.

The first type of app (content creation) is learner-centred; students can produce or manipulate their content. Otherwise, the second type of app (support) is utilised in the curriculum to support precise areas, such as reading ability, communication skills, and leisure. For a student having trouble with decoding, an app that converts text to speech could be considered useful either in the classroom or at home.

Many students with different learning characteristics can benefit from using text-to-speech apps as support in the classroom (Gonzalez, 2014). Many apps can be used to create customised learning activities for students with disabilities. However, it is essential to determine the types of difficulties a student is experiencing. For example, if they are having difficulty with reading, then the appropriate app should be selected to resolve this issue.

The Erasmus+ project "Intellectual Disabilities and Information and Communication Technology (IDICT)" was created to develop a comprehensive training programme for participants in an ICT environment by using suitable apps to develop the competencies of students with special needs, integrating them into inclusive education and motivating them to access a usable digital and interactive training platform supporting the training methodology linking to select digital tools and apps and other software, screenshot (Figure 6).

Figure 6. *IDICT Training session*



Source: The Erasmus+ project IdICT (2015). *IDICT Training session* [screenshot] http://apps.id-ict.eu/en/home

When students use this platform, they can choose the type of activity they prefer, such as communicating with others, learning how to cook, or any other activity, using their phones, tablets, or computers. If they choose to cook, they must follow the practical instructions of the app. After that, they can choose the recipe they prefer and follow the guidelines that the app offers, such as recipe photos and videos, on which they need to click to see how to prepare their meal step-by-step, and shopping lists for the ingredients they need to buy from the supermarket, either with the help of their parents or by using the app Google Maps to reach it, a sample of this app is shown in Figure 7.

Figure 7. *A Sample of App Kitchen Stories*

Source: The Erasmus+ project IdICT (2015). *Sample of App kitchen stories*, [Screenshot] http://apps.id-ict.eu/en/training-content/thebestapp/list-of-results/app-kitchen-stories

3.3. Using podcasts as a source of inspiration for language learning during the fast-paced technological era

English is a common language and one of the most widely spoken languages currently. Therefore, when addressing foreign language learning, it is undeniably broadly studied. Still, in many countries, traditional approaches are used in the teaching and learning of English, such as the intensive focus on teaching vocabulary and grammar. Indeed, these approaches are less commonly used in the development of oral skills than in the case of speaking and listening. Additionally, these skills are hardly motivated outside of the classroom, which can create a lack of self-confidence and increase anxiety when students use a foreign language (Hamzaoglu & Koçoglu, 2016). There is a negative influence on students' motivation when it comes to learning a foreign language, which is due to insufficient contact with the target language (Doiz et al., 2014).

Burdick et al. (2012) defined "opportunities" as "new prospects" in which the learning is animated with digital tools and innovative methods such as "hands-on PBL," "new inquiry and knowledge production," cultivate a technology-enhanced generation of "humanists" when specialists collaborate across disciplines. According to Oskoz (2020), teachers motivate and engage students in technology-enabled projects to help them learn, such as collaborative writing via Wikis, telecollaboration between students from different countries via Google+ and, Skype, and the use of educational social platforms like Ning to achieve meaningful participation, grammatical skills, and digital competency.

One of the appealing technological tools is podcasts. This term first appeared in 2004 and was mentioned as "Word of the Year" in 2005 by the New Oxford Dictionary (Kavaliauskiené & Anusiené, 2009). There are many definitions of the word podcast, and the most widely accepted is a combination with the words "iPod" and "broadcast" (Chacón & Pérez, 2011; McLoughlin et al., 2007; Sevilla, 2018). They are frequently MP3 format recordings that can be automatically downloaded and listened to on a variety of digital devices, including laptops, tablets, and smartphones, which are linked to a web feed that provides users with frequently updated content that deals with different fields, such as sciences, art, or technologies (Seville, 2018).

In the last few years, podcasting has become popular and has been used in the teaching of English at all educational levels and in different settings. For example, many teachers use them to help learners with difficulties or to further develop advanced learners, deliver recorded lectures and speeches, facilitate self-paced learning, and enrich distance learning (Walls et al., 2010). Furthermore, when using podcasts to learn English, students can choose their favourite podcast episodes, channels or topics, which broadens the learning style options and enhances their linguistic skills, especially in vocabulary, idioms, oral communication, and listening, in a more user-friendly manner (Anissa & Suryaman, 2021).

Podcasts are enjoyable and flexible media that can contribute to learning English autonomously during this pandemic, as they can be listened to anytime and anywhere from a variety of sources such as YouTube, Spotify, Soundcloud, or other apps such as the British Council that provide an online programme for daily different English practice styles. For example, everyday English, business, news, grammar, punctuation, and vocabulary, in addition to rooms and spaces for teachers with different content, and students' learning spaces that include listening to podcasts and episodes. The app sends automatic notifications of the updated podcast "Learn English from Home series" episodes that appear on top of the phone screen so that students can listen to and learn about different topics and cultural events.

On the other hand, to increase English learning, students should listen to different listening materials on various themes and topics to become familiar with texts of different structures and levels. Yoestara and Putri (2019) state that the most complicated skill to be taught in English is listening since it needs more listeners' focus and concentration.

Furthermore, the instructor encourages and enables students to develop life-long learning skills by involving them in the process of creating and sharing podcasts. Certainly, these skills help students thrive in today's digitally and globally interconnected world (Howlette & Waemusa, 2019). Because most foreign language students, Chen & Dongdong, (2021) pointed out, are unable to hold a fluent conversation due to a lack of

vocabulary and grammar, it is critical to select a topic that is neither too difficult nor too easy based on students' interests, to peak their curiosity and suit their abilities.

The experience of learning English in school life should be based on constructive motivational methods that enable learners to appreciate both the fun of learning as well as the hardship. Thus, to design a more rigorous and attractive podcast assignment, the teacher must manage the instruction in a way that students can understand from the beginning why and how the project is significant and relevant to them. This replication demonstrates students' inspiration when they are satisfied with the effectiveness and efficiency of their learning (Chen, 2021). Certainly, this will remain a valuable experience for their life-long English learning journey.

Anissa and Suryaman (2021) found in their examination of podcast efficacy in developing students' linguistic skills and motivation through the use of podcasts that 60% of the students who participated in the study strongly agree that listening to podcasts helps in expanding their vocabulary. Additionally, almost 50% of these students believe that podcasts motivate their English learning. Otherwise, 30% of them claimed that they found it confusing to choose among the interesting podcasts (Table 8).

Table 8. *The level of developing students' linguistic skills through podcasts*

№	Questions	Responses			
		Strongly Agree	Agree	Not Sure	Disagree
1.	Listening to Podcasts improves my English listening skills	70%	30%	0%	0%
2.	Listening to podcasts improve my vocabulary	60%	40%	0%	0%
3.	Listening to podcasts increase my motivation to learn English	50%	50%	30%	0%
4.	It is easy for me to find podcasts that match my interests.	40%	30%	30%	0%
5.	Listening to podcasts is an enjoyable experience.	70%	30%	0%	0%

Source: Students' Perception of Utilizing Podcasts to Learn English Listening Skill, Anissa, H., & Suryaman, M. (2021). *EDUVELOP*, *5*(1), 44-49

In the same study by Anissa and Suryaman (2021), students were asked about the challenges they face when using podcasts, and the most challenge was the accent of native speakers and the speaking pace as well as the use of some complex or unfamiliar words structure like idioms (Table 9).

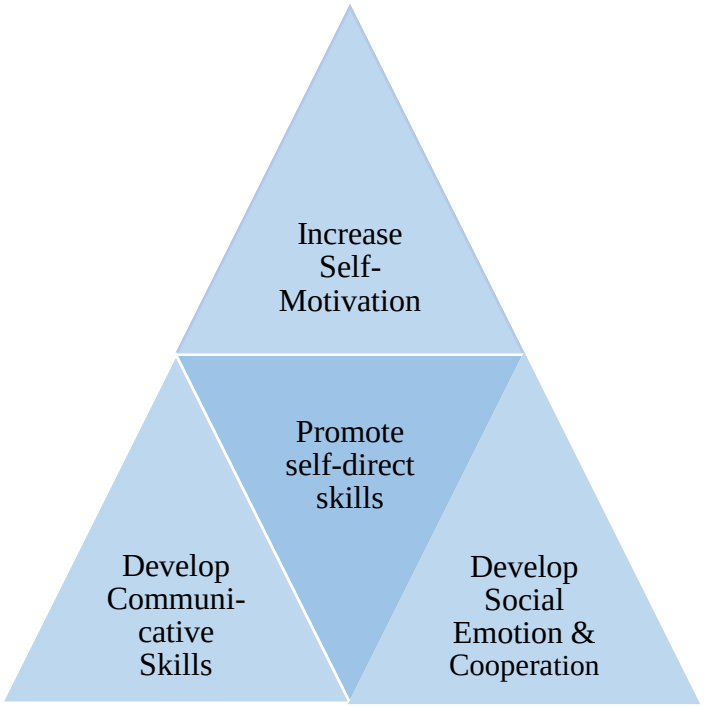
Table 9. *Challenges Students' face when using podcasts*

Challenges	Students' comments
Accent	*"British accent sometimes it is hard for me to catch the meaning"*
Unfamiliar words	*"Many unfamiliar words"*
Language	*"Native speaker speech rate"*

Source: Students' Perception of Utilizing Podcasts to Learn English Listening Skill, Anissa, H., & Suryaman, M. (2021). *EDUVELOP*, *5*(1), 44-49.

To summarise, the use of podcasting in English teaching and learning has the potential to help students advance different important skills (see Figure 8).

Figure 8. *Lifelong developing skills when using podcasts*



Source: Own elaboration

Additionally, using podcasts enhances students' digital competence, increases motivation and confidence, provides educational entertainment value, and improve listening comprehension, vocabulary, pronunciation, grammar and writing skills (Abderrahman et al., 2018). They also boost students' autonomy, promote second language learning, and personalise learning process (Sevilla, 2018), easy and constant accessibility (Bolliger et al., 2010; Chan and Lee, 2007; Stoltenkamp et al., 2011; Sutton-Brady et al., 2009). Improve students' communicative skills by generating podcasts (Ramli & Kurnianwan, 2017).

3.4. Supporting projects by integrating multimodal digital practices into the context of English pedagogy

PBL experts have advocated different sources of scaffolding approaches, mostly concerning language use. Multimodal scaffolding strategies incorporating verbal and visual resources are gaining popularity since they are viewed as a potentially useful tool for mediating PBL. Indeed, CPBL in the English classroom can be empowered by using a wide range of multimedia tools and applications, such as Quizlet, Pear Deck, Flip Grid, Padlet, and many other instructional technologies that enhance students' linguistic skills and heighten their motivation and interest in learning. Knowledge is fast becoming a powerful engine in life; therefore, innovations and inventions are the building blocks of developing a knowledgeable human society. Certainly, appropriate use and comprehension of technological tools can lead to the creation of a successful learning atmosphere that expands beyond the limits of time and space (Alberto et al., 2020).

Today, more than ever before, it is deemed necessary for educators to create a perfect multimedia environment in their classrooms to prepare their students for a complex world and to make their teaching methodology the most effective and efficient in their field (Gua et al., 2020; Kahyaglu & Saracoglu, 2018). The need to master the use of technological features is becoming essential. Teachers in all content areas are obliged to become fluent users of digital resources (Alexander, 2020).

This generation of students is overwhelmed by technological devices (Hofer & Owings-Swan, 2005). So far, these technologies are not being used the way they should be used inside the classroom. Since, in most cases, students are not able to contribute to building their learning using these technological features. Otherwise, guiding students to produce digital movies offers an opportunity to blend their use of technology and attract their attention to learning English. Yeh (2018) indicated the various advantages of creating multimodal films; his findings revealed that the process of producing videos cultivated students' multiliteracies in different aspects and extended their perception of the interaction between different representative resources, and means of construction.

Movie making is a PBL activity that can be defined as using multiple forms of media, such as photos, sounds, narration, images, etc., to deliver certain understandings (Hofer & Owings-Swan, 2005). Research has reported numerous outcomes of video-making activities. Hoffenberg and Handler (2001) found that making videos increases students' motivation and enjoyment. On the other hand, New (2006) pointed out that it enhances students' creativity by promoting meaningful learning and facilitating students' understanding of the subject matter.

Shadiev & Yang (2020) argue that in our days, Facebook, Twitter, Instagram, and WeChat are well-known as social networking media and powerful tools for non-English native speakers who are inspired to use them in their English language learning, especially speaking skills if they are used moderately. Schreiber (2015) examined the multilingual writing of a Serbian university scholar on Facebook. The study indicates different ways of English language use by those students, videos, and images to improve pronunciation while communicating with other people around the world. The results of this study show that students achieved both beneficial advancement and a high level of participation in their learning. Additionally, it is important to know how to make technology appealing to learners for both socialising and learning. Moreover, the issue of privacy and surveillance is also important to keep in mind.

in their study of technology-enhanced language learning and teaching, outlined important information about the number of published articles in a specific group of

journals to show the dynamics of technology-assisted language learning from 2014 to 2019 (see Table 10), and English was the most frequently used language in reviewed articles, according to this research.

Table 10. *The Dynamics of Technology-assisted Language Learning from 2014 to 2019*

	2014	2015	2016	2017	2018	2019	Total
CALL	9	14	28	16	18	15	100
LLT	17	11	9	19	14	12	82
ReCALL	10	7	8	15	7	12	59
SYSTEM	5	6	6	7	3	11	37
ET&S	4	6	4	8	13	1	36
C&E	5	2	4	3	9	7	30
ETR&D	1	6	1	2	5	3	17
ILE	0	4	6	4	1	3	17
BJET	2	2	1	5	2	2	14
IEEE TLT	0	0	2	1	0	0	3
Total	53	58	69	80	72	66	398

Note. From *Review of Studies on Technology-Enhanced Language Learning and Teaching,* Shadiev, R., and Yang, M. 2020. Sustainability.

According to Shadiev and Yang (2020), in 398 articles, 93 kinds of technological features were used 406 times. However, a potential overlap in these categories was noticed. For example, three types of these technologies exist, which are games, virtual reality, and wearable devices. Students in a game-based learning environment may play games using wearables or virtual reality. Nowadays, it is believed that games are among the main concerns of young adults when most of them play during their recreation time (Chen, 2018).

In their study, Shadiev and Yang (2020) made a comparison between technology use across timeframes (before, during, and after 2014-2019), referred to as “old technologies still in use and new technologies” (Table 11).

Table 11. *A comparison between technology across different timeframes: old, still in use and new*

Old	Still in Use	New
Course management system	Game	Online video
Whiteboard	Corpus	e-Books
ePortfolio	Automated feedback	Voice recording
Internet forum or message board	Social networking	Augmented Reality
iPod	Instant messaging	Robots
Digital library	Virtual reality	Wearable devices
	Websites and digital resources	
	Speech recognition	
	Collaborative writing	
	Electronic gloss or annotation	
	Intelligent tutoring system	
	Electronic dictionary	

Note. From *Review of Studies on Technology-Enhanced Language Learning and Teaching,* Shadiev, R. and Yang, M. 2020. Sustainability.

All the previous-mentioned learning technologies and others provide a variety of benefits such as interactivity, adaptivity, feedback, choice, nonlinear access, linked representations, open-ended learning input, and continuous communication with others (National Academy for the Sciences, Engineering and Medicine, 2018).

On the other hand, Table 12 highlights the most useful samples of technological items or applications that are used in education in general and in the teaching of English from 2014 to 2019 in specific, assuring that these technological features are being developed throughout these years to enhance the teaching and learning of English as a foreign language.

Table 12. *Samples of Technology used in the English Classroom*

Technology \ Year	2014	2015	2016	2017	2018	2019	Total
Game	6	7	6	11	14	5	49
Online video	5	7	4	6	10	5	37
Collaborative writing	3	9	8	5	3	7	35
Corpus	8	5	9	5	2	3	32
Instant messaging	2	4	4	11	5	5	31
Automated feedback	6	4	4	4	5	6	29
Social networking	1	6	4	10	7	1	29
Websites and digital resources	3	2	5	6	3	6	25
Virtual reality	0	5	2	4	6	2	19
Speech recognition	0	3	5	4	3	3	18
Electronic gloss or annotation	3	1	0	3	2	1	10
e-Books	0	0	3	3	2	1	9
Electronic dictionary	2	0	3	1	1	1	8
Intelligent tutoring system	1	1	1	1	0	2	6
Voice recording	2	0	0	1	2	1	6
Augmented Reality	0	0	0	2	1	0	3
Robots	0	1	1	0	1	0	3
Clicker	0	0	0	0	1	2	3
Wearable devices	0	0	1	0	1	0	2
Course management system	2	0	0	0	0	0	2
Digital library	1	0	0	0	0	0	1
Whiteboard	1	0	0	0	0	0	1
Unidentified technology	7	6	9	5	9	12	48

Note. Adapted from *Review of Studies on Technology-Enhanced Language Learning and Teaching*, Shadiev, R. and Yang, M. 2020. Sustainability.

3.5. Using technology for emergency remote teaching during the COVID-19 pandemic

During the onset of the COVID-19 pandemic, which lasted from December 2019 up to now, January 2022, more and more universities and schools closed for weeks, with almost three-quarters of all students (1.37 billion) being obliged to stay at home (UNESCO, 2020). The only vehicle by which education can be carried out is through the internet and Education Technology (EdTech), which are used to support the continuity of learning but in a distance learning setting. Many institutions, indeed, adopt this type of learning as a partially official model of learning, which is, in fact, necessary to be prepared for any kind of emergency that requires staying home or avoiding direct contact with others (Thomas, 2016). Educators, though, had to discover new ways of transforming their practice from in-person to emergency remote teaching (Hodges et al., 2020 & Bond, 2020), which involved the creation of content for virtual spaces, acquiring modern delivery equipment, engaging parents, understanding online pedagogy, addressing student mental health issues, and attempting various pedagogical strategies to address both synchronous and asynchronous teaching and learning (Ferdig, 2020 & Harts et al., 2020).

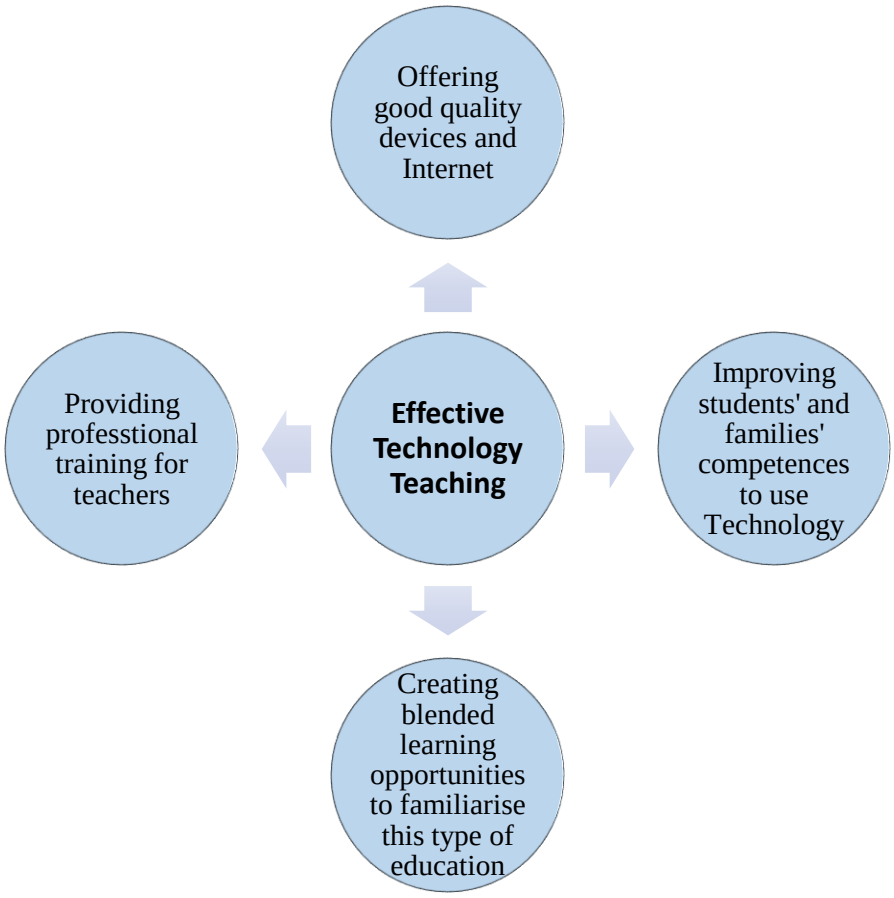
In the traditional context of teaching and learning, teachers had a choice of whether to use technology or not. By contrast, during this global pandemic of COVID-19, all teachers are required to use technology to create solutions for urgent problems and to reach their students and teach them at a distance. Poth (2020) noted that "*when schools closed and all instruction shifted to remote, the average number of tools used each month rose from 952 to 1.327, which represents an 89% increase compared to that of the prior year*" (p.7). In addition to the technological tools mentioned in the previous title, real-time collaboration platforms such as Google Education Apps break all the spatial and temporal boundaries and support students' learning anytime and anywhere (Greenhow & Chapman, 2020).

In Evans' (2019) project Tomorrow Speak Up Research Initially survey, where data was gathered from 289.373 students and 26.122 teachers and librarians in the U.S.,

middle school students reported that the technologies that they most frequently used were Google tools for the completion of school tasks, online assessments, skill-developing software, online videos and textbooks, and for productivity and presentation tools (GSuite, Seesaw for Education), video conferencing tools, information dissemination tools, and delivering content (Wikipedia, Khan Academy, Zoom, Google Meet, Explain Everything, Flocabulary, Class websites), and quiz tools (Quizlet and Kahoot) (LearnPlatform, 2020).

To facilitate educators' tasks to make their work at a distance successfully, Figure 9 includes points that should be taken into consideration.

Figure 9. *Essential steps to make the use of technology effective*



Note. Adapted from *Review of Studies on Technology-Enhanced Language Learning and Teaching*, Shadiev, R. and Yang, M. 2020. Sustainability.

When technology is used effectively, Batsila and Tsihouridis (2016) confirmed in their study that using a social media tool for digital storytelling in an English class helps students improve their reading and writing skills, as well as their interest in writing and, most importantly, their self-confidence. According to Peña-Ayala (2019), when students use social networking sites like Edmodo in their English classroom, it boosted their critical evaluation of writing, generated more cooperative work, and stimulated their learning autonomy and creativity. Although it can be difficult for learners to feel a sense of friendship and community in the formal learning settings that concentrate on content conveyance and teacher control, students can construct community on social media through organising networking with their colleagues, as well as organisations and experts added to their learning spaces (Manca & Ranieri, 2016).

3.6. Challenges facing teachers when trying to use Remote Teaching during the COVID-19 Pandemic

Many educators across the world hurriedly altered their performance from in-person to remote education during the months and years of the COVID-19 pandemic outbreak. This global epidemic revealed a considerable gap in teachers' preparation and training for emergency remote teaching, which includes using technology in meaningful and constructive settings to ensure that students at a distance continue to study (Whalen, 2020).

The challenge of the COVID-19 health crisis in education has resulted in teacher work pressure and deep adaptation to the new demands of the classroom environment and lesson planning. Many doubts have been raised about the COVID-19 pandemic's short and long-period effects on education. New pressures on the present educational systems are numerous and have emerged unexpectedly. However, there is widespread agreement that preparing teachers to respond to a pandemic emergency is fundamental (Pozo-Rico et al., 2020). Practical and applied research on training programmes on pedagogical approaches for stress management and classroom implementation to enhance teachers' well-being and efficacy is highly needed, especially in light of the COVID-19 crisis's tremendous difficulties.

Pozo-Rico et al., (2020) in their study focused on the development of three areas while training or preparing teachers. These three areas are briefly stated as follows:

1. Dealing with stress to prevent burnout: Teachers burnout is a serious problem linked to decline in the teaching profession, frustration and unhappiness. The key to the efficiency of this training is to give teachers helpful ideas, tools, and strategies to facilitate skills transformation in the classroom in a simple way to reduce stress and increase workplace satisfaction.
2. Developing ICT skills: Adopting ICT into education requires a set of skills and competence. To mitigate the impact of COVID-19, teacher training programmes in the ICT field are considered of great importance for the development of educational quality.
3. Incorporating Emotional Intelligence (EI) into the classroom: to enhance student learning, create chances for social growth, and encourage academic accomplishment and success among pupils, it is necessary that teachers have EI competency to cope with negative effects and emotional exhaustion.

To guarantee the persistence of the learning process for any situation and to support learners across spatial and temporal limits, teachers need to be “fluent users of technology; creative and collaborative problem solvers; and adaptive, socially aware experts throughout their careers” (U.S. Department of Education Office of Educational Technology [OET], 2016, p.34). Being able to use technology to teach at distance has been especially crucial during times of emergency such as natural disasters (Joshi et al., 2018; Rush et al., 2016) and extreme violence (Ramadan, 2017).

Whalen (2020) stated in his findings that before January 2020, many teachers had never tried remote, online, or blended teaching, and almost one-third of the participants in his study had at least some experience with remote or online teaching. On the other hand, one-half of the participants had tried blended teaching. So far, participants stated that they encountered different challenges during the shift to emergency remote teaching (ERT) Table 13.

Table 13. *Challenges teachers face when trying remote teaching g (n=325)*

Challenge	Total *(n)*	Per cent
Feeling overwhelmed with all the online learning resources and tools available.	198	61%
Lack of quality Internet access (for students).	173	53%
Lack of knowledge about online/remote teaching strategies.	168	52%
Prioritization of personal needs (e.g., elder care, parenting, homeschooling).	162	50%
Lack of knowledge about online/remote teaching tools.	143	44%
Lack of knowledge about online/remote communication tools.	140	43%
Prioritization of personal health/well-being.	124	38%
Lack of communication between students and parents.	117	36%
Educational/governmental directives that restricted/prohibited remote teaching.	95	29%
Lack of knowledge about online/remote communication strategies (to communicate with students/parents/guardians).	86	26%
Lack of support from administrators.	53	16%
Lack of quality Internet access (for the participant).	32	10%

Source: "Should teachers be trained in emergency remote teaching? Lessons learned from the COVID-19 pandemic," Whalen, J. (2020). *Journal of Technology and Teacher Education*, *28*(2), 189-199.

Trust and Whalen (2021) noted that the most serious challenges facing teachers are the following:

1. Learning how to identify, evaluate, and use new digital tools and apps.
2. Choosing among the convenable digital tools and resources was overwhelming.
3. Access to technology has been acknowledged as a serious barrier in some cases due to the limits or instability of internet services.
4. Some students do not have access to electronic devices such as computers, iPads, or the internet at home.

Facing these challenges, Trust and Whalen (2021) mentioned that the participants stated that they attended different professional training courses to sustain their transition to remote teaching (see Table 14). Participants in this study reported feeling stressed and disinclined to remote teaching approaches and equipment, and they attempted to adapt their teaching methods to changing circumstances, such as students' unstable internet or limited access, shifting personal needs, or difficulty dealing with the ambiguous and sometimes surprising decisions made by the educational authorities.

Table 14. *Methods most commonly used by teachers for remote teaching preparation (n325)*

Challenge	Total *(n)*	Per cent
Asked colleagues for help/ideas/resources	222	68%
Conducted internet searches	206	63%
Read comments by other educators on social media posts	177	54%
Read social media posts	168	52%
Reviewed resources provided by my district	167	51%
Reviewed resources provided by outside organizations (e.g., PBS,ISTE, KQED, Common Sense Media)	146	45%
Attended virtual webinars	127	39%
Attended virtual office hours with professional staff (e.g. technology coaches, district IT professionals)	104	32%
Read books or articles	85	26%
Asked for help/ideas/resources on social media	79	24%
Asked administrators for help/ideas/resources	75	23%

Source: "Should teachers be trained in emergency remote teaching? Lessons learned from the COVID-19 pandemic," Whalen, J. (2020). *Journal of Technology and Teacher Education*, *28*(2), 189-199

When Trust and Whalen (2021) asked the participants whether teachers should be trained in ERT, their answers fluctuated between agreeing and disagreeing. Meanwhile, among the 256 participants in the research, 166 (66%) agreed that educators should be integrated into professional training, and 47 (18%) disagreed. While 15 (6%) were uncertain. Despite the participants' opinions, many of them confirmed that teachers must be trained on how to use technology effectively for online as well as blended learning (see Tables 15 and 16). On the other hand, many participants commented that if they had been well-trained on how to use technology to enrich their learning experiences preceding the pandemic, it would have been easier to ensure the continuity of learning for students

at a distance and significantly reduce the stress while shifting to ERT, not only for teachers but also for students and their families.

In the aforementioned study, some participants expressed doubt about the efficacy of a one-time professional development (PD) training for ERT, stating that engaging in learner-centred and social activities such as self-directed learning, collaboration with colleagues, and conversation with coaches would be the most beneficial way to adapt their practice in the actual situation. Table 15 presents teachers' reflections on the necessity of training in emergency remote teaching in advanced.

Table 15. *Reasons for Training in Emergency Remote Teaching*

Common Sentiment	Example
If teachers were trained ahead of time, the shift would have been less stressful, chaotic, and "messy."	*"This was never expected and if there was training in place we would not have to start from Scratch. Many are scrambling, stressed, and overwhelmed. This is too much."*
Educators need to learn how to use technology in their practice	*"Yes, but the first step needs to be teaching teachers how to use and integrate technology in their normal teaching. It will not work well if teachers need to learn basic technology integration skills once remote learning starts."*
The use of technology and blended/ online teaching practices before the pandemic would have made it easier for parents and students to transition during the pandemic.	*"I think if teachers had been required to use these technologies ahead of time, even minimally, both they, the students, and the parents would have been better prepared."*
Emergencies like this may happen again.	*"This kind of thing could happen any time, we're probably lucky that we've made it as long as we have without it happening, and even if it never happens again it is better to be prepared than to have people's physical and mental health affected by a necessity of this magnitude."*
Teachers need to be trained in online teaching since students will likely experience online learning at any time.	*"Teachers should be trained, at least on the basics of online instruction and assessment tools, as online learning will, and should, be a routine part of every student's learning experience."*
It can help teach students who may not be able to attend school for a certain reason.	*"Absolutely. This is, to my mind, a remarkable opportunity for us to look at how we can enable a more equitable pedagogy for disabled students/students with disabilities who cannot physically attend school."*

Source: *Should teachers be trained in emergency remote teaching? Lessons learned from the COVID-19 pandemic*, Whalen, J. (2020). *Journal of Technology and Teacher Education*, *28*(2), 189-199.

On the other hand, Table 16 highlights teachers' opinions regarding the unnecessity of training in Emergency Remote Teaching considering that such events do not frequently happen as in the case of COVID-19.

Table 16. *Reasons against training in Emergency Remote Teaching*

Common Sentiment	Example
This is a unique situation that may not ever happen again	*"This seems like a once-in-a-lifetime situation. There's nothing like being in the live classroom."*
It would be better to prepare teachers for quality instructional practices, like blended learning, so they can teach in any situation.	*"No, because this is a unique situation that will hopefully not happen again for a long time. A better course of action would be to do a blended learning model that can move online easier in the event of an emergency because that's good teaching in person as well."*
It would be more useful to focus (PD) on teaching with technology.	*"I don't know that teachers need to be explicitly taught about emergency remote teaching. Instead, having some real focus on online learning tools so that educators can choose to implement some in their in-person teaching and will have the knowledge if there is an emergency need would be helpful."*
PD (in general) is not helpful	*"PD tends to be outdated and useless. Without constant practice, nothing you learn matters."*
Formal training is not an effective way to learn.	*"The most productive work comes from collaborating with colleagues and just trying to figure stuff out on your own. Formal training on this would be outdated the moment it was completed."*
It would be more effective for administrators, coaches, or leaders to be trained for emergencies in education.	*"No, not for general educators. This is a pandemic that happens once a generation or less. I would instead recommend having a specialist who is trained who works with teachers when the need arises."*
It is too late now. Teachers already figured out how to make it work	*"Maybe…too late now. Self-training is how it went."*

Source: "Should teachers be trained in emergency remote teaching? Lessons learned from the COVID-19 pandemic," Whalen, J. (2020). *Journal of Technology and Teacher Education*, *28*(2), 189.

3.7. Conclusions

To sum up, embedding digital technologies into the CPBL empowers students with important skills. These skills make them ready to continue their learning process regardless of all the circumstances they may encounter. Students can work autonomously when they are used to work on projects. In this sense, students investigate information, use technologies, organise their findings, discuss and analyse ideas, and build their knowledge independently.

In today's world, technology and language learning abilities appear to be vital for continuing the learning process and achieving success in the labour market, particularly during COVID-19 and emergencies. Foreign language acquisition has been practised since ancient times, with a wide range of pedagogical approaches. The EU has pushed for the use of linguistic proficiency-building programmes and active methodologies in the teaching and learning of languages. CPBL and technology integration should have a beneficial influence on students' outcomes, especially in the learning of language knowledge acquisition, particularly at the level of oral productive, comprehensive, and communicative abilities, fostering autonomy in learning how to learn or showing initiative, and developing critical thinking.

Indeed, the uncertain situation of COVID-19 that the world has been living in since late 2019 makes in-person education impossible from time to time, due to the social distancing imposed by the pandemic to avoid the virus infection. Consequently, different types of educational settings have emerged, the most important of which is ERT, which depends mainly on the use of modern technologies to communicate with learners in different situations. This type of education ran into several challenges, the most important of which was the lack of preparedness of teachers, in some cases, or their lack of familiarity with modern teaching methods that required the use of the latest means of communication in education.

Despite that, to make the ERT successful and beneficial for students, teachers should be provided with opportunities to develop their online and blended teaching

competencies through designing online forums and mentoring, they can be fully prepared to teach in a variety of formats, situations, and places (Archambault & Kennedy, 2014; Graham et al., 2019; Pulham & Graham, 2018; Zweig & Stafford, 2016). Additionally, motivating educators to develop digitally enhanced professional learning networks to support ongoing learning and progress in technology-assisted teaching is significant (Trust et al., 2016). Learner-centred, socially connected activities allow educators to gain knowledge and skills to assist them to teach with technology in all cases or contexts, including online, remote, or blended settings (Trust & Zinn, 2020).

Besides, the integration of high quality and quantity of technology into the curriculum is of considerable importance (Foulger et al., 2017; Trust, 2017). When teachers are well-trained and offered the necessary materials, they can be more creative and effective users of technology, which can facilitate their work and their students' results.

In their study, Elkhatat and Muhtaseb (2021) mentioned relevant positive student outcomes when hybrid online-flipped learning pedagogy was used during pandemic COVID-19 confinement. They stated that there was a significant decrease in the academic gap among students because of the potential of this approach to mitigate the negative effects of discontinuing face-to-face teaching on learning outcomes and help mitigate the sudden change in teaching methods from face-to-face and hands-on practice to online, as well as to support the unfamiliar migration to online teaching platforms. Furthermore, the authors ensured the improvement of students' cooperative learning, autonomous learning, critical thinking, and communicative discussion skills in the online sessions.

To sum up, in modern educational settings, skilful teachers are those who reorganise, facilitate, and stretch student learning, and who foster creativity and real-life problem solving (Fullan, 2013). Allowing students to demonstrate their abilities in constructing their project cooperatively relying on their knowledge of technology and under the guidance of their teachers can greatly enhance their learning independence, which will enable them to lifelong learning without the condition of place or time or under any circumstances of emergency or urgency.

CHAPTER 4.

RESEARCH METHODOLOGY

4.1. Introduction

The point of departure is the difficulty of all research in the educational field, given its human and social nature. Selecting among the best methodologies is a significant task in any research. Therefore, we have analysed each of the paths, their strengths, and weaknesses, to be able to conduct the most suitable data analysis as well as make the best use of the data that has been collected, and the typology of both the sample and the study. In this manner, finding the method that allows us to get closer to reality, made us form this question: Which method is the most appropriate for this research? And why is it the most appropriate?

4.1.1. Descriptive -Interpretative Approach

According to Rincon (2000), the key is in the objectives and aims of the research; it is the essence of the method, not so much in whether it is quantitative or qualitative; the researcher's objectives are one of the most critical measures for deciding the research method. Specifically, what we intend to do with the research and what kind of knowledge we intend to use to answer the problem formulated.

The importance of treating and analysing data with maximum accuracy cannot be neglected, regardless of the standards, we use as a method of study. For methodological rigour, we cite Rodriguez and Valldeoriala, as well as Lincoln and Guba (1985), for the criteria that manage the authenticity, accuracy, and validity:

- **The truthfulness criterion** means both the results and the procedures applied must correspond to the rigour.

- **The applicability criterion** means that the results must be applicable in a variety of contexts.

- **The consistency criterion** refers to the fact that the results will be the same in case the study is repeated.

- **The criteria for neutrality** mean that there can be no biased results and that it should be as objective as possible.

4.2. Research design

Research on CPBL has not had a substantial influence on CPBL practice. There are several reasons for this pattern. First, this research is very recent. The great majority of the research reported above has been conducted in the last few years. Even teachers who have recently entered the teaching profession have probably not been exposed to research on PBL, nor would they be expected to have taken courses in the theory and practice of CPBL. Second, the research is not readily accessible to teachers or administrators. For the most part, CPBL research has not been presented or even referred to in popular periodicals or books. Third, there is not a widely accepted framework or theory of CPBL upon which professional development might be based. Fourth, much of the research reported may be irrelevant to the concerns of classroom teachers. Aside from the evaluation studies of Expeditionary Learning, most of the research on PBL emanates from one of three research centres (University of Michigan, Vanderbilt University, and the Illinois Mathematics and Science Academy). Most practitioners, however, develop their projects either on their own or in collaboration with colleagues on site. This teacher-initiated, "grassroots" model for PBL may well be different from those depicted in existing research in subtle but important ways.

In this study a mixed-method design in the form of a “concurrent triangulation technique” was used to solve the research questions. Essentially, after collecting both quantitative and qualitative data at the same time and analysing the two databases individually, the researcher integrates or compares the results to “determine if there is convergence, differences, or some combination” (Creswell & Creswell, 2017, p. 213). According to this strategy, the main goal of integrating both quantitative and qualitative methods is to place the data into a more comprehensive explanatory framework, rather than just seeking agreement or disagreement amongst the data sets (Mertens & Hesse-Biber, 2012) suggested. As a result, the researcher maximises the potential of combining

different methods to gain in-depth knowledge about the subject under investigation, overcoming the longstanding division between quantitative and qualitative methods, which are based on two philosophical orientations and research standards.

Consequently, this research used the quantitative method, which emphasises objectivity in collecting data, testing hypotheses, and revising theories. A quantitative method has been applied to describe data related to the teachers' perceptions regarding CPBL and its use in the teaching and learning of EFL as well as to measure variables, analyse them, and report relationships among them through numerical data. Additionally, it enables the conduction of research scales and compares groups (e.g., by age or gender) to figure out similarities or differences. This, in turn, led to a deeper understanding of the research problem and the relationships among the different factors influencing its usage, including the number of teachers implementing this methodology, why others might be hesitant in applying it, and their perceptions of their students' English language learning outcomes. In testing these results, an exploratory factorial analysis was carried out based on a cross-section of public schools. Descriptive values were applied based on the study's questions and were neither manipulated nor categorised as experimental. Variables were analysed to determine if correlative connections exist and, if so, how they might have influenced each other. Whereas, the qualitative explanatory method focuses on the difficulty of subjective meanings constructed by individual experiences, which replicates the participants' attitudes and views of the phenomenon in question (Peng, 2014). Furthermore, by combining two dissimilar information fonts in this way, it is possible to compensate for the weaknesses of one method through the fortes of the other, thereby expanding the research scope and gaining a more holistic and individual-in-context perspective on the present investigated issue.

Otherwise, the employment of the triangulation research method has several drawbacks, including the fact that it is time-consuming and demands excessive effort. Moreover, when comparing multiple data sources, there may be certain differences that are difficult to resolve (Creswell & Plan Clark, 2007). Nonetheless, in an endeavour to resolve them, the researcher may reveal "unexpected results, or unseen contextual factors" (Plano-Clark & Creswell, 2008, p.114).

Similarly, in the qualitative and quantitative research analysis portions of this dissertation, a detailed description of the research methods used in this study is offered to address issues of validity and reliability. Namely, through quotes from participants, a detailed description of the results provides a voice to the teachers' opinions, attitudes, and experiences about the use of CPBL, level of motivation, difficulties, and challenges encountered. Specifically, to verify and evaluate the number of teachers who use CPBL and how often they use it. To demonstrate the results, descriptive statistics were used, which allowed for the explanation and conclusion of the gathered data from the participants. In this study, a research methodology course that involved community-based research and followed the CPBL approach has been described.

A sense of verisimilitude is generated in this manner because the reader can picture the participants' points of view, attitudes, and perceptions. A full description includes context, emotions, and details about the social webs of relationships that connect people. Emotion and self-feeling are evoked by the dense description which establishes the significance of an experience or a series of events for the individuals or individuals in question (Denzen, 1989). In the presentation of the findings in the results chapter, it is indicated that the participants' lived experiences, thoughts, and behaviours gain importance as they are combined with the researcher's interpretations. Because of this, a comprehensive image of the investigated phenomenon emerges, along with an obvious cultural context. According to Schwandt (2001), it is the interpretive quality rather than the detail that makes a description.

The literature review was based on works sourced mainly from subject-specific pedagogic journals and books, also including some papers and guides to curriculum design for PBL and CL. The online literature review was searched using the keywords PBL and CL. Additionally, reference lists of articles accessed were also used to find relevant publications; most of these articles had a clearly described methodology and well-presented results and discussion.

4.3. Participants and context

It is essential in all research to specify the study population and determine the procedures used to select it. This research has taken place in 22 primary and secondary public schools located in the province of Almeria in southern Spain. Seven of these schools are in the city centre; the other fifteen are in the outskirts, a semi-rural area. The selection of the schools was based on their accessibility and geographical closeness for allowing direct contact with teachers when distributing the questionnaires.

Participants included 84 teachers, of whom 32 work in Almeria city centre, while the other 52 attend other schools in the outskirts. The teachers were selected at random to guarantee a representative sample for finite populations (Lloret-Segura et al., 2014). All of them were teachers of EFL and 36.9% were CPBL practitioners, capable of providing in-depth feedback on their understanding of CPBL operationally. As this reflected their own field experiences, their feedback provided additional insight into the data, in particular when describing and summarising its main characteristics. Table 17 provides demographic information concerning the teachers-participants.

Table 17. *Distribution of the sample according to their teaching stage, age and gender*

Inter-subject factors			
	Value label	***N***	**(%)**
Stage of teaching	Primary	58	69.05%
	Secondary	26	30.95%
Age	21 – 30 years	23	27.38%
	31 – 40 years	37	44.05%
	41 – 50 years	24	28.57%
Gender	Women	47	55.95%
	Man	37	44.05%
	Others	-	-

4.4. Research instruments

A mixed-method design was applied to obtain data on teachers' responses, which included questionnaires (see Appendices 1 and 2), interviews, and classroom observations. Additionally, to collect quantitative and qualitative data, a survey was created based on the research questions and objectives, as well as considering the context of the study, and the educational reality. The questionnaire questions were considered key to finding out whether teachers implemented the CPBL methodology and, if so, how motivated they were to do so and also to know the difficulties and challenges they experienced and how they coped with them. A five-point Likert scale was used, ranging from "strongly agree" to "strongly disagree," researchers have recommended this tool since it would increase the response rate and quality because it is quite simple for the interviewee to read out the complete list of scale descriptors (De Winter & Dadou, 2010).

4.4.1. Questionnaire

In quantitative methodology, the Likert-type scale questionnaire is one of the most widely used techniques. This instrument helps the researcher reach a large number of respondents quickly. Additionally, it is very objective as all the participants are given the same instructions to fill out the survey, which allows us to determine the opinions and perceptions of the participants without having to be present during the time of the answers. Therefore, we were encouraged to choose this tool. On the other hand, we have considered the beneficial side of this tool in its design. This means that the survey must be clear and concise in the sense that it should not include questions that could have multiple interpretations, and, above all, it should be well revised.

A questionnaire with 16 items designed to gain a deeper understanding of the research problem and to register teachers' responses, which were measured using a Likert-type scale to easily operationalise teachers' perceptions. This tool has been recommended by De Winter and Dadou (2010), because of its potential to both increase the quality of the survey and the response rate due to the ease and clarity of its scale descriptors. The

first block of the questionnaire contained four items for gathering general demographic variables, including age, gender, stage of teaching, and overall experience in teaching. The second block contained twelve items: Four to assess the level and type of difficulties teachers and students encountered when implementing CPBL; four to assess dimensions related to teachers' experience in implementing CPBL, likewise their level of satisfaction with the methodology and its outcomes, and whether or not they would recommend it to others; and the final four, for the perceived impact on their students' motivation, including how their English language and research skills were impacted.

4.4.2. Interviews

During the interview phase, structured interviews were conducted to collect data on the topic investigated based on asking questions that were predetermined and arranged to allows the participants' responses to be compared in a uniform context. Structured interviews are the most systematised type of interview, which is considered an effective tool for exploratory and explanatory studies because it is straightforward to conduct and analyse. Indeed, asking the same questions mitigates potential biases and leads to fewer ambiguities in analysis.

Among all the teachers who participated in responding to the first questionnaire, 11 were chosen to participate in the interviews (6 females and 5 males). The average age of the interviewees was 42 years old. Six of them were chosen because they were implementing CPBL in their EFL classes. Three of them were high school teachers and three were primary school teachers in Almeria. The other five teachers were not implementing CPBL, three of them were primary school teachers, and two were secondary school teachers. For the sake of providing a diversity of background experiences and answers among teachers, groups of participants from primary as well as high schools were interviewed. A total of 11 individual meetings took place.

The approximate amount of time for each work session was 30 to 45 minutes. The structured sample was chosen and formed based on the following predetermined criteria: (1) at least one school year experience of CPBL implementation; (2) they have achieved

at least one training course in the implementation of CPBL; (3) the compensation criterion, where there is a gender balance in the sample; and (4) a sample of CPBL non-practitioners to determine their attitudes toward this methodology.

The interviews were conducted at the end of the investigation to guarantee a better understanding of the issues mentioned in their responses to the first questionnaire. Hence, in-depth, and detailed information was represented based on the outlined objectives and guided by the questions of the interviews. Teachers were encouraged to express honestly their perceptions, ideas, and attitudes toward the implementation of CPBL, and how using the CPBL approach impacts their educational experiences and professional development.

Because of that, the questionnaires were handed to teachers two days before the fixed time to read and reflect on them quietly. The main goals of the interviews were to identify the participants' experiences with the CPBL, such as what they like and dislike about it, what difficulties they face when implementing it, and what fears or anxieties discourage them from using it, and second, to know about the motivational aspects that teachers need to be motivated to use this methodology.

Before taking part in the structured interview, there was an informed consent that each interviewee signed, ensuring confidentiality and anonymity. Open-ended and perceptive questions were primarily used (see Appendix 2) to gather the most possible information while leading questions were neglected to diminish alignment as the interviews progressed. More questions were tackled for the sake of reaching maximum flexibility in the conversation. This instrument serves as an interview guide, which helps in guiding the research process in thinking and therefore, questioning and gathering the necessary data to answer the research questions. This protocol included a series of questions to elicit qualitative textual data. The first part of the interview consists of some warm-up questions, which were designed to make the participants feel at ease. These questions helped gather information moving from general to specific aspects of the investigation (such as teachers' perceptions regarding the CPBL implementation, difficulties and challenges, and their motivation). This instrument exposed teachers'

personal experiences as well as rich and detailed descriptive data on important aspects of the investigation.

To classify data into specific categories and phrases relevant to the study, the coding method was employed. Open coding is the first phase, which requires the researcher to constantly revise the responses to make ideas clearly perceptible. Furthermore, axial coding is the second step, in which the researcher attempts to link the first and second steps by grouping them into relevant terms and categories. The third and final phase is selective coding, which involves selecting and identifying the primary categories that will then be linked to the study's objectives. Transcribing the data is then performed by manually typing the coding in Microsoft Word.

4.4.3. Classroom observation

The classroom observation took place directly while teachers were giving English classes to their students. The data collection took around two weeks in four EFL classes, two of which implemented PBL, meanwhile, the others used CL. The purpose was to gather data on the methods and techniques used by the teachers. Therefore, an observation checklist was developed as a guide that enables the recording of all the necessary information. Hence, the checklist was filled with all the observations, accompanied by comments. Indeed, the study used classroom observation, considering its importance to the investigation for the following reasons:

1. Through this technique, we can take a closer look at how the teaching and learning of EFL happen in naturalistic and realistic contexts;

2. It offers more detailed and precise evidence of the data;

3. Through this strategy, a better understanding of instructional methods as well as events can be achieved, which in turn improves more effective teaching models.

4.5. Research procedures and analysis

Before the process of data collection was initiated, ethical issues were taken into careful consideration. Obtaining data on teachers' perceptions, attitudes, and points of view respecting the ethical norms was a major concern. Several reasons make adhering to ethical standards in research essential. Mainly, standards advocate the aims of the research, such as knowledge, truth, and avoiding errors. Furthermore, prohibitions against falsifying and misrepresenting and misinterpreting research data, promote accuracy and truthfulness and boost values that are essential to collaborative work, such as confidence, liability, and reciprocal respect.

Prior to conducting the research, documents were designed and signed and permission was obtained from school headmasters to gain direct access to these educational institutions and contact the teachers directly. Teachers-participants read and accepted the invitation to participate that the questionnaire included. Additionally, they were informed that their responses to the questionnaires would remain confidential. The collected data was then organised in an Excel spreadsheet and processed using descriptive statistics. Tables were used to both present the data and interpret the main findings.

The SPSS statistical package (v27.0) was applied to test the validity and reliability of this questionnaire to ensure that its overall trustworthiness was satisfactory (Cronbach's alpha = .803). On the basis of standardised items, the internal consistency also provided a respectable trustworthiness coefficient. Tables 18 and 19 show the statistically obtained results.

Table 18. *Statistical reliability*

Reliability statistics		
Cronbach Alpha	Cronbach alpha based on standardised items	N of elements
.853	.807	16

Table 19. *Items correlation and coefficient trustworthiness*

Items Total Statistics	
Items of the questionnaire	**Cronbach Alpha**
Educational stage: Prim/Second	.814
Age	.807
Gender	.803
Experience in teaching	.791
Experience (CPBL Professional training)	.788
Difficulties students face	.809
Teachers' satisfaction	.776
Level of difficulties	.768
Problematic	.829
Motivation	.779
Recommendation	.789
Student creativity	.809
Interdisciplinary	.809
Duration of implementation	.759
Use of English	.777
Research skills	.777

Furthermore, SPSS was employed to perform the following analysis:

1. The univariate (descriptive), to provide an overview of the approved sample and to also reduce and summarise the main features of the data set;

2. The multivariate, to determine how many and what kind of components are required to sum up the points observed in major variables (Lloret-Segura et al., 2014); an exploratory (data or factorial) analysis is applied to extract the major variables;

3. The variation of factor structure, to ensure optimum testing and the significance of the extracted factors or components; in this case, Bartlett's test and the Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy Description was applied (Gargallo et al., 1996).

4. For trustworthiness, the Cronbach's Alpha test was applied. And for comparison of averages, an Anova statistic was used to measure and assess the differences in significant averages between dependent and independent variables. The results give rise to whether the implementation of CPBL would be influenced by variables such as gender, age, the stage of teaching (primary, secondary), and so forth.

The applied test thus assessed if there would be any significant differences in the data based on these variables. A factorial analysis was first conducted to extract the most credible data and to group the most correlated variables, and then the Varimax normalisation rotation method with Kaiser was applied to formulate the resulting factorial matrix. Indeed, the data analysis emphasised three factors, that were summarised in the variation of 53.220%. The combined weight of these three factors was above .50.

4.6. Conclusions

In order to conduct the most effective data analysis and make the best use of the data collected and the typology of both the sample and the study, we used a mixed-method design and analysed each of the paths, their strengths and weaknesses. In the present research, a mixed-method approach in the form of a "concurrent triangulation technique" was used to address the research questions. With this method, the main goal is to put both quantitative and qualitative data into a more comprehensive explanatory framework. This, in turn, led to a deeper understanding of the research problem and the relationship between the different factors influencing its use, including the number of teachers implementing CPBL, why others might be reluctant to use it, and how teachers perceive the extent to which CPBL impacted their students' English language outcomes.

CHAPTER. 5

RESULTS AND DISCUSSION

5.1. Questionnaire Results and Discussion

Overall, the results highlight that out of 84 teachers, 31 (36.9%) were implementing CPBL in their EFL classrooms. On the other hand, 53 teachers, representing 63.1%, said that they had never used it before. Remarkably, 79.76% of all respondents indicated a positive appreciation for the methodology as a powerful constructional tool that improves cooperation, critical thinking, creativity, and communication skills, which are essential for students to be able to compete in the future and effectively analyse, evaluate, and communicate their thoughts or ideas using oral and written communication skills. These skills are improved through CPBL, which enables students to demonstrate their abilities to work effectively in a diverse society, while also increasing the involvement of students' creativity to achieve their goals and assist them in developing new ideas or innovations.

Regarding the results obtained from the questionnaires, excluding the first three items, which were designed to gather demographic data. Items 4, 5, and 6 tended to explore the overall years of experience in teaching EFL, the number of teachers who were implementing CPBL methodology, and the duration of implementation. Table 20 introduces a brief outline of these findings.

Table 20. *Teachers' overall experience in teaching and in implementing CPBL*

The Overall time of teaching service (item 4)				
		N	(%)	
	< 10 years	47	55.95%	
	11 – 20 years	30	35.71%	
	> 21 years	7	8.34%	
Teachers' experience with the implementation of CPBL (item 5-6)				
Never	Sometimes	< 1 year	2 – 3 years	> 3 years
53 (63.09%)	9 (10.71%)	10 (11.90%)	8 (9.52%)	4 (4.76%)

5.1.1. The study variables teachers' motivation versus CPBL implementation difficulties

Based on the findings, the first point to be emphasised is the significant difference between the variables '***interest***' which was demonstrated by teachers toward this methodology and its planned and systematic use in practice '***implementation***'. That is to say, 68% of the participants showed positive attitudes concerning CPBL as a powerful constructional approach that improves cooperation, critical thinking, creativity, and communication skills (Wijayati et al., 2020). These skills are considered crucial for students to be able to compete in the future and effectively analyse, evaluate, and communicate their thoughts or ideas using oral and written communication skills (Karyawati & Ashadi, 2018). CPBL improve students' abilities, while also increasing their participation and creative imagination to develop their sense of innovation which leads to the creation of a bright and smart future (Almulla, 2020).

On the other hand, the results revealed that only a few teachers implemented CPBL and others rarely used it. However, the overwhelming majority had never used it. The main reason behind the data presented in Table 3 is the variable '***difficulty***' encountered by teachers, which influences both the ***'motivation'*** teachers have in the methodology and the level of its ***'implementation'***. Hence, almost all the participants ask "how can we put CPBL into practice?", especially those who are embarking on their initial attempt with CPBL. The fact that teachers continue to raise concerns over the challenges may indicate that they were keenly influenced by outside pressures.

5.1.2. Challenges and difficulties associated with enacting CPBL

Regarding the results which are intimately linked to the variable ***'difficulties'*** especially those faced by teachers, the most challenging obstacles are those categorised as technical (see Table 21 items 10), meaning that those teachers lack some technical skills to successfully perform CPBL. Besides, other teachers stated time management as another obstacle. CPBL requires more of the teachers' time than traditional lecture-based teaching. Indeed, teachers were aware that teaching with CPBL would take more time,

but they were willing to invest their time because they believed the overall benefits of implementing CPBL would outweigh the costs. Other participants mentioned the lack of resources as another factor having an adverse impact on the ***'implementation'*** of CPBL (see Table 21).

Similarly, teachers indicated that the group dynamic was the most challenging aspect of teaching EFL (item 7). This problem affects teachers and students alike, especially when a deficit of homogeneity exists among groups. This can lead to conflicts between the different members of the team. Other teachers pointed out that many students lack the necessary skills to conduct research while completing their projects. Besides, the rest of the teachers outlined the "lack of student engagement" as one more difficulty, which precisely means the inadequacy of constructive cooperation among the group members.

Regarding the practitioners' reactions to their satisfaction with the obtained results from CPBL implementation (item 8). As illustrated in Table 21, 33.32% of the participants expressed satisfaction, especially at the level of problem-solving skills development; stimulation of students' curiosity for learning by identifying, analysing, and solving problems; self-directed learning; team or group work; gaining cognitive strategies; generic skills; and collaborative knowledge construction abilities.

Table 21. *Difficulties associated with CPBL and teachers' level of* satisfaction

Inter-subject factors				
Items	**Value label**	**Scales**	**N**	**%**
10. **Difficulties** encountered by teachers	0	Resources	18	21.42%
	1	Technical	51	60.71%
	2	Psychological	1	1.19%
	3	Temporal	14	16.66%
7. **Difficulties** faced by students	0	Group dynamic	37	44.04%
	1	Research skills	33	39.28%
	2	Lack of engagement	14	16.66%
9. Teachers' level of **difficulties** (Those who chose 'no idea' did not implement CPBL)	0	Very difficult	2	2.38%
	1	Difficult	3	3.57%
	2	Neutral	10	11.90%

	3	Easy	15	17.85%
	4	Very easy	1	1.19%
	5	No idea	53	63.09%
8. Teachers' **satisfaction** with CPBL	1	Slightly satisfied	3	3.57%
	2	Satisfied	4	4.76%
	3	Quite satisfied	10	11.90%
	4	Highly satisfied	14	16.66%
	5	No idea	53	63.09%

5.1.3. Teachers' perception regarding the impact of CPBL on the teaching and learning of EFL

Regardless of the challenges and difficulties teachers and students encounter during the process of realising their project, the findings highlighted important aspects concerning students' motivation to learn EFL (Table 22).

Table 22. T*eachers' responses regarding CPBL and students' outcomes*

Inter-subject factors				
Items	**Value label**	**Scales**	***N***	**%**
11. CPBL and students' **motivation**	0	Yes	67	79.7%
	1	No	2	2.38%
	2	Sometimes	15	17.8%
12. CPBL and the **use of English**	0	Strongly disagree	1	1.19%
	1	Disagree	2	2.38%
	2	Neutral	17	20.2%
	3	Agree	41	48.8%
	4	Strongly agree	23	27.3%
13. CPBL and students' **research skills**	0	Strongly disagree	3	3.57%
	1	Disagree	1	1.19%
	2	Neutral	23	27.3%
	3	Agree	37	44.0%
	4	Strongly agree	20	23.8%
15. CPBL and students' **creativity**	1	Always	49	58.3%
	2	Sometimes	34	40.4%
	3	Never	1	1.19%

According to the survey results described in Table 22, teachers considered that CPBL captures students' interests and heightens their motivation to learn English. Ensuring that each team member has a tremendous amount of interaction and appreciation for studying together using interesting group work techniques, which seem deemed fresh and appealing.

Despite the methodological difficulties associated with this pedagogical approach, the results from item 14 revealed that 79% of the participants would recommend it to other colleagues. Similarly, 19% said they occasionally recommend it, while 2% did not. The fact is that some of those who recommended it have effectively implemented it and have experienced a high level of motivation and interest, particularly those who have attended training courses. However, others who have never implemented CPBL or been trained in it, feel noticeably more anxious and concerned about the time and effort it requires. This means that the independent variable ***professional training*** has a considerable impact on the dependent variables teachers' ***motivation*** which in turn influences their ***satisfaction*** (acceptability) as well as their ***performance*** with CPBL.

Finally, the results from item 16, through which teachers provided their perspectives relative to the interdisciplinarity of CPBL. Interestingly, 70.23% of teachers agreed with the significance of the interdisciplinarity of CPBL. They believe that an interdisciplinary approach strengthens students' learning of English as they use and apply concepts and skills from other disciplines while seeking out solutions to the driving question.

During the investigation, teachers were asked if their students are more motivated, creative, and inspired to learn when implementing CPBL along with other approaches. Teachers confirmed that certainly what makes CPBL exceptional is its flexibility, which allows, first and foremost, the integration of other active approaches which in turn can support the learning of English through projects. For instance, Game-Based Learning (GBL), Research-Based Instruction (RBI), and Self-Directed Learning (SDL) can all be embedded in CPBL effectively.

5.1.4. Correlation between PBL and CL

Sparkman Rank Test was used to investigate a correlation between PBL and CL skills. The quantitative data were analysed using descriptive statistics Table 23.

Table 23. *Correlation Analysis PBL and CL*

**Correlation is significant at the 0.01 level (2-tailed)

			Rank_PBL	**Rank_CL**
Spearman's rho	Rank_PBL	Correlation Coefficient	1000	.696**
		Sig. (2-Tailed)		.000
		N	84	84
	Rank_CL	Correlation Coefficient	.696**	1.000
		Sig. (2-Tailed)	.000	
		N	84	84

As mentioned in Table 23, the correlation between PBL (as measured by Rank-PBL) and CL skills (as measured by Rank-CL) is strong. On the basis of the computation, the value of significant generated $P < .001$, $\alpha = 0.05$, meaning that the statistical proposition highlights a significant difference. PBL and CL have a high correlation coefficient: rho (100) = 0.696, $P < .001$. Meaning that PBL has a positive impact on CL in the teaching of EFL. This finding aligns with the results of a study conducted by (Kurniawati et al., 2019). Additionally, the findings highlighted a significant correlation between PBL and CL (group work) and students' motivation (Boondee, Kidrakarn & Sa-Nggiamvibool, 2011). Consequently, it is advantageous that teachers implement CL in conjunction with PBL to achieve optimal results.

According to this study, most teachers have less than ten years of experience in language teaching, followed by those with experience in teaching between eleven and twenty years. Teachers with more than twenty-one years of experience constituted the smallest proportion of the sample. Perhaps this indicates that the age group of young teachers in Spain represents the largest number. According to Castro et al. (2004), the

average teacher age in Spain is 36.69. Furthermore, López et al. (2022) find in their study that teachers in the age range of 29–49 represent 42% of the total. On the other hand, the age group 40–59 represents only 23% of the whole sample of 619 teachers (Mean = 39.86, SD = 10.49).

Relative to the factorial matrix and factorial weights reached for the dimensions in the implementation of CPBL, Table 24 displays the results obtained.

Table 24. *Matrix and factorial weights based on the use of CPBL*

Factors	Items	α
1. Teachers' experience with and perceptions of CPBL and students' outcomes	5. Implementation of the CPBL. Scale: Yes (0); No (1); Sometimes (2)	.759
	11. CPBL and students' motivation. Scale: Yes (0); No (1); Sometimes (2)	.779
	12. Students' use of English. Scale: Strongly disagree (0); Disagree (1); Neutral (2); Agree (3); Strongly agree (4)	.777
	13. Students' research skills. Scale: Strongly disagree (0); Disagree (1); Neutral (2); Agree (3); Strongly agree (4)	.777
	14. Teachers recommend CPBL to others. Scale: Yes (0); No (1)	.789
2. Difficulties faced by the teachers and their overall satisfaction with CPBL's results	6. Duration of CPBL implementation. Scale: Never (0); Sometimes (1); Less than a year (2); Between 2 and 3 years (3); Over 3 years (4)	.788
	8. Teachers' satisfaction with CPBL results. Scale: Very dissatisfied (0); Slightly satisfied (1); Satisfied (2); Quite satisfied (3); Highly satisfied (4); No idea (5)	.776
	9. Teachers' level of difficulty with the implementation of CPBL. Scale: Very difficult (0); Difficult (1); Neutral (2); Easy (3); Very easy (4); No idea (5)	.768
3. Students' difficulties and creativity	7. Difficulties encountered by students. Scale: Group dynamics (0); Research skills (1); Lack of engagement (2)	.809
	15. Students' creativity. Scale: Always (0); Sometimes (1); Never (2)	.809

Note. Extraction method: maximum plausibility. Rotation method: Varimax normalisation with Kaiser.

The sample adequacy analysis and the sphericity test both demonstrated the reliability of the factorial structure tested: a) the correlation matrix reveals influencing factors of E.037, which produces values close to 0; b) the Chi-square value (see Table 25) has a $p < .001$ significance; c) the same worthiness discloses punctuation, indicating that the factorial structure is sufficiently accurate; d) the sphericity analysis indicated the appropriateness of the applicability of the research variables (574.094; gl: 78; $p < .001$).

Table 25. *Kaiser-Mayer-Olkin (KMO) and Bartlett measure of sampling adequacy description*

KMO and Bartlett's test		
KMO measure of sampling		**.697**
Bartlett's test of sphericity	Approx. Chi-square	574.094
	gl	78
	Sig.	$p < .001$

After the former, the conclusions drawn from the Anova analysis help to determine the presence or absence of mean differences. When the factors formed by the analysed variables are contrasted, the occurrence of statistically significant differences can be confirmed (IC 98.94).

5.1.5. Analysing the results based on teachers' age, gender, and stage of teaching

As part of this research, the results of the factorial analysis will be presented and interpreted, based primarily on the variable teachers' age and its impact on the implementation of CPBL.

5.1.5.1. The impact of teachers' age on the implementation of CPBL

Based on the results of this study, there is a significant difference regarding the independent variable "age" and its influence on CPBL implementation within EFL classrooms. Table 26 illustrates these differences.

Table 26. *Average punctuation (M), typical deviations and Anova of average differences of the factorial structure of CPBL implementation based on teachers' age*

	Items	21 – 30 years	31 – 40 years	41-50 years	F	gl	Sig.*
		Mean ± SD	Mean ± SD	Mean ± SD			
Factor 1	5	0.098 ± 0.115	0.482 ± 0.102	1.028 ± 0.127	17.924	2	0.000
	11	2.220 × 10−16 ± 0.101	-4.302E± 0.090	1.278 ± 0.121	62.300	2	0.000
	12	3.777 ± 0.109	3.016 ± 0.097	2.222 ± 0.121	49.259	2	0.000
	13	3.631 ± 0.110	2.977 ± 0.097	1.694 ± 0.121	78.011	2	0.000
	14	0.119 ± 0.050	0.038 ± 0.045	1.000 ± 0.056	129.477	2	0.000
Factor 2	6	1.607 ± 0.232	0.764 ± 0.205	1.388 ± 0.257	12.451	2	0.000
	8	0.833 ± 0.215	3.714 ± 0.215	4.147 ± 0.191	8.381	2	0.001
	9	2.961 ± 0.250	3.933 ± 0.222	5.000 ± 0.277	16.170	2	0.000
Factor 3	7	0.637 ± 0.159	0.692 ± 0.141	0.833 ± 0.176	0.458	2	0.634
	15	0.333 ± 0.109	0.541 ± 0.096	0.278 ± 0.120	2.463	2	0.092

*Bonferroni: The difference of averages is significant at level $p < .05$ (bilateral).

As shown in Table 26, factor 1 has significant differences in five items that corroborate it and hence demonstrate a high correlation among the group of variables. As such, item 5 was designed to measure the dependent variable "implementation" of CPBL by teachers and consequently identify which age group most often implements it.

In this respect, the analysis confirmed that the responses of the youngest teachers (21–30 years) were the closest to value 0 (.098 ± .115) (Table 26), followed by the range age 31–40 years (.482 ± .102), and last (41–50 range), whose value was 1.028 ± .127 ($F = 17.924$, $gl = 2$, $p < 0.000$). This means that young teachers are those who are most inspired and motivated to implement this methodology. These findings align with those found by Aksela and Haatainen (2019), who discussed the views of active teachers on the advantages as well as the challenges of PBL and how these perceptions could promote its implementation and enhance teaching practice.

Moreover, the items related to students' motivation, use of English, and research skills were 11, 12, and 13, respectively. According to the analysis, it was highlighted that the youngest teachers (21–30) reached the highest score (Table 26) since they strongly agreed with items 12, 13, followed by the age group of 31–40, and then the 41-plus range. This finding was logical since the results demonstrated that younger teachers implemented CPBL more frequently when compared with older educators.

CPBL requires more time to be designed and implemented than traditional ways of teaching. Furthermore, the approach stipulates more ICTs' inclusion in almost all stages of projects approved for English language teaching and learning. In this regard, Paul (2022) finds that the age of the teacher negatively affected learning technology integration, with younger teachers more likely to use ICTs than older teachers. Thus, it is commonly believed that as teachers' age and designation advance, their enthusiasm for teaching diminishes, as they become bored after teaching the same content for years and years along with the increased responsibilities (Shah, 2018). A study by López et al. (2022) concludes that young teachers obtained the highest scores in digital competence and the creation of digital content. However, it should also be recognised that there are teachers who, as they grow older, tend to gain more experience, become more innovative, and care about what they do.

When investigating which age group recommended CPBL more to other teachers (item 14). It was found that teachers who fall under the group age 31–40 are those who recommended it more, with an average of .038 ± .045; followed by the youngest teachers, aged 21–30, .119 ± .050; and then teachers aged 41 years or more, with an average of 1.000 ± .056, thus, $F2 = 129.477$, $p < .000$. This result is highly significant because, looking at the result of item 8, one can see the same teachers' age group 31–40 was the most satisfied with the methodology. Hence, it makes sense that the findings have indicated that they are the most likely to recommend CPBL, especially since the implementation produced satisfactory results for this age group. Another reason why this result is important is that this age group possesses a unique combination of qualities: strength as a youngster and experience as a professional.

Regarding teachers' implementation of CPBL in the teaching of EFL and their perceptions of CPBL on students' outcomes (factor 1), two significant differences were found: first, young teachers were more willing to implement CPBL in their classroom and had shown more positive attitudes towards it. Second, even though teachers over the age of 41 did not show high interest in the implementation of CPBL, their responses generally reflected that they had positively valued the methodology. Undeniably, there is considerable enthusiasm on the part of younger teachers for implementing CPBL, which is associated with motivation and rigorous preservice or in-service training in the most active paradigms for teaching and learning EFL.

On the other hand, data from Table 26 proved that the second factor has an average difference in three items that confirm it. For instance, when it comes to analysing (item 6), through which the study attempts to measure the variable "duration" of CPBL implementation by teachers in their EFL classroom, the results show that teachers who implement CPBL more frequently in their classroom are those aged between 21–30. As a piece of evidence, the comparative analysis revealed the following average punctuation of 1.607 ± .232.

It must be emphasised that the highest value in Table 26 for item 6 refers to teachers who have had more experience implementing this approach from two to three years. By contrast, the lowest value refers to those who have no experience at all or those who are recent implementors, which means that either they rarely implement it, or have an overall experience of less than one year.

Item 8 of the questionnaire, pertains to those who implemented CPBL to test the dependent variable, teachers' "satisfaction" with CPBL's implementation results. Concerning this item, Table 26 shows that a significant difference was discovered, which demonstrated that teachers aged between 31–40 years were more satisfied with the results since this group age attained a score of 3.714 ± .215 which is close to the value 4 'highly satisfied,' followed by the youngest teachers with the average punctuation of .833 ± .215 so that $F = 8.381$, $gl = 2$, $p < .001$. On the other hand, older teachers selected the value 6, which means 'no idea' since many of them did not implement the approach. Keeping in

mind that teachers who are under the age bracket of 31–40 are more satisfied with the results of CPBL than the youngest, this sustains that experience accompanied by motivation are important factors in making the implementation of CPBL successful.

On the other hand, the result obtained from item 9, related to the variable "level of difficulty in implementing CPBL" was carried out based on teachers' age. For teachers aged 41–50 years, the majority selected the value 6, mentioning the scale 'No opinion.' Therefore, the average punctuation of 5.000 ± .277 was the nearest to the scale value 6, which indeed does not reflect the level of difficulty faced by this group because they represent the least number of CPBL implementors. On the other hand, teachers whose age is between 31–40 chose value 4, meaning "very easy", which reinforces the previous discussion about this group, which is characterised by its young age, vitality and activity. On the contrary, the first group 21–30 selected the value 3 meaning "easy", which could mean that they need more motivation or professional experience to strengthen their eagerness. This accounts for why teachers who are flexible and willing to adapt to new circumstances of the CPBL approach in their classrooms, also need ongoing guidance on how to put it into practice (Montaner-Villaba, 2022).

Additionally, the results achieved from item 7 (factor 3) sought to search for teachers' points of view regarding the type of challenge or difficulty students may encounter when working cooperatively on a project. In this regard, the youngest teachers demonstrated more concern regarding "group dynamics difficulty," meanwhile, the younger teachers (31–40) selected "research skills difficulty." However, the answers of the third age group signalled the "lack of engagement" difficulty. When the youngest teachers mention "group dynamics" as a major challenge faced by their students, it can suggest that those teachers lack some essential skills. These skills could be essential in helping students build certain capacities that make them able to be involved successfully within their groups, for instance, tolerating or solving differences, and building agreements that respect the voices of the other members of the group (Morrison-Smith & Ruiz, 2020).

Students' research skills difficulty, which was pointed out by the teachers' age group (31–40), could be a signal of students' necessity for tutorial support to enhance their research skills and overcome this difficulty, meanwhile, the last difficulty outlined by the older group of teachers was "lack of engagement." This could probably indicate the existence of a misunderstanding of the topic being investigated by the students, or maybe they lack intrinsic or extrinsic motivation. These two elements, along with others, can cause a feeling of unenthusiastic and dissatisfaction, which can have a negative impact on students' engagement in their teamwork. Indeed, this can be resolved if discovered early enough by the teacher.

Item 15 sought to analyse how teachers perceived the use of active methodologies in the EFL classroom and if they developed creativity in students. In this regard, teachers between the ages of 41–50 years or more were the most convinced that using different active methodologies in the EFL classes improves students' creativity and motivates them to become more participative. The average punctuation proved their contentment .278 ± .120, followed by the youngest 21–30, then the younger 31–40. Certainly, this result reflected that the third group age of teachers were those with long experience in teaching and, consequently, they were the professionals who had tried multiple methodologies throughout their long journey of teaching. Therefore, they took it for granted that differentiating active methodologies could help their students develop their creativity and achieve better results in their learning of EFL.

It is important to note that the results of the multivariate statistical analysis did not highlight any significant differences concerning the independent variable stage of teaching (primary or secondary) and its impact on the implementation of CPBL, the following result was achieved: $F = 635^{b}$, gl = 60.000, p < .815. Additionally, the independent variable gender had no significant differences related to the CPBL implementation as found from the factorial data analysis: $F = 1.571^{b}$, gl = 13.000, p < .120. Hence, they were not interpreted or discussed.

5.2. Interviews Results and Discussion

The interview's results and discussion section summarised, categorised, and manipulated the major findings gleaned from the interviews. Furthermore, it discussed and interpreted these findings to provide explanatory concepts that can serve as guidelines for future studies and open new avenues of intellectual exploration and stimulate the pursuit of new knowledge.

5.2.1. Challenges and difficulties associated with enacting CPBL

The lack of training on methodological and strategical knowledge is considered one of the biggest obstacles facing CPBL implementation, which causes a lack of motivation among teachers to adopt this methodology. The following transcription reflects some of the teachers' responses which were considered significant to the study as they helped in providing solutions to the encountered challenges and difficulties.

Question 1: Could you please tell us about your experience with this methodology? What do you like and not like? Have you faced some challenges and difficulties?

Teacher 1: In fact, ***students are more motivated*** when teachers allow them ***to investigate***, ***cooperate***, and ***interact*** with their team, they come to conclusions ***relying on themselves***. In fact, the ***methodology itself is very motivating***.

Teacher 2: Umm... yes, I believe it is ***an excellent method*** to show respect for the diversity of the classroom. I started working with written language from a ***constructivist perspective***.

Teacher 3: At first ***it looks difficult***, but once the ***dynamics are learned***, it ***becomes easier***.

Teacher 4: From my point of view, it needs ***more collaboration between teachers***, ***students***, and ***families***, but the ***result is satisfying***.

Teacher 5: In many cases... ***the methodology is highly relevant*** since the ***interest is multiplied among the team members***, which helps them ***to resolve*** the ***challenges*** they encounter in their learning. I like that ***students investigate*** and ***acquire knowledge in groups***, ***learning*** from their ***peers***.

Teacher 6: I think this ***method of teaching requires a lot of previous preparation*** so as not to give much input to the improvisation.

Question 2: How can teachers be motivated to teach using this methodology? What do they need (professional training, resources, etc.)?

Teacher 1: ***By hosting practical courses***, ***motivating collaboration*** among teachers in schools, ***getting in touch with teachers who use this methodology***, like inviting us to ***attend*** and ***observe*** in-class ***teachers' activities*** when ***implementing this methodology*** so that they can ***provide more in-depth assistance.***

Teacher 2: ***It is essential to devote more time*** and ***resources*** to ***instructional components*** and less to compliance documentation.

Teacher 3: ***Teachers should be chosen more rigorously***; 'choose among the ***best***' with ***high-quality competencies***. Choose those who can ***build emotional connections*** with their ***students***, then provide them with ***high-quality professional training*** and ***motivate their innovation***.

Teacher 4: Well, by providing hands-on training, inviting teachers to ***participate*** and ***observe*** classroom activities with this methodology.
Teacher 5: The help of students' ***families*** who assist in ***inspiring students to work harder***.

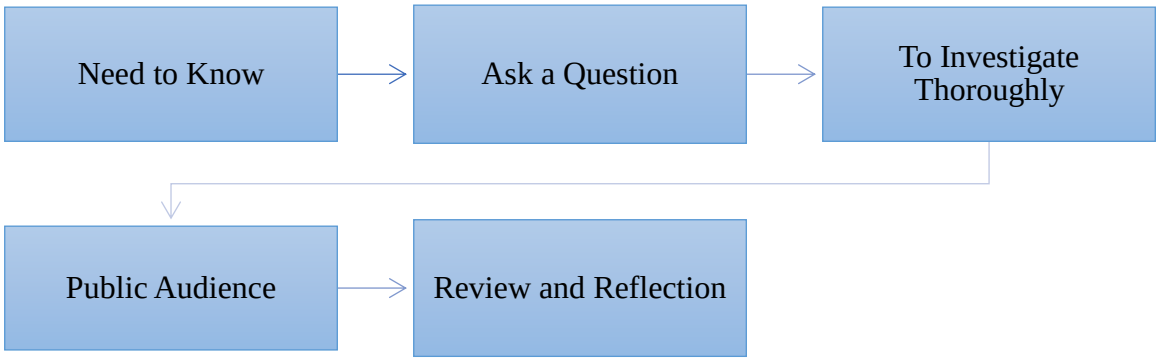
As mentioned in the interviews' results, teachers confirmed that they need to take professional training courses in the theory and practice of CPBL to enhance their performance skills to effectively manage and plan CPBL tasks. In this sense, the teachers'

experiences reported in this investigation aligned with the findings of Chaaban and Du (2020) in their examination of the participants' understanding of PBL, most of the participants lacked any prior experience with PBL and processed limited knowledge and skills in implementing the approach inside their classrooms. Additionally, participants in our study remarked that their satisfaction with CPBL depends on the ease of its implementation. Furthermore, teachers indicated the importance of involving students' families in the process of implementing CPBL because they can support and guide students' motivation to sustain their projects' success.

Teachers demonstrated their awareness of the significance of CPBL in developing many EFL essential skills, such as reading, writing, and talking abilities, which are considered integrated abilities. When PBL and CL are combined, teachers agree that students become more motivated, creative, and well-focused. Because they are not exhausted as they accomplish tasks cooperatively with their teammates. They are more motivated to express their thoughts in friendly learning environments because when one student's speech is incorrect, others can give feedback. Moreover, they receive more knowledge, help, and guidance when they are working together to solve difficulties and share the learning burden. As a result, students are less apprehensive and more productive when they work in groups than alone. Considering that CPBL provides them with an exciting learning environment that inspires them, spoils their ideas, helps them learn new skills, and promotes a healthy and happy learning atmosphere.

In CPBL, the teacher involves students through the development of key questions, inquiry-based tasks (IBT), and the use of technology-based cognitive tools (TBCT) (Thomas, 2000). The findings revealed the existence of obvious benefits associated with teaching and learning English using the CPBL approach, particularly in terms of involving students in active learning, motivation, self-esteem, problem-solving, and the acquirement of positive attitudes towards learning. Furthermore, CPBL proves its effectiveness for developing students' productivity for many other reasons. Based on the study results, Figure 10 summarises the five main motivating factors why teachers need to implement CPBL in their English classrooms.

Figure 10. *Five motivational factors for CPBL implementation*



Source: Own elaboration

In order to make the five points that are shown in Figure 10 clear, the following paragraph provides a brief explanation of each one:

- **Need to know:** CPBL starts with introducing students to knowledge with a vision of a product or its presentation. This provides a context where students enhance their expertise, proficiency, creativity, imagination, and intelligence.

- **Ask open questions**: this enables the students to concentrate on their work and learn more deeply by formulating important questions, managing debates, and solving challenges or problems cooperatively and if necessary, in peer or individually.

- **Deep investigation**: Students conduct research, look for answers, read and select appropriate information, write, analyse, organise, and come to conclusions, which leads to building new knowledge, ideas, or products.

- **Public speaking**: students present their work to others, not only and necessarily to their classmates and teachers, in person or online. This presentation boosts students' incentives to produce high-quality work and adds to the authenticity of the project.

- **Review and reflection**: Students learn to give and receive information or feedback to improve the quality of the products or materials they create, and it is convenient to continually ask them to think about what and how they are learning.

In the interview, teachers were asked about the impact of incorporating new technologies on their students' creativity, motivation, and innovation at the stages of project preparation, design, research, organising information and presenting their final product. Among all the participants, (79%) agreed that when these technological features are used correctly, then it cannot be ignored that they are a fundamental source of knowledge that allows students to carry out their investigation in an interactive way with their teammates, which develops their creative and constructive capacities as well as their social belonging and increases their connection and admiration for cooperative work. The participants, indeed, asserted that when increasing the connection between the group members, their major focus becomes the group's excellence and success. These skills, which are being advanced, are key matters for students' preparedness for future employment.

Furthermore, those participants affirmed that new technologies offer possibilities for students to join social networks to learn from others' experiences and develop the ideas of their project, at the same time they profit from the opportunities to practice their English and develop their communicative abilities when expressing themselves or transferring information. In addition, adults tend to think of virtual interaction as a separate realm from "real life," however, for children and adolescents, these "spaces" are all part of the same reality, "their reality."

In the light of what the world is witnessing from COVID-19 and its variants, and under the successive and sometimes sudden decisions made by governments calling for the closure of schools and resorting to the adoption of different types of education, the most common of which is remote teaching using digital technologies to communicate, deliver knowledge, and exchange ideas. Unquestionably, it has become necessary to adopt modern technologies, integrate them into CPBL, and develop their use to ensure their safe and beneficial utility. Different conditions must be met to take advantage of the

opportunities given by new technologies for creativity, expression, participation, and communication. Otherwise, digital competencies are necessary for the use of technological tools. One more requisite is the inclusion of ICTs into students' daily lives, along with the good and responsible practice, taking into account their rights as well as their obligations when cooperating on the web.

Actually, to make better use of these means, both teachers and students should be trained on how to effectively use these digital features to explore the best of what they can provide and guarantee the continuum and progress of students in all circumstances and under any emergency. The following are some interviewees suggestions regarding the chances that the internet and numerous technological devices contribute to students' personal and academic development:

- Students become acquainted with technological tools and applications.
- Learning actively through cooperative and engaging games.
- Creating content and participating in projects.
- Increasing intercultural understanding and bridging social gaps.

5.3. Classroom observation Results and Discussion

In the classroom's observation and discussion section, the main results revealed from the teacher's performance and the student's actions are summarised, categorised, and manipulated in a logical manner. Additionally, in this section, the findings are discussed and interpreted to provide explanatory concepts and precise evidence that can be used to guide future research, open new paths for intellectual discovery, stimulate the quest for new knowledge, and identify areas for further growth, to consequently enhancing the instructional prowess of the teachers and improve student outcomes.

5.3.1. The process of implementing Cooperative Project-Based Learning in the EFL classroom

On the grounds of the classroom observation results, the following Table 27 summarises the main findings.

Table 27. *The implementation process of CL in the EFL classroom*

	Activities and notes
Teacher	Prepared students for collaborative work by asking them to make small groups of three or four and stimulate their interaction. Involve them by asking topic-related questions. Give some explanation and direction. Motivating them to share their answers and thoughts with their groups, and write the main points (they can ask the teacher in case of difficulty).
Students	Follow the teacher's instructions to form small groups. Involve in a discussion with their teammates. Make a list of key points from the discussion. Attempt to clarify tricky points with the teacher. They write essays based on the topic they were given, submitting them to their teammates for correction. Revise and correct the exchanged draught.
Assessment	The teacher checked the students' participation by taking notes during the teaching and learning process. In response to the teacher's request, the students submitted the revised draughts of their essays. The teacher gave the students feedback on their work.

As a result of the separated fieldnotes taken during the implementation of CP, it was concluded that: (1) Students took an active role in the learning process; (2) Students were motivated to learn during the CL sessions; (3) Interaction among students reduced their nervousness during the learning process; (4) When working in groups, students aimed to take responsibility for their own tasks; (5) In some classes, the teacher appeared to be having difficulty organising the class; (6) Sometimes, the grouping made by the teacher was imbalanced (factors such as the gender of students and their abilities should be considered); (7) The time spent implementing CL in one meeting was very limited. Due to the time limitations, in one session, the assessment was incomplete.

On the other hand, Table 28 shows the results of the observations made during the implementation of PBL in EFL classes.

Table 28. *The implementation process of PBL in the EFL classroom*

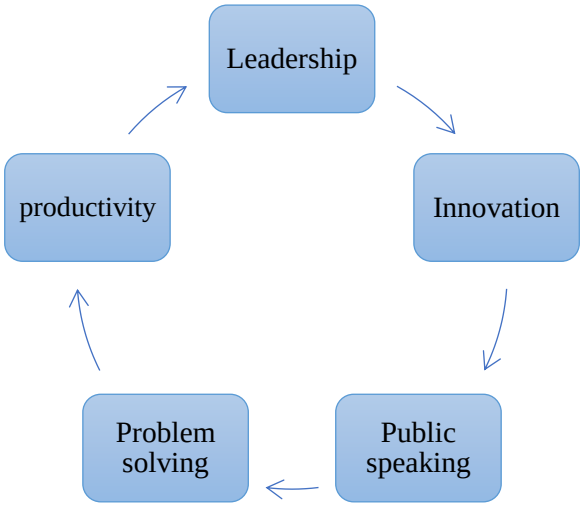
	Activities and notes
Teacher	Presenting and discussing the problem (considering the context/recent issue). Checking students' comprehension by asking questions related to the problem. Motivating students to solve problems cooperatively with their group. When necessary, students are encouraged to investigate issues out-of-school. ICT is involved, and students were encouraged to conduct research through internet-based reading.
Students	Read and comprehend the problem presented by the teacher. Participating in small group discussions to identify the main issues. Brainstorming the issue by connecting their prior knowledge to the current problem. In one session, students left the classroom to interview specialised people. Communicating and sharing the results of the finding with their teammates. Producing individually a draft version of an essay. Comparing and correcting their essay draughts with those of their peers. Each student improved the essay's shared draft.
Assessment	The teacher took notes on the learners' engagement during the process of realising the tasks. Assessed students' comprehension of the problem by asking questions associated with their findings and discussions with their teammates. Students were asked to submit their final product.

According to the results derived from the field notes taken during the implementation of PBL, it was revealed that: (1) Students willingly engaged in the realisation of the project's tasks, and were highly motivated to learn cooperatively with their teammates; (2) Students attempted to solve problems by exploring different resources; (3) Students were enthusiastic about the learning process; (4) students appeared to be more responsible for their own learning and hence more autonomous; (5) Students sometimes were confused when they encountered problematic issues; (6) The teacher provided support and guidance to students when necessary; (7) The teacher

sometimes had some sort of difficulties regarding group organisation and time management, especially at the end (assessment phase).

Indeed, this research strongly supports the use of CL group work in PBL (CPBL) whenever possible. Previous studies revealed that there is a significant difference between students' achievement in CPBL. Hutchison (2016) states in his study that students' participation in cooperative group projects may benefit from a diversity of backgrounds and experiences and lead to better attainment. Carless and Boud (2018) argue that in CPBL, students appreciate, manage, judge, and take actions that help them develop higher-order thinking skills such as analysing, evaluating, creating, and innovating. Figure 11 shows the most appropriate skills being developed when incorporating CPBL into the EFL classroom.

Figure 11. *The most relevant competencies strengthened by CPBL*



Source: own elaboration

5.4. Didactical Orientations and Applications

CPBL requires high team performance. As mentioned previously in the study results, the most critical issue faced by teachers is group management. Undoubtedly, Group dynamics are vital to CPBL and problem-solving. Studies show that group effort

often results in an increased output of new information and knowledge. However, when students work in groups, either for a project or to solve a problem, some critical problems are addressed. For example, when a group of students do not make the same efforts when they are working on a project or when some members of the group refuse to accomplish tasks that they should complete, and the teacher gives them the same grade, assuming that all the students have made the same efforts. Consequently, this creates a type of repulsion among students that results in their refusing to cooperate or participate with some of their group members, believing that the efforts of peers will affect their grade. Based on the study results, the following is a summary of the most challenging difficulties teachers mentioned when students work cooperatively:

1. Because they experience difficulties, students lack enough understanding of how to design their research for the project. As a result, they seek advice from the teacher.

2. When a project operates like a traditional unit, it can lead to a lack of student learning skills. For this reason, CPBL units could be so much more constructive to students when they are developing answers and products for a person, group, or organisation that will value their final product, or when it is presented in class or displayed on their school walls.

3. Students who do little work or do not participate in group activities may receive a higher grade than they deserve based on their true performance. Grade inflation hides conceptual learning deficiencies. Due to a lack of accurate data, the teacher is unable to assist the student in growing, resulting in subsequent challenges with increasingly complicated skills due to a lack of fundamental knowledge. Furthermore, learners who produce high-quality work may receive a low score because of the work of other team members, causing the teacher to see phantom learning gaps that do not exist. The teacher is burdened with extra and needless labour due to the assessment obscurity.

4. When looking for solutions to some problematic issues, some group members become trapped in reacting to the ideas of others rather than generating their contributions.

Consequently, many students see themselves as passive participants when they are working with others, and many educational experiences reinforce this perception. For this reason, teachers who wish to create effective CPBL experiences must first encourage students to take charge of their learning, believe in their abilities, and integrate successfully with their peers.

5.4.1. Possible solutions to the mentioned problems

1. For the first-mentioned problem, Ben Maad and Saadi (2020) suggest some important strategies for teachers to adopt in order to facilitate students' tasks and help them work effectively together**:**

- Establish guidelines that define roles and responsibilities, the mission is the group's goal and the reason for its existence. Roles refer to the group's specific expectations and procedures, which include the rules of the order by which the members coordinate their participation in group interaction. Representing the group norms is crucial to the productivity of the group.

- For each role, provide criteria and logistical checklists. Students must have common areas of agreement around which they organise their attitudes, values, perceptions, and cognition to have a successful interaction. In the absence of such norms, there will be no stability or order, and chaos will emerge.

- Teachers should train their students to work together, although this is not an easy task, mainly if teachers do not trace the theory of group dynamics and have a thorough understanding of psychological and sociological theories, then it will be more difficult for them to manage group dynamics successfully.

2. Students should be motivated for the work they do, for solutions or ideas they produce. Face-to-face or virtual meetings have the tremendous effect of giving students' work greater meaning. You can invite specialists or people who are affected by a subject that the students are researching, or you can set up video calls for this. Encourage

students to think of themselves for their practice to be authentically linked to the world outside. If possible, invite others to listen to students' progress reports and provide feedback in person or via video meetings, and then have students finish the project with a presentation or publication that is presented to the outside audience.

3. It is required that teachers make all graded assignments individual tasks and not assign grades for group projects. Taking grading out of the equation allows students to concentrate on their work without worrying about how their peers' efforts will affect their grades, and it encourages all students to participate. Teams collaborate to collect data and complete tasks to foster understanding through mutual support. Students use the outcomes of their collaborative work to complete their assessments. Each learner must demonstrate what he/she knows and does not know.

4. Include the student's voice above the choice. People own their learning when they have control over what and how they learn. Giving options is a starting point, not the result. The teacher creates the choices. Students have more buy-in to truly express themselves when they design their options within the PBL framework.

5.4.2. Ideas for enhancing students' voice

Aniuranti et al. (2020) indicate the following ideas to enhance students' voice:

- Provide assessment criteria while leaving the final product format open-ended, so students can choose any product that meets the criteria, such as to make a short film, create a newsletter, or write a traditional essay.
- Motivate students to take charge of the learning activity, which requires a great deal of innovative thinking. As an example, involve them in a small group reading comprehension and discussion.

- Make it a priority for students to establish norms for good behaviour in the classroom, then give them the authority to monitor and support each other. For communicative

tasks, networking among the members and the group manager is required to enhance creativity-relevant and task management skills to potentially make “moves” in the CPBL process. To explore and try a solution to the problem, the group may need to suspend their judgments long enough to consider "moves" that had previously been ignored or deemed appropriate. They must be inspired to accept failure and keep trying despite making mistakes. Implementing these ideas should pique your students' interests and result in a powerful learning environment.

5.4.3. A repository model of CPBL tasks and their typology

The findings showed that teachers, particularly those who have never implemented CPBL nor been trained in it, express a sort of apprehension concerning both the effort and time that are required to design and plan interesting projects in the English classroom. Although the participants’ opinions on this aspect may appear to be correct, it cannot be ignored that class projects are an excellent method to apply skills learned throughout an English course. Furthermore, projects can provide a pleasant break from regular instruction for both the teacher and the students. Based on the findings, in this section of the research, a range of CPBL ideas that can be implemented in the English classroom will be provided.

When teaching English as a second or a foreign language, teachers have choices and can provide a list of innovative projects that are relevant to the theme under study, from which students can choose according to their interests, different types of activities, and examples are stated in Table 29, which presents in its first column a repository model of project tasks and in its second column, the typology of tasks. Even though there is no official task typology, there may be some sort of classification that can be useful when planning tasks. It is worth noting that they are the only kinds of examples that depend on measures of teaching models, cognitive processes, and selected activities. In the same way, taking into consideration how the same task is developed, it can belong to several types.

Table 29. *A repository model of projects tasks and their typology*

Projects Tasks Repository Model	Typology of tasks
Plan and make expose a presentation, and take part in a debate.	Communicative/simulation/Roles
Create and represent a theatre.	Artistic/Communicative/Literary
Act as a tourist guide.	Communicative/Roles
Make a scientific journal.	Scientific/Design/Literary
Produce text.	Literary
Social projects in terms of solidarity tasks.	Solidarity
Create a blog.	Tic/Literary
Use software to create products: videos, podcasts, audiobooks/stories.	TIC/Literary/Design/Communicative
Make a publicity Spot.	Design/ TIC/Literary
Work on an investigation about a topic.	Investigative
Analyse and elaborate on journalistic texts.	Simulation/Roles
Create work of art out of recycled material.	Design/Entrepreneurship
Perform a plan.	Simulation/Roles
Virtual reality project.	TIC/Artistic/Design
Make a public speech.	Communication/Literary
Organise a cultural trip.	Investigative/Entrepreneurship
Elaborate, analyse graphics, take out results.	Investigative
Create and use an augmented reality QR code on a product.	TIC/Artistic/Design

Source: own elaboration

5.4.4. Tasks' typology explanation

Lassig (2020) reported the following explanation for tasks and its typology:

- Communicative tasks are activities that promote interaction and communication. These types of tasks encourage students to practice speaking, deliver oral speeches, persuade listeners, pass judgments, or listen to other learners, to find information to break down barriers.

- Investigative tasks have such objectives that the students acquire autonomy in conducting critical investigations in the process of the information that the final product is the result of a dense investigative procedure.

- The scientific task type of activity has the objective of advancing the learning of scientific aspects as well as learning the investigative scientific methodologies that scientists follow to solve a problem. The final product of the investigation is derived from scientific indications.

- Literary tasks include all types of reading activities, where the student reads, understands, produces, and extends all types of texts, argumentative, poetic, journalistic, or any of those collected in the text genre map.

- Artistic tasks are those whose final products have such an objective the development of students' artistic abilities, focusing on the enhancement of creativity and innovation.

- Design tasks are those whose final products require a process that develops students' analysis, perception, and creative capacities.

- Simulation tasks are types of activities where students play roles to reproduce real-life situations in which the participants have to assume a role to solve a real problem.

- Entrepreneurship or solidary tasks have the objective of promoting entrepreneurial culture and enhancing students' social and environmental collaborative skills.

- TICs tasks whose final product required the advancement of technology use, to produce knowledge for the social diffusion projection.

During the interviews, it was noticed that some teachers mentioned CPBL as problem-based learning (PBL). However, they are in fact two different but closely related approaches. PBL is based on introducing a real problem to students who are expected to first define and describe the problem first, then generate a number of different solutions through brainstorming in a structured problem-based learning session, and finally settle on a solution based on their fresh knowledge using many techniques such as analysis or experimentation. Otherwise, in the CPBL, a real problem is raised with a mini scenario specifying the goals, which could be a design and/or tasks to implement to be accomplished within a specific context and time. The following Table 30 presents a clear explanation of the difference between CPBL and PBL.

Table 30. *Problem-based learning versus CPBL*

PBL	Implementation elements	CPBL
It stems from student and teacher it should be linked to both.	Initial situation	It should be linked to the students' interests.
It should be linked to the curriculum.	Topic	It could be linked or not to the curriculum.
A challenge related to the real world is posed adequately to acquire skills that are necessary to solve everyday problems.	Challenged questions	A challenge related to the world is posed appropriately to acquire skills that are necessary to solve everyday problems.
It should be well-programmed and systematised.	Timetable	The interests and investigations realised by the students set the course. For this reason, there is a kind of flexibility in the timing.
They stride to the achievement of the final product.	Tasks	Aimed at achieving the final product and developing activities that make sense to students.
Should give an answer to a challenging problem or to the question raised at the beginning.	Final Product	Students investigate different aspects of the raised questions so that they can add different types of information that they find interesting.

Source: own elaboration

5.4.5. Generic model of rubrics for CPBL Assessment tasks

Giving students opportunities to work together in a cooperative form to construct their knowledge effectively in problem-solving to acquire professional skills is very significant (Volger et al., 2018). Chen & Yang's view of CPBL is appealing to achieve this objective because this form of cognitive learning approach uses different types of instruments to assess students' learning strategies; the most common tools are rubrics, artefacts, and questionnaires. However, rubrics are the most frequently used, especially in the field of teaching English using CPBL methodology (Usher & Barak, 2018). Consequently, Hoe et al. (2010) motivated teachers to create and implement a grading rubric that includes several characteristics, such as learners' understanding, creativity, communication skills, and final product authenticity.

When the research findings were analysed, it was discovered that among the difficulties that teachers encounter when implementing CPBL are determining how to evaluate the final product of the project and scoring their learners' work. On the other hand, the same difficulty was mentioned by those educators who do not adopt the teaching by project and who are obsessed with facing this challenge when implementing this methodology because these teachers represent the high percentage that this research showed as teachers who do not use CPBL and instead use the traditional methodology in providing lessons as well as in the evaluation using a scoring method from 0 to 10 after the completion of the assignments.

At this point in the research, and based on the results obtained from the study, it was decided to present some models of assessment in the form of rubrics "Generic rubric Model" (Table 31) that can be adopted by teachers as auxiliary tools for evaluating the project's final products that their learners carried out. Of course, the models and evaluation methods presented in this research remain supplementary instruments, and the teachers have the freedom to add or remove items as they deem fit, or to create and innovate other models that fit and suit their needs. Furthermore, teachers may feel free to use a numeric Likert scale for peer evaluation (Table 5) or an open-ended question style of peer evaluation (Table 6). On the other hand, (Table 7) presents a numerical-based

scale for self-evaluation, where students can assess themselves based on a specific set of criteria and is subject to teacher review, and final grade determination and teacher and student signatures. Moreover, to assess the whole CPBL before, during, or after the implementation (Table 8), was specifically made for this purpose.

Table 31. *Generic rubric model for skills learning*

Student Name: ……...

	Excellent	Good	Adequate	Regular	Little

Source: Own elaboration

Indicators: Aspects that are going to be evaluated

The performance level of target competence acquisition

Descriptions: Briefly explained evidence that allows the indicators to be placed at their level

Many researchers investigated assessing students' hard and soft skills, in addition to EFL learners' writing abilities (Sedeghi, Biniaz & Soleimani, 2016). Besides, hard, and soft skills, for instance, problem-solving and creative thinking, collaborative and teamwork, and life-long learning, are also important (Wu et al., 2018). A rubric is a useful tool for evaluating students' technical skills through oral presentations, in which their performance is assessed based on aspects like oral presenting style and the value of the presented contents (Vogler et al., 2018; Beregal et al., 2017).

During the CPBL phase, students work to create a final product that is of great importance because it supports their knowledge construction, discovering, and improving professional abilities, and increasing their enthusiasm for the discipline and capacity to collaborate with others. Consequently, the final products are a concentrated manifestation of many integrated skills. Table 31 is an assessment tool that contains indicators through which learners' performance can be measured by evaluating the extent of the target competencies' acquisition after completing the project and obtaining the final product.

Over and above that, there is a website titled "RubiStar for Teachers" that enables teachers to create automatic rubrics for all types of CPBL activities. By typing the name provided for this website into Google, the teachers could have direct access and choose a customisable rubric according to what they want to assess, either the project final product, oral presentation, work skills, research and writing, or other types of tasks that are all presented on the website. Rubistar is a free tool that helps teachers save, edit, or create quality rubrics in a short amount of time online. Moreover, teachers have direct access to these rubrics either from school, home or on the road.

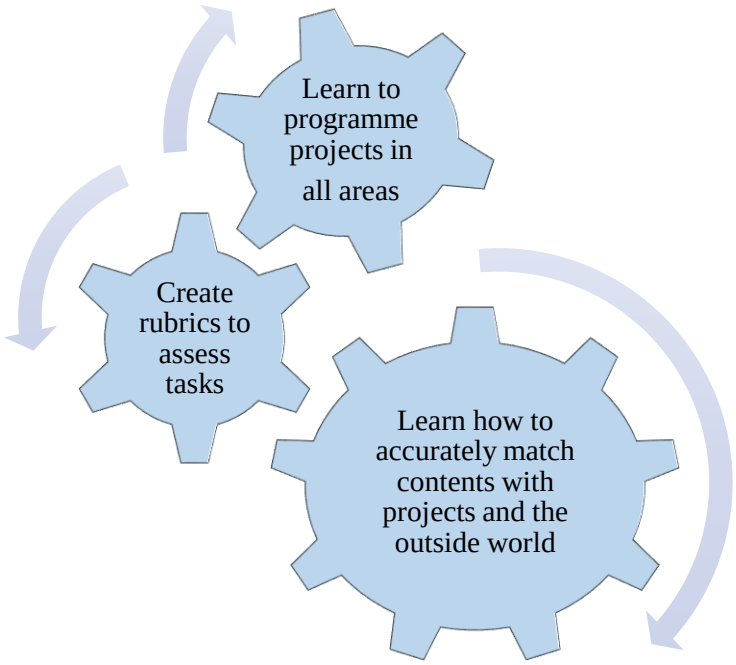
When planning a project, rubrics should be designed and supplied to students in advance, providing comprehensive descriptions of different steps and aspects of the project. In this manner, students will be informed about everything they are required to do, and what efforts they are going to make to realise the desired objectives. As a result, students strive for academic brilliance and excellence. Furthermore, such a rubric would be useful in guiding teachers in accurately assessing students' work.

Before the final checking by the teachers, students should be encouraged to exchange their project's final product with other partners to review each other's work and provide relevant feedback. This will reinforce meaningful interaction and cooperation among students while also reinforcing their learning. Group or peer feedback could be used as a constructive assessment tool to guarantee that students are working toward the learning goal. Along these lines, students should be asked to submit their final product to the instructor for final assessment review. This prerequisite would serve as a reminder for students to pay attention to linguistic accuracy and cultural elements. A meeting with the

teacher to discuss some linguistic aspects would assist students to realise why some words are not optimal and why certain structures would be more appropriate to use, so, students would benefit from such a method since it would help them learn and retain information.

As the findings of this study revealed, CPBL is challenging to implement, because it involves a great deal of both planning and hard work. Simultaneously, the findings bring to light important information concerning the difficulties and challenges teachers confront, mainly because of the lack of professional training, attitudes, and inadequate resources are some of the challenges. However, these problems are not considered of great complexity, but if they are not collaboratively resolved, they may adversely affect the benefits of CPBL. In the following Figure 12, some recommendations for teachers that may assist in the resolution of specific CPBL difficulties are presented.

Figure 12. *Removing CPBL difficulties*



Source: Own elaboration

To become a good project programmer, one must learn how to link content, apply knowledge, and think of new ideas that will keep students engaged in learning. Rubrics, on the other hand, serve as scoring guides to asses and articulate a project's definite components and expectations. Rubrics can be used for a bunch of assignments: research papers, group projects, portfolios, and presentations. When connecting different learning experiences that happen outside of the classroom, students gain new skills, knowledge, and capabilities, which enable them to uncover new careers and opportunities that they may not have been aware of previously.

5.4.6. Practical steps for English language projects planning and management

One of the problematic issues that this research raised was the "How?", which was constantly asked by the participants of the current study to know the potential methods and techniques to implement CPBL successfully in their English teaching and learning classrooms. The results obtained from the interviews highlighted a number of teachers who seemed inspired by creating and realising projects. A quote from one participant who said: *"I am one of the teachers who are restless about creating and realising new projects, especially those where students and their families participate, and I have one main objective: to create great citizens for the future by developing their inner skills and involving them in immersive experiences."*

Even though the results disclosed the existence of many teachers who are inspired by the implementation of CPBL, it was also revealed that 43% of the participants confirmed facing difficulties which were classified as technical ones. In other words, these teachers need to reinforce their technical skills to perform effectively when implementing CPBL. Meanwhile, it was found that 26% of the participants encountered time management as a challenging factor facing the CPBL since it requires more time than traditional lecture-based teaching.

As the results highlighted challenges and difficulties encountered during the implementation of CPBL and concerning the objectives of the current study, this section of the research will present the fruitful results of years of investigation into CPBL

implementation and practical steps that might be of great help for teachers who are implementing as well as those who are willing to implement CPBL. More than anything else, the study emphasises the importance of designing professional training for teachers and considers this a key matter for CPBL's favourable outcomes. Simultaneously, the study encourages teachers to brush up on their pedagogy, take the initiative for self-development by first setting goals and determining what areas of their practice require the most attention for improvement. The study considers improving the way teachers actually teach to be a recurring feature on every teacher's to-do list.

When it comes to the implementation of models of learning activities that are based on cooperative projects, the teachers' autonomous role has enormous importance. According to educational policy in Finland (Finnish National Board of Education, 2015), at all levels of education, teachers should be skilled in being experts in curriculum development, teaching and assessment. Formal professional training programmes are essentially optimal methods to improve the teaching of English through CPBL in the Finnish educational system.

Juuti et al., (2021) in their international research project (Finland-US) for which teachers in both countries designed and implemented CPBL units, their partnership project "Teaching and Research Practice" TRP for professional learning illustrated the importance of combining academic knowledge with equal practical participation as well as conducting research that creates innovative knowledge to enlighten education improvements.

As a result, the partnership intends to combine educational research with pedagogical design and professional training for teachers (Henrick et al., 2017). The view of TRP is prominently based on Dewey's (1919) concept of collective tasks in which participants share similar interests, goals, and views. From the perspective of the TRP partnership, the common goal was to get a better understanding of how activities such as co-designing, implementing, and assessing teaching units could improve student engagement in English learning through projects. To ensure that teachers share and

discuss their success as well as the encountered difficulties, an atmosphere of trust and psychological safety should be emphasised.

Indeed, meaningful learning occurs when teachers actively interact in groups or individually with others, forming relationships that simultaneously grow and broaden one's vision of teaching and learning by sharing different perspectives while respecting each other's intelligence, skills, pressures, and intentions. Working collaboratively changes practises by gaining a better understanding of the complicated task of teaching. By drawing on teachers' shared classroom experiences, they solve the problems of teaching and learning that are significant to them and serve to keep teachers in the profession.

Reflection by teachers on their personal experiences about the positive aspects of creating CPBL units in relation to shared goals and how different components of CPBL relate to student involvement is critical to their learning as well as to their success. Coburn and Penuel (2016) ensured that common goals, values, and teamwork are essential features of a research-practice partnership. In this manner, teachers should be considered essential educational innovators and members of the research team (Loukomies et al., 2018) who are willing to be engaged in rigorous educational research to enhance their professional skills.

The importance of both organising professional development (PD) training courses for teachers and self-training could be reflected in enhancing their teaching practises, and capabilities, as well as boosting the teaching of EFL using CPBL. It is also significant to improve teachers' English language proficiency as it is linked to their PD and pedagogic skills. The integration of IT into pedagogical practises and the promotion of action research should also be considered as a compulsory component of PD (Nguyen, 2018). Table 32 provides a variety of substantial practical and methodological steps to follow for successful, innovative, and creative project planning according to the students' needs. Assuming that these ideas can help and inspire teachers to effectively implement CPBL in their EFL classrooms.

Table 32. *Actions for projects planning*

	Objectives/ Actions	Responsible Level/ Cycle/ School	Timing	Indication
Consolidate achievements	Propose new objectives in the projects that fit the level and students' needs	→ All school members	When necessary	Number of Projects that are of interest to students
	Use all the available spaces, materials at the level of classroom and school. Whatever can help design the project.	→ All school members	When necessary	Number of teachers implementing CPBL in School
	Establish a time to design, revise, investigate information and Broadcast the project	→ School direction	When necessary	Number of meetings and realisation of projects
	Put more emphasis on the final products to give more meaning to the educational process	→ Each teacher	When necessary	Quality of final products
	Enrich the Project with the creation and visual productions using a multitude of resources	→ Each teacher	When necessary	
	The creation of a plan to welcome and help new teachers	All School members With the help of an expert		Number of actions carried out

Source: Own elaboration

5.4.7. Samples of authentic projects

In this part of the study, an experience of carrying out an authentic project will be shared, considering the objectives of this work, to provide a sample of such a successful educational project that the author of this dissertation carried out in a high school to develop students' positive interaction and linguistic skills to be prepared to carry out cooperative projects. The objective of including samples of projects is to give a brief overview of how good educational practices can change students' lives, based on an education that first and foremost serves the best interests of the learners and revolves

mainly around them. Consequently, it will be held successfully, especially if done in collaboration with the others.

The project took place in the high school of Pablo Ruiz Picasso in El Ejido, Almeria. This high school has specific characteristics in terms of cultural diversity since there are a significant number of students who belong to different cultural backgrounds, which caused prejudices and conflicts among those students, which had negative impacts on their learning outcomes. The project was titled "Together We Enjoy Diversity for the Development of our Positive Interaction, Communication Skills and Well-preparedness to Carry out CPBL".

Why was the project created? The most innovative aspect of this project was to unite students and reinforce their relationships for the sake of developing their cooperative learning skills, to form harmonious and inclusive work teams to work effectively on several educational projects. There were 134 participants in this project. The number of females was 55 and males was 79. They were between 12 and 16 years old.

In this educational centre, there are students from different nationalities (Spanish, Moroccans, and other minorities from South Africa and Asia). Teachers observed some unusual behaviours of their students because of their lack of acceptance of each other, trust, and the occurrence of a kind of disharmony and distance that results in the unwillingness to work cooperatively in groups and which negatively affects their academic results.

The objectives of the projects were as follows:

1. To increase relationships based on mutual respect, trust, and understanding between students of different backgrounds.

2. To develop a dialogue with sincerity and patience without considering what sets them apart as an insurmountable wall, but, on the contrary, recognising that confrontation with the diversity of the others can become an opportunity for greater mutual understanding.

3. Develop the critical spirit to form a social, cultural, and spiritual dimension that is rooted in the values of respect, tolerance, and brotherhood.

It should be taken into consideration that one of the conditions for the success of the CPBL methodology is the existence of an atmosphere of mutual respect based on strong relationships between learners so that they can work in perfect coordination on their projects with their teams. In this manner, students were motivated to choose among different content areas related to the objectives of the project, such as social and cultural prejudices, cultural values of their country of origin and the host country, shared cultures, and values, and finally, Cordoba as a city of culture and coexistence.

The methodologies used were CPBL, including the use of digital technologies through which students realise and organise their investigation, present their final topic, etc. The other methodology that was included is Game-Based Learning (GBL). To contribute to an amusing environment for the project, the gamification of the classroom took place employing digital applications (Kahoot, Plickers, etc.). Furthermore, it involves shared teaching (the joint work of two or three teachers of different subjects within the same classroom or schoolyard), getting students to work cooperatively on projects, and making their final product public in two languages, English and Spanish. During the project, students realised many involving activities, the first of which was a question game using the Plickers and Kahoot gamification apps.

The Plickers and Kahoot gamification activities were the first to be carried out by means of a questionnaire, which was created for students to freely express their thoughts and answers and to identify and evaluate possible cultural prejudices they have in

fascinating manner. The questionnaire was created with 40 test questions and multiple-choice answers. This method provided data about the main source of student's behaviour, which served as a platform to open a serious and honest discussion about different topics: dialogue, the culture of encounter, the cultures of countries of origin as well as the culture of the host country, tolerance. Finally, questions were raised about Cordoba as a symbolic city of peaceful coexistence between different cultures.

The second activity was conducting cultural and social research and delivering a public speech. Through this activity, students were motivated to conduct research of their choice on topics related to the above-mentioned content. When students finish their research about the different cultural and social aspects, they organise public talks at the presentation hall at their institution in collaboration with their families. The purpose of this activity was to acknowledge the most outstanding aspects that shaped their identity, culture, and origin.

It is worth mentioning that some talks were given in the institution, while others took place during the scheduled three-day departure that took place in the city of Cordoba. The talks that students presented covered a wide range of topics, from the main characteristics of Spanish, Moroccan, and the other participating cultures, to the various points of union between these cultures, with dozens of anecdotes demonstrating how cultural and social diversity had provided opportunities for personal growth for students and their respective families.

The third activity was about the preparation and tasting of typical dishes of the original gastronomy of the students. Gastronomy is one of the primary markers of identity for various cultures, and it has proven to be a valuable ally in the process of establishing bridges and meeting points between different people on numerous occasions. For all these reasons, students, in close collaboration with their respective families, produced typical dishes from their countries of origin. The tasting of these exquisite delicacies was accompanied by numerous anecdotes of personal, family, social, and ethnic nature. The activity was a great success as it got students to experience first-hand that cultural

diversity is a source of personal enrichment and managed to combat many prejudices that students had deeply rooted in their mental systems.

The fourth activity, "Out-of-school departure to Cordoba," was considered the culmination of the project. The student tremendously admired it, saying: *"It was an amazing experience which exceeded all of our expectations."* The realisation of a 3-day educational trip to Cordoba, an emblematic city of coexistence among different cultures with a very rich history. During this activity, students were allowed to take turns to present their talks on the bus to 58 participating students (the number indicated here shows students who chose to travel and not the whole group participating in the projects). They were also allowed to explore this historic city that in the past hosted a peaceful coexistence among different cultural backgrounds. In addition, there was the intervention of other agents (guides, monitors, etc.) to support the process of students' learning by providing explanations about several aspects related to the city, which increased the curiosity and interest of the learners to learn more.

Numerous visits were made to the main historical monuments of the city (Mosque-Cathedral, Roman Bridge, Kings Palace, Archaeological Complex Madinat-al Zahra, and Synagogue). Putting special emphasis on the importance of peaceful coexistence, mutual respect, and the cultural richness that the range of diversity always brings. The students were very delighted with the trip and recognised that this trip had not only managed to change them as persons but had also changed their perception about those people who came from different social and cultural origins. At the end of the project, students came up with the idea of using social media for the sake of spreading messages, photos, and famous sayings that encourage peaceful coexistence and intercultural dialogue.

For the assessment of the cultural and social prejudices, two questionnaires were prepared, one for the initial evaluation and the other at the end to evaluate the overcoming of the different prejudices related to the cultural and social field. However, for students' learning assessment, many techniques could be utilised, among which is the use of rubrics.

According to the topic of the project results and after the stage of evaluating the performance of learners depending on the use of rubrics. It has been admitted that the project had fascinating results in improving relationships between different groups of students in this high school and breaking down all kinds of prejudices and conflicts. The project also helped to build solid mutual respect among these students. Furthermore, there had been incredible empathy, compactness, sociability, and a great effort to work cooperatively on projects to develop their English language skills. It was especially delightful to see how, as mutual trust, esteem, and fraternal feelings increased, while at the same time we saw certain social and cultural prejudices diminished and, in many cases, disappeared.

To evaluate the project itself, the sample of Trujillo (2014) was exploited (see Appendix 9), where the evaluator can mark the column that best reflects their opinion about the project, ranging from 4 (very evident) to 1 (little evident). The value 0 is used when the criterion cannot be applied or is not evident. The evaluator can add comments, when necessary, at the end of each block.

5.5. Conclusions

Following the objectives of the study, the ‘didactical orientation and applications’ section which follows directly the study result chapter to make use of its major outcomes. The section presents valuable insights regarding CPBL’s practical implementation steps for teachers to facilitate their tasks and enhance their performance, as well as motivate them to use CPBL and reduce their anxiety toward it.

The section started with a brief outline regarding the requirement of high team performance, which is considered a key factor for CPBL success because of its high importance for students’ problem-solving skills. However, managing group work is not that easy, especially in the context of conducting authentic project by students and its whole fulfilment process. Thus, the section presents these problems, and at the same time offers practical solutions that could be helpful to efficiently manage students’ group dynamics and enhance their voce.

To encourage teachers, particularly those who are eager to implement CPBL, the section introduces a variety of inventive ideas for projects that teachers can carry out in their English classrooms. The project tasks repository model is considered to be a source of motivation not only for teachers to implement the methodology but also for students' inspiration to navigate through these ideas and produce creative projects.

Different types of useful tools, such as the model of rubrics, which are considered crucial for project task assessments, are presented. The use of these rubrics is very recommended to assess students' performance, learning style, creativity, communication skills, and final product. These rubrics enable the teacher to score the learners' work and identify the difficulties and challenges faced by the learners, and as a result, they develop plans to solve them.

CHAPTER 6.

CONCLUSIONS

6.1. Conclusions

The CPBL pedagogical approach appears to be well aligned to become among the leading models for teaching and learning in the twenty-first century. Thus, certainly educators would benefit from embracing such an innovative approach. As schools struggle to teach students in a world of low motivation, limited problem-solving skills, severely restricted funds, and ever-changing instructional methods (Ning & Hornby, 2014). The CPBL methodology has emerged as a methodological option for the 21st-century classroom that would be the most effective in keeping pace with the changes the world has witnessed during the current COVID-19 pandemic. CPBL increases students' motivation, learning autonomy, and digital competencies, which are key issues that help students to maintain lifelong learning, be able and responsible for constructing their knowledge and continue their learning under any circumstances.

In this part of the study, the most important conclusions will be presented based on general and specific objectives as agglutinating elements between all parts of this research. The results of this exploratory study, which emerged from the outlined objectives, attempted to elucidate teachers' motivation to implement CPBL and explore their perceptions, attitudes, and points of view regarding the methodology, its difficulties, and challenges, and the ICTs integration. Furthermore, the study examined and analyse factors impacting the implementation of CPBL such as teachers' age, gender, and stage of teaching. As part of this study objectives, practical orientations and applications were provided to enhance teachers' inclinations to successfully implement this methodology in their EFL classroom.

Based on the objective of this study, the initial results reveal that 79.76% of all responses indicated positive attitudes towards this approach. However, the results also showed that 36.9% implement this methodology. Considering these results, and based on teachers' responses to the surveys, one major reason why some teachers were hesitant to implement CPBL was a lack of prior experience or background knowledge of how to integrate it into their EFL classroom routines. According to Mitchell and Rogers (2020) in most cases, teachers' knowledge of how to teach cooperatively through project-based

learning is fairly limited and incomplete. Due to these issues, numerous difficulties surfaced during the implementation phase. Some of these difficulties are attributed to classroom management, as in the case of dysfunctional group dynamics, such as free-riding, leadership problems, poor time management, and unresolved conflicts, which frequently compromise learning outcomes. In this sense, the teachers' experiences reported in this investigation aligned with the findings of Xiangyum & Youmen (2020) in their examination of the participants' understanding of PBL. Most of the participants lacked any prior experience with PBL and processed limited knowledge and skills in implementing the approach inside their classrooms. As a consequence, we found that teachers' lack of knowledge and inadequate training courses leads to significantly higher levels of anxiety and concern about the effort and time required to plan and manage CPBL activities, which in turn reduces the level of motivation amongst teachers. These findings on CPBL are consistent with research on teachers' motivation for other achievement-related behaviours (Perez et al., 2014; Peters & Daly, 2013; Wozney et al., 2006).

When data were analysed based on teachers' age, the factorial analysis revealed that there is a significant difference regarding the independent variable "age" and its influence on CPBL implementation within EFL classrooms ($p < 0.001$). Accordingly, younger age groups of 21–30 and 31–40 showed a greater predisposition for the implementation of CPBL than the 41–50 range, which indicates that the young teachers are those who are most inspired and motivated to implement this methodology. Aksela and Haatainen (2019) discuss the views of active teachers on the advantages as well as the challenges of PBL and how these perceptions could promote its implementation and enhance teaching practice. It should be mentioned that the multivariate statistical analysis did not show any significant differences regarding the independent variable stage of teaching (primary or secondary) and its impact on the implementation of CPBL. The following result was achieved: $F = 635^{b}$, gl = 60.000, $p < 0.815$. Additionally, the independent variable gender had no significant differences related to the CPBL implementation as found from the factorial data analysis: $F = 1.571^{b}$, gl = 13.000, $p < 0.120$.

Indeed, this research strongly supports the integration of CL in PBL which means Group Project Based-Learning (GPBL) rather than in Individual Project-Based-Learning (IPBL). The results from the Sparkman Rank Test, which was made to measure the correlation between CL and PBL, generated significant value $P < .001$, $\alpha = 0.05$. Meaning that PBL and CL have a high correlation coefficient: rho (100) = 0.696, $P < .001$, their impact is high when both methods are joined as one (CPBL). Previous studies revealed that there is a significant difference between students' achievement in GPBL. Hutchison (2016) states in his study that students' participation in cooperative group projects may benefit from a diversity of backgrounds and experiences and lead to better attainment. Carless & Boud (2018) argue that in GPBL, students appreciate, manage, judge, and take actions that help them develop higher-order thinking skills such as analysing, evaluating, creating, and innovating rather than lower-order thinking, such as recall, understanding, and applying, which are developed when implementing IPBL. In addition, GPBL is likely to demonstrate a higher critical thinking level, develop respect for different opinions, and exhibit cultural sensitivity and respect for diversity.

Regarding the use of information technology during the stage of cooperative project completion, the participants emphasised the value of these technological tools in helping students organise and conduct their research as well as present the outcomes of their research. Essentially, this is a cornerstone for enhancing students' basic competencies and self-learning skills to enable them to continue their learning using their own strengths and abilities.

6.2. Limitations and Future Lines of Research

In the course of conducting this research and as part of its development process, a number of study limitations were encountered during the conduct of this research. They are presented in the following paragraphs as a means of reflecting on future analysis and thus integrating potential aspects that may otherwise not have been considered in this study.

The first limitation lies in the fact that we did not collect quantitative data by directly asking students about their performance; instead, we primarily surveyed teachers. This might be taken into account when investigating the CPBL methodology in future research since it encompasses not only teachers but also students. The second limitation is that the restricted sample used for this study may have an impact on the applicability of the results obtained. Similarly, the population in this study was mainly Spanish, and CPBL use may differ from one country to another depending on the level of use. Thus, future cross-cultural comparison studies may ensure the generalizability of the results while also providing new insights into the development of CPBL in English teaching and learning.

We have also been challenges in regards to organisation, mainly due to the limited available free time in teachers' schedules. As a result, it proved hard to coordinate and hold the necessary meetings with teachers for data collection and discussion.

Finally, the assessment of students' learning through CPBL is an area that must be improved in future studies. This is a significant factor in the educational process, and it becomes even more important when it comes to teaching and learning through projects in conjunction with the applicability of digital technologies.

6.3. Implications for Teachers' Training

To motivate more teachers to use CPBL in their classrooms more smoothly requires up-to-date, adequate, well-designed, and continuous professional training courses for all teachers. It is also recommended that practitioners of CPBL share their good educational practices, which should be considered optimal, innovative, and attractive, so that they can serve as a model that makes knowledge more appealing and allow colleagues or institutions to learn from them, even extrapolate them to similar contexts. Indeed, these educational good practices models can be shared during the teachers' continuous training phase or by creating a weekly or monthly educational magazine that includes in detail all the stages of the implementation of cooperative projects, the methods and schedules of the implementation, the results obtained, and the

possible challenges and difficulties encountered and the alternative solutions to these difficulties. Correspondingly, the rewarding of outstanding performances and teaching practices, innovative and new learning methods can significantly improve teachers' motivation as they feel valued and respected. By such means, they can continue with their excellent work.

As a result, one of the recommendations of this study is that professional training centres should encourage instructors to participate in professional development courses on collaborative project-based learning and participate in workshops as teams with members who teach English or other disciplines. The aim of this activity is to provide teachers with the fundamental competencies to successfully manage CPBL and to fulfil the objective of CPBL, which is considered to have an interdisciplinary nature. In addition to this, the teachers' integration and participation in these courses help them to benefit from the experiences and ideas of others, thus exploiting them for the benefit of their professional performance as teachers as well as the level of advancement and development of students' learning. And finally, it enhances teachers' direct interactions with other practitioners which develops a social-professional network in which they find the relevance of performing CPBL in their classrooms (Emo, 2015).

The study's findings have important implications for course designers and teacher training programmes, and they may also inspire teachers who work in the field of teaching English as a foreign or second language, particularly those who are experiencing difficulties or challenges in implementing CPBL, or others who are willing to enhance their professional skills to be able to implement CPBL in their classrooms. the following paragraph highlights the most relevant contributions as well a summary of concise implications.

On the basis of the findings, and taking into account the general objective of the investigation, a number of recommendations are put forward with the intention that firstly, to optimize learning spaces in favour of motivating teachers to adopt CPBL methodology to train their students with competencies, as it makes school life a part of social life in the outside world of the school, as it develops the spirit of cooperation among

learners, who access experiences and knowledge with their own efforts and organised thinking. This methodology is a perception and choice based on the formulation of projects in which the learners integrate all their knowledge in order to solve a problem situation they encounter. To make the implementation of CPBL effective the following actions are therefore highlighted:

- Teachers should be motivated to carry out self-training by facilitating their access to reliable, inclusive and interdisciplinary databases, of the most recent scientific results that are available in the international sites of research like Scopus by Elsevier, Clarivate Analytics' Web of Science (WoS), CiteSeer and Google Scholar are freely available online.

- Teachers should be encouraged to connect to the academic community of educators, researchers, and librarians to be aware of the latest educational innovations and insights that drive better decisions, Best practices and positive outcomes.

- To use effectively CPBL in the English classroom teachers should have access to up-to-date, adequate, well-designed and ongoing professional development training.

- Designing an international social networking site project (SNSP) to connect students with other people either inside or outside their country is an appealing approach for language learners to create profiles and communicate with native speakers, providing them with opportunities to practise their language in real contexts, exchange ideas, construct a linguistic identity, and build a relationship with the target culture. In addition, to the foregoing, such techniques engage learners in communicative situations that allow them to discover their linguistic abilities and, as a result, gain self-awareness and confidence. On the other hand, they may encounter themselves in some problematic situation in which they properly assess themselves, recognise their linguistic shortfalls, and strive to improve them.

- Appealing CPBL should be exchanged among practitioner's community either through social media, school blogs or websites or by means of physical weekly, monthly, yearly educational magasins or journals. Indeed, these educational good practices models can be shared during the teachers' continuous training phase or by creating weekly or monthly magazines that include in detail all stages of cooperative projects, implementation methods and schedules, the results obtained, as well as the challenges and difficulties encountered, and finally provide alternative solutions to these difficulties.

- Provide an "expert CPBL teacher" in each school or group of schools, to be a coach who motivated, accompanied, assisted improved their classroom practices and professional performance.

- Preparation of the learning space and provide teachers with the necessary digital, technological, and various educational tools to facilitate, improve and upgrade the implementation of CPBL and foster the learning of English.

- Establishment of the "Award for Educational Excellence in the Management of the most appealing and powerful CPBL projects, for creative English language teachers to encourage CPBL teaching and promote a culture of excellence among members of the educational community. Undoubtedly, this will contribute to the discovery of creative talent among the project's teaching staff.

- It should be taken into consideration that one of the conditions for the success of the CPBL methodology is the existence of an atmosphere of mutual respect based on strong relationships between learners inside one classroom or the entire school so that they can work in perfect coordination on their projects within teams. Virtuous relationships are also required between students and teachers, to make cooperative learning successful, the cultivation of positive personal relationships with students is fundamental.

- It is crucial that every project is launched with an entry event to prime the learner's pump and activate the prior learning inside them about the topic they will study in order to make CPBL implementation successful. The ideal entry event captures both hearts and minds. An interesting challenge creates cognitive dissonance while an empathetic situation inspires an emotional insight on the issue at hand.

CHAPTER 7.

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CHAPTER 8.

APPENDICES

Appendix 1. *A survey 1 about the use of Cooperative Project-Based Learning (CPBL)*

This questionnaire was created as a research tool for my doctoral thesis, "Cooperative Project-Based Learning" (CPBL). The purpose of this survey is to help us know the level of use of this methodology and its effectiveness for learning English, as well as the difficulties teachers face when implementing it. We are interested in your opinion, which is based on your experiences. Your answers will be treated as highly confidential. Your answers will help us improve aspects related to this methodology.

Thank you for your cooperation.

Responses are based on a scale from lowest to highest, with 1 indicating that you strongly disagree and 5 indicating that you strongly agree.

1. Please check one choice:

- I am a Primary school teacher: ☐
- I am a Secondary school teacher: ☐

2. My age falls into the following bracket:

Between 21 – 30

Between 31 – 40

Between or over than 41 – 50

3. Gender

Women

Man

4. Time of teaching service

Less than 10 years

Between 10 and 20

More than 20 years

5. Are you implementing Cooperative Project-Based Learning methodology?

- ☐ Yes
- ☐ No
- ☐ Sometimes

6. How long have you been using this methodology?

- ☐ Never
- ☐ Less than a year
- ☐ Between 2 and 3 years
- ☐ Over 3 years

7. Which difficulties did your students face when implementing CPBL?

- ☐ Group Dynamics
- ☐ Research skills
- ☐ Lack of engagement

Other(s): .....

8. Rate your level of satisfaction according with the results of implementing this methodology on a scale of 1 to 5.

- ☐ 1. Very dissatisfied
- ☐ 2. Slightly satisfied
- ☐ 3. Satisfied
- ☐ 4. Quite satisfied
- ☐ 5. Highly satisfied

9. Mark one option from 1 to 5, the level of difficulty teachers encounter when implementing CPBL.

- ☐ 1. Very difficult
- ☐ 2. Difficult
- ☐ 3. Neutral
- ☐ 4. Easy
- ☐ 5. Very easy

10. The problem/s with this methodology:

- ☐ 1. Resources
- ☐ 2. Technical
- ☐ 3. Psychological
- ☐ 4. Temporal
- 5. Others: .....

11. Do you think this approach increases students' motivation to learn English?

- ☐ Yes
- ☐ No
- ☐ Sometime

12. Projects allow my students to use English in real situations.

- ☐ 1. Strongly disagree
- ☐ 2. Disagree
- ☐ 3. Neutral
- ☐ 4. Agree
- ☐ 5. Strongly Agree

13. Do you think using this methodology students develop their research skills?

- ☐ 1. Strongly disagree
- ☐ 2. Disagree
- ☐ 3. Neutral
- ☐ 4. Agree
- ☐ 5. Strongly Agree

14. Would you recommend this methodology to other teachers?

- ☐ 1. Yes
- ☐ 2. No

15. Does using different active strategies in the English classroom help students be more creative and participative?

- [ ] 1. Always
- [ ] 2. Sometimes
- [ ] 3. Never

16. Do you think that projects should be interdisciplinary?

- [ ] 1. Yes
- [ ] 2. No
- [ ] 3. Sometimes

Appendix 2. *Encuesta sobre el uso de la metodología cooperativa basada en proyectos*

(Versión en español)

Este cuestionario fue creado como herramienta de investigación para mi tesis doctoral, "Aprendizaje Cooperativo Basado en Proyectos" (ACBP). El propósito de esta encuesta es ayudarnos a conocer el nivel del uso de esta metodología, y su efectividad para el aprendizaje del inglés, así como las dificultades que encuentran los profesores a la hora de aplicarla. Nos interesa su opinión basada en sus experiencias. Sus respuestas serán tratadas con alto grado de confidencialidad. Sus repuestas nos ayudarán a mejorar aspectos relacionados con esta metodología.

Gracias por su colaboración.

Las respuestas son en una escala de menor a mayor, siendo 1 que usted está totalmente en desacuerdo y 5 que está totalmente de acuerdo con las respuestas planteadas.

1. Por favor, marque una opción:

- Soy profesor/a de primaria: ☐
- Soy profesor/a de secundaria: ☐

2. Mi edad está comprendida en el siguiente tramo

Entre 21 – 30

Entre 31 – 40

Entre o mayor de 41 – 50

3. Genero

Mujer

Hombre

4. Tiempo de servicio docente

Menos de 10 años

Entre 10 y 20 años

Más de 20 años

5. ¿Está usted implementando la Metodología Cooperativa Basada en Proyectos?

- ☐ Si
- ☐ No
- ☐ A veces

6. ¿Desde cuándo?

- ☐ Nunca
- ☐ Menos de un año
- ☐ Entre 2 e 3 años
- ☐ Más de 3 años

7. ¿Qué dificultades enfrentaron sus estudiantes al implementar ACBP?

- ☐ Dinámica de grupo
- ☐ Habilidades de investigación
- ☐ Falta de participación

Otras: ……

8. Califique su nivel de satisfacción según los resultados de la aplicación de esta metodología en una escala de 1 a 5.

- ☐ 1. Muy insatisfecho
- ☐ 2. Poco satisfecho
- ☐ 3. Satisfecho
- ☐ 4. Bastante Satisfecho
- ☐ 5. Muy satisfecho

9. Marque de 1 a 5 las dificultades encontradas en la aplicación de la metodología.

- ☐ 1. Muy difícil
- ☐ 2. Difícil
- ☐ 3. Regular
- ☐ 4. Fácil
- ☐ 5. Muy fácil

10. Los problemas encontrados han sido:

- ☐ 1. Logísticos
- ☐ 2. Técnicos
- ☐ 3. Psicológicos
- ☐ 4. Temporales
- 5. Otros: ……

11. ¿Cree usted que esta metodología aumenta la motivación de los estudiantes para aprender inglés?

- ☐ Si
- ☐ No
- ☐ A veces

12. Los proyectos permiten a mis alumnos utilizar el inglés en situaciones reales.

- ☐ 1. Totalmente en desacuerdo
- ☐ 2. Desacuerdo
- ☐ 3. Neutro
- ☐ 4. De Acuerdo
- ☐ 5. Totalmente de acuerdo

13. ¿Cree usted que utilizando esta metodología los alumnos desarrollan sus habilidades de investigación?

- ☐ 1. Totalmente en desacuerdo
- ☐ 2. Desacuerdo
- ☐ 3. Neutro
- ☐ 4. De Acuerdo
- ☐ 5. Totalmente de acuerdo

14. ¿Recomienda esta metodología a otros/as profesores/as?

- ☐ 1. Si
- ☐ 2. No

15. ¿Utilizar diferentes estrategias didácticas en el aula de inglés facilita que sus estudiantes sean más creativos/as y participativos/as?

- ☐ 1. Siempre
- ☐ 2. A veces
- ☐ 3. Nunca

16. ¿Cree usted que los proyectos deben ser interdisciplinares?

- ☐ 1. Si
- ☐ 2. No
- ☐ 3. A veces

Appendix 3. *Interview questions about Cooperative Project-Based Learning (CPBL)*

This interview questionnaire was created as a research tool for my doctoral thesis, "Cooperative Project-Based Learning" (CPBL). The purpose of this survey is to help us know the level of use of this methodology and its effectiveness for learning English, as well as the difficulties teachers face when implementing it. We are interested in your opinion, which is based on your experiences. Your answers will be treated as highly confidential. Your answers will help us improve aspects related to this methodology.

Thank you for your cooperation.

1. Are you implementing Cooperative Project-Based Learning Methodology?

2. How can teachers be motivated to teach using this methodology? What do they need (Professional training, resources etc.)?

3. Do you think that Project Based Teaching is complicated to implement? Tell us about your experience with this methodology?

4. What are the challenges and difficulties of this methodology?

5. How do you manage them?

6. What could you say about Project assessment is it easier or more difficult than other methodologies?

7. Do you prefer that your students do research projects individually or cooperatively with their classmates' groups or other groups inside or outside school?

8. Do you confirm that this methodology increases students' motivation to learn? If so, describe some useful techniques that you use to improve your students' motivation

9. Do you think that teaching by project makes students more open to the world outside?

10. Do you think that when implementing projects using new technologies, students develop their creativity, motivation, and innovation?

11. Do you agree that CPBL makes learning more active, innovative, and improves students' ability to solve problems and learn independently?

12. What can be the limits of this methodology?

Appendix 4. ***Preguntas de la entrevista sobre el aprendizaje cooperativo basado en proyectos (ACBP)***

(versión en español)

Este cuestionario de entrevista fue creado como herramienta de investigación para mi tesis doctoral, "Aprendizaje Cooperativo Basado en Proyectos" (ACBP). El propósito de esta entrevista es ayudarnos a conocer aspectos relacionados con el uso de la metodología
Nos interesa su opinión, basada en sus experiencias. Sus respuestas serán tratadas con alto grado de confidencialidad. Sus repuestas nos ayudarán a mejorar aspectos relacionados con esta metodología.

Gracias por su colaboración

1. ¿Está usted trabajando con la Metodología Aprendizaje Cooperativo Basado en Proyectos?

2. ¿Cómo pueden los docentes motivarse para trabajar con esta metodología? ¿Que necesitan (Cursos de formación, Etc.)?

3. ¿Cree usted que el trabajo por proyectos es complicado de aplicar?

4. Cuéntenos su experiencia con esta metodología ¿Qué le gusta, no le gusta, hay desafíos y dificultades?

5. ¿Cómo Los maneja?

6. La evaluación del producto final del proyecto es más fácil/difícil que otras metodologías. ¿Qué podría decir sobre eso?

7. ¿Prefiere que sus alumnos realicen proyectos de investigación de forma individual o cooperativa con sus compañeros de clase u otros grupos dentro o fuera del centro educativo?

8. ¿Afirma usted que esta metodología aumenta la motivación de los estudiantes para aprender? En caso afirmativo, Describe que utiliza para mejorar la motivación de los estudiantes

9. ¿Opina usted que el trabajo por proyectos hace que los alumnos se abran más al mundo exterior?

10. ¿Cree usted que el trabajo por proyectos usando nuevas tecnologías desarrolla la creatividad, motivación y la innovación del alumnado?

11. ¿Está de acuerdo en que el ACBP hace que el aprendizaje sea mas activo, innovador y mejora la capacidad de los estudiantes para resolver problemas y aprender de forma más independiente?

12. ¿Cuáles pueden ser los límites de esta metodología?

Appendix 5. *Certificate of completion of a cooperative project in the Secondary School Pablo Ruiz Picasso.*

JUNTA DE ANDALUCIA

CONSEJERÍA DE EDUCACIÓN
I.E.S. Pablo Ruiz Picasso

[redacted], profesora de Matemáticas y secretaria del Instituto de Educación Secundaria Obligatoria "Pablo Ruiz Picasso" de El Ejido (Almería).

CERTIFICA:

Que **ABDERRAZAK ZAAFOUR** con NIE número: **Y4576312Q**, Estudiante de Doctorado de la Universidad de Almería, Escuela Internacional de Doctorado, Línea de Investigación Didáctica e Innovación Educativa. Departamento de ciencias de la educación.

Realizó en el curso escolar 2018/2019 en el instituto de educación segundaria **Pablo Ruiz Picasso** en el Ejido, Almería, un proyecto educativo interdisciplinario, usando la metodología "Aprendizaje Cooperativo Basado en Proyectos (ACBP)" y Gamificación del aula con aplicaciones digitales. El aspecto más novedoso fue unir a los alumnos que cursan asignaturas diferentes para promover la cultura del diálogo, desarrollar el espíritu crítico, formar una dimensión social, cultural y espiritual que esté enraizada en los valores del respeto, la tolerancia y fraternidad. Este proyecto tuvo resultados fascinantes en la mejora de las relaciones entre diferentes grupos de estudiantes que habían hecho un gran esfuerzo para trabajar cooperativamente en proyectos sobre diferentes temas con éxito.

Y para que así conste donde proceda, se expide el presente certificado con el visto bueno del Director, en El Ejido a 17 de enero de 2022.

Vº Bº
EL DIRECTOR

LA SECRETARIA

Fdo. : [redacted]

JUNTA DE ANDALUCIA
CONSEJERÍA DE EDUCACIÓN, CULTURA Y DEPORTE
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Appendix 6. *Certificate of research and practice in non-university educational centres*

ESCUELA INTERNACIONAL DE DOCTORADO (EIDUAL)

International PhD School

Certificado de investigación y prácticas en centros educativos no universitarios

Para el alumno de Doctorado: **Abderrazak Zaafour**

Línea de Investigación: **Didáctica e Innovación Educativa para una sociedad inclusiva**

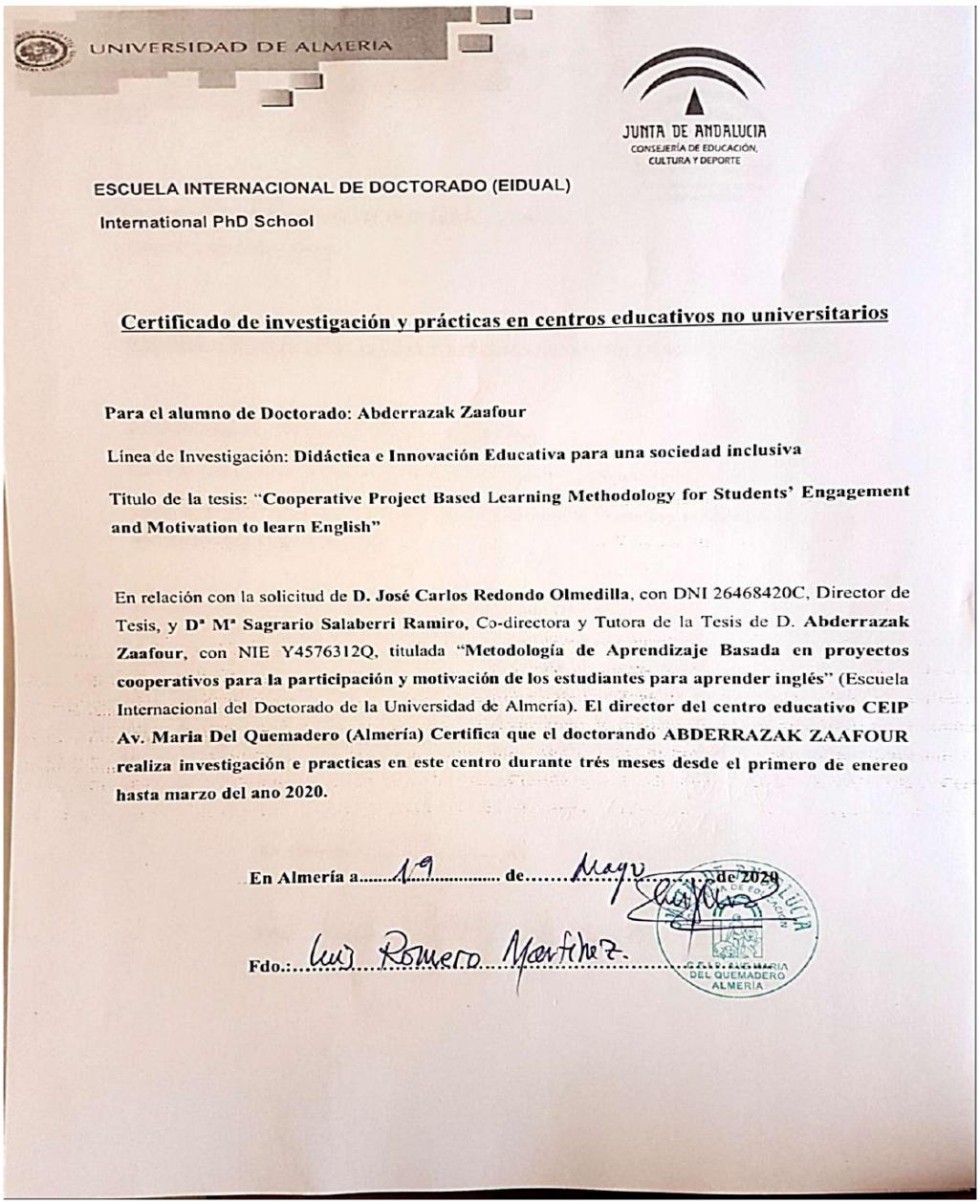
Título de la tesis: "**Cooperative Project Based Learning Methodology for Students' Engagement and Motivation to learn English"**

En relación con la solicitud de **D. José Carlos Redondo Olmedilla**, con DNI 26468420C, Director de Tesis, y **Dª Mª Sagrario Salaberri Ramiro**, Co-directora y Tutora de la Tesis de D. **Abderrazak Zaafour**, con NIE Y4576312Q, titulada "**Metodología de Aprendizaje Basada en proyectos cooperativos para la participación y motivación de los estudiantes para aprender inglés**" (Escuela Internacional del Doctorado de la Universidad de Almería). **El director del centro educativo CEIP Josefina Baró Soler (Almería) Certifica que el doctorando ABDERRAZAK ZAAFOUR ha realizado investigación y prácticas en este centro durante tres meses desde el primero de enero hasta el 30 de marzo del año 2020.**

En Almería a 7 de junio de 2020

Fdo.: Dª María Martínez Romero.

Appendix 7. ***Certificate of research and practice in non-university educational centres***



UNIVERSIDAD DE ALMERÍA

JUNTA DE ANDALUCIA
CONSEJERÍA DE EDUCACIÓN, CULTURA Y DEPORTE

ESCUELA INTERNACIONAL DE DOCTORADO (EIDUAL)
International PhD School

Certificado de investigación y prácticas en centros educativos no universitarios

Para el alumno de Doctorado: Abderrazak Zaafour

Línea de Investigación: **Didáctica e Innovación Educativa para una sociedad inclusiva**

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En Almería a 19 **de** Mayo **de 2020**

Fdo.: Luis Romero Martínez

CEIP AVDA. MARIA DEL QUEMADERO ALMERÍA

Appendix 8. *Certificate of research and practice in non-university educational centres*

UNIVERSIDAD DE ALMERÍA

JUNTA DE ANDALUCIA
CONSEJERÍA DE EDUCACIÓN, CULTURA Y DEPORTE

ESCUELA INTERNACIONAL DE DOCTORADO (EIDUAL)
International PhD School

Certificado de investigación y prácticas en centros educativos no universitarios

Para el alumno de Doctorado: **Abderrazak Zaafour**

Línea de Investigación: **Didáctica e Innovación Educativa para una sociedad inclusiva**

Título de la tesis: "**Cooperative Project Based Learning Methodology for Students' Engagement and Motivation to learn English**"

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En Almería a.....15..... **de**.....Junio.....**de 2020**

Fdo.:.....Ramón Espinosa Serrano.....

Appendix 9. *Project Assessment questionnaires*

	Very evident	Quite evident	Evident	Little evident	Not evident
I. Preparation of the project	**4**	**3**	**2**	**1**	**0**
1. The learning objectives are well defined.					
2. The objectives and content are consistent with the official curriculum.					
3. Contents are appropriate for students' age and level.					
4. The project is the result of the integration of objectives, content, and evaluation criteria for different subjects or areas of knowledge.					
5. It describes the final project, which is related to the objectives, contents, and criteria of evaluation.					
6. There is a clear relationship between the activities to be developed in the project and the development of students' basic skills.					
7. Significant activities are proposed for different skills, levels, and styles of learning.					
8. Project success indicators for evaluation have been defined.					
Comments:					
II. Analysis of the project					
1. Previous knowledge					
9. New knowledge is linked to students' previous experiences and their life context.					
10. Links are established between previous and new knowledge.					
2. Description of the project					
11. the objectives of the development of the project are clearly explained.					
12. All steps to be followed are detailed and the time sequence is detailed, consistent and feasible.					
13. Deadlines are marked and reasonable concerning the working time available to the student.					

14. It explains how the final product of the task will be displayed or presented.
Comments:
3. Cognitive and socio-cultural challenges
15. Students are required to solve a problem of complexity appropriate to their age and level with the necessary support.
16. Students are required to find information and assess their suitability for resolving the project.
17. Students are required to make connections between various sources of information for the resolution of the draft.
18. Students are required to perform activities in their environment for the resolution of the project.
19. Agents other than the teachers are required to contribute their knowledge or experience to the draft resolution.
4. Learning strategies
20. Enough opportunities are given for students to use different learning strategies (graphic organisers, schematics, abstract, etc.).
21. Scaffolding techniques are used to help and support students (modelling, visualisation, experimentation, demonstrations, gestures, etc.).
22. A variety of techniques are used to clarify concepts (examples, material, audio-visual, analogies, etc.).
23. Enough materials are used to make the project understandable and meaningful.
5) Cooperative work

24. The project has a cooperative structure.
25. Interdependence and individual responsibility are sought within the project.
26. There are frequent opportunities for interaction and discussion.
27. Roles are provided to students.
6) Rich socialisation
28. The student is given opportunities to participate in activities in their environment (taking samples, interviews, photographic reports, etc.).
29. Opportunities for external actors to participate in the development of the project contributing their knowledge and experience.
30. ICT is used as a means to open up the project to the environment or to allow agents to cooperate in the development of the task.
III. Review and evaluation
31. Elements of self-evaluation are included.
32. A comprehensive review of key knowledge in the development of a project.
33. A response to the students' output is regularly provided.
34. Provision is made for moments of formative evaluation in which the student can make changes based on feedback they have received.
35. A variety of assessment strategies are used throughout the task (learning diary, portfolio, observation, written or oral tests, etc.).
Comments:

Source: Trujillo (2014)

Appendix 10. *Article*

education sciences

MDPI

Article

Incorporating Cooperative Project-Based Learning in the Teaching of English as a Foreign Language: Teachers' Perspectives

Abderrazak Zaafour * and María Sagrario Salaberri-Ramiro

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Abstract: Cooperative Project-Based Learning (CPBL) is an instructional approach that enhances students' motivation to learn cooperatively by investigating a range of tasks related to an authentic project. This study explores the impact of teachers' age on CPBL implementation when teaching English as a Foreign Language (EFL) and identifies teachers' perceptions, views, and attitudes regarding this methodology. This research is exploratory in scope, quantitative in design, and correlational-factorial in nature. The quantitative method applied provides the means to determine the correlation between variables and how the implementation of CPBL is determined. To fulfil the aims of this research, questionnaires were distributed to a sample of 84 EFL teachers from primary and secondary schools. The factorial analysis revealed that the age of teachers had a significant impact on CPBL implementation ($p < 0.001$). Accordingly, younger age groups of 21–30 and 31–40 showed a greater predisposition for the implementation of CPBL than the 41–50 range. Additionally, the results revealed that 36.9% of teachers implement the methodology. Moreover, 79.76% of all responses indicated positive attitudes towards this approach. The findings point to important implications for course designers and for teachers.

Keywords: cooperative learning; project-based learning; innovative education; motivation; English as a foreign language (EFL)

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1. Introduction

It is assumed that the main objective of any educational system in our modern world is to provide students with opportunities to contribute in ways that demonstrate their diverse talents and creativity [1]. In facing and adapting to the ever-changing challenges and complexities of today's information age, students should be equipped with a broad range of abilities, such as communication, critical thinking, and collaborative skills [2]. The worldwide COVID-19 pandemic famously closed schools for extended periods and, during these lockdowns, students had their lessons remotely. Hence, preparing teachers and students for such events by offering the most appropriate methods and techniques and then applying them to improve the teaching and learning of English as a Foreign Language (EFL) can bear great results [3].

Therefore, Project-Based Learning (PBL) and Cooperative Learning (CL) are regarded to be among the best methods of empowering students with the most needed skills in the twenty-first century, especially if these two approaches are combined so that one reinforces the other, with one major aim: to involve students in cooperative work when incorporating their projects. The benefits of cooperative projects in English teaching and learning are enormous, particularly in enhancing students' oral skills. A group project also allows students to talk and reflect on educational activities and benefit from immediate feedback from their peers and teachers [3]. PBL has its origins in the mid-1960s at McMaster University Medical School in Hamilton, Canada [4]. PBL refers to the process of learning that focuses on carrying out a task that integrates different resources, people, and materials

through which students practise an array of skills and language systems [5]. According to Fried-Booth [6], PBL is a methodology that is commonly used in multiple levels and contexts to advance students' language learning skills by addressing issues or topics rather than language elements to create an end-product. Such products can be public speaking events, written reports, a handbook or file, technology-based presentations, etc. [7].

Indeed, PBL is a constructive teaching strategy that can influence students' motivation to learn English by sharing knowledge with others while working cooperatively on projects. Students may be better equipped to foresee imminent real-world problems and follow new methods in resolving problematic situations [8]. CL emerged in the 1970s from the American Society, and it was developed into a practical teaching theory in the 1980s. In fact, the available literature provides numerous definitions of CL. Johnson et al. [9] described CL as an instructional approach involving students working in teams to accomplish common goals, assignments, and projects set up with specific criteria to be met. Additionally, Neo et al. [10] explain that CL provides a favourable environment for students' interaction, participation, and learning. Bas [11] (p. 2) also views CL as "an instructional method centred on the learner". Ning and Hornby [12] note that CL may solve the problem of eroding the motivation of EFL students.

Although there are studies that discuss CL and PBL, research on the methodology that integrates them is very scarce, especially when it pertains to the teaching of EFL. Hence, this study supports the combination of Project-Based-Learning (PBL) and Cooperative Learning (CL) to form "Cooperative Project-Based Learning", under the acronym "CPBL". CPBL can be described as a teaching approach that focuses on involving students in participating and accomplishing their projects in a cooperative manner.

After a deep review of previous research studies on the topic of this investigation, it was found that there is a lack of studies regarding the impact of teachers' age, gender, and stage of teaching on the implementation of the CPBL methodology. Specifically, there is a lack in the context of teaching English to non-native speakers, as in the case of the Spanish educational system, where this investigation took place. In Spain, according to the recent legal reference document 8/2013 [13], the Organic Law for the Improvement of Educational Quality (LOMCE) structured the education system at a national level according to the following pattern: (1) early childhood education from birth to 6 years; (2) compulsory primary education between 6 and 12 years; (3) compulsory secondary education until the age of 16, including baccalaureate and professional education; and (4) university studies [14].

By investigating the impact of the referred variables on the methodology, many related issues could be identified. For example, whether there are significant gender differences in the adoption of CPBL among teachers in primary and secondary schools, or whether some age group implements CPBL more than others, what motivates them, and so forth. Having identified which variables most affect CPBL implementation, alternative strategies can be developed to minimise the challenges and motivate teachers to incorporate this approach into their EFL classrooms and guide their students toward a bright academic future. Thus, the objectives of this research are to answer the following questions:

1. Do teachers' age, gender, and stage of teaching (primary and secondary) have an impact on CPBL implementation in EFL classrooms?
2. How do teachers perceive CPBL implementation and the challenges as well as the outcomes it presents in the teaching and learning of EFL?

2. Literature Review

The Importance of CPBL in the Teaching and Learning of EFL

As the education sector adapts to the globalised world, studies on CPBL have shown their effectiveness in this transition process. Komljenovic [15] suggests that this approach can increase the academic achievement of EFL students if the learning process is made more enjoyable and meaningful. Additionally, CPBL has been regarded as one of the most considered and sought-after learning methodologies that could be used in the teaching of

EFL [16], since this methodology can provide students with a richer variety of learning experiences when compared to other more traditional approaches [17].

According to Leask, educational institutions should teach students how to "live and work in a complex, globalised world" as cited in [18] (p. 2). However, keeping students motivated and engaged can be one of the biggest challenges facing EFL teachers, particularly those who have limited opportunities to practice their language skills outside of the classroom as they live in countries where the first language is not English (e.g., Spain, Morocco, and Latin American countries) [19]. Teachers' motivation and determination are thus critical in facing these challenges, as applying innovative methods can then help students explore their areas of interest within the curricular framework, and critical in promoting deep learning and encouraging teachers' autonomy in the use of English. One such example is mobile devices in the flipped classroom model, in which students can access course content every time and everywhere. This, in turn, can augment their engagement in project tasks to both facilitate their learning of English and guide them in their use of technology to meet their own needs, thus empowering them as independent learners [20].

The success of any CPBL initiative and implementation, however, lies in the teacher's preparedness to guide their students throughout the entire process, which means that teachers should have a clear understanding of this approach components and the necessary support to carry it out, because this approach, like others, has potential challenges ranging from insufficient time and resources, an inflexible school schedule, a rigid school curriculum, and classroom management. Aldabbus [21] states that without additional technical and logistical support to introduce and carry out a project, teachers will surely face a broad range of challenges that could discourage them from wanting to implement the methodology again. Faced with such difficulties, Aldabbus found in his study that only seven out of twenty-four preservice teachers were able to implement the approach during their teaching practice time.

Providing the necessary support and motivation could have a substantial impact on the teachers' ability to implement a cooperative project to its completion. Teachers could, for example, be better equipped to manage these challenges so that they can then focus on motivating their students to work cooperatively and guiding them to take personal responsibility to complete their projects in the best way possible [22]. The more motivated and prepared teachers are in advance, the more likely they will be able to face the obstacles and inspire their students' creativity at all stages of project completion.

Critical to this approach process is for students to freely choose, plan, and manage their projects. In having the autonomy to pick a topic that interests them, students are then required to seek out pertinent information relevant to this topic, compare and analyse their findings, prepare a summary, and then present their final product to their classmates or in a public forum [23]. By sharing what they have learnt, students reinforce what they already know while also learning what they do not know. Because the project process is structured around an open-ended question initiated by the students, this will trigger their curiosity, captivate their attention, and keep them focused on its completion [24].

Bell [25], for example, points to students in the EFL classroom being able to develop and work through their projects, but teachers would also be expected to monitor their projects accordingly. Within this learning framework and in connection to related problem-solving activities, students are thus expected to become fluent communicators, critical thinkers, and responsible for their learning [21,22].

To date, research has not yet had a substantial influence on the actual practice of CPBL EFL classrooms for a variety of reasons. First, because this approach is relatively new to language teaching and learning, educators who are willing to implement it may not have been exposed to its theory and practice in any substantial way. Then, even if professional development is offered to preservice teachers, there are few accepted frameworks or theories related to these methodologies upon which quality training can be based. Because of this, teachers of EFL might simply dismiss CPBL as impractical when they compare it to the more immediate problems encountered every day [26]. Even so, teachers

could be motivated to develop projects individually or in collaboration with colleagues at schools [27]. Schneider et al. [28] have alternatively demonstrated that applying CPBL can assist students in improving their collaborative abilities.

At present, attempts have been made to adopt the project-based methodology in the EFL classroom to engage students toward meaningful, deeper, and motivational learning experiences and to provide them with cognitive knowledge and professional skills [29]. In this manner, this study suggests that CPBL can be a very rich tool for motivating students by giving them the possibility to be involved in language learning in different ways that could, in turn, leave them feeling that they are the real protagonists of their learning, considering that CPBL learning environments promote the development of individual and group skills through interaction and communication among students, who then begin to take responsibility for their learning.

Group work requires greater effort on the part of students to remain focused on the tasks that they need to complete, which can improve the quality of their efforts [19]. In short, if students can be motivated to explore, investigate, and solve their tasks cooperatively, this may fuel their appetite for further problem-solving and knowledge. As a teaching and learning methodology, CPBL could thus be one of the best means of arming students with much-needed skills and adaptation capacities. Hence, they can keep up with their learning while adapting to unforeseen events, as in the case of the recent global COVID pandemic.

3. Materials and Methods

3.1. Research Design

In this research, a quantitative method has been applied to describe data related to the teachers' perceptions regarding CPBL and its use in the teaching and learning of EFL as well as to measure variables, analyse them, and report relationships among them through numerical data. Additionally, it enables the conduction of research scales and compares groups (e.g., by age or gender) to figure out similarities or differences. This, in turn, led to a deeper understanding of the research problem and the relationships among the different factors influencing its usage, including the number of teachers implementing this methodology, why others might be hesitant in applying it, and their perceptions of their students' English language learning outcomes. In testing these results, an exploratory factorial analysis was carried out based on a cross-section of public schools. Descriptive values were applied based on the study's questions and were neither manipulated nor categorised as experimental. Variables were analysed to determine if correlative connections exist and, if so, how they might have influenced each other.

3.2. Participants and Context

This research has taken place in 22 primary and secondary public schools located in the province of Almeria in southern Spain. Seven of these schools are in the city centre; the other fifteen are in the outskirts, a semi-rural area. The selection of the schools was based on their accessibility and geographical closeness for allowing direct contact with teachers when distributing the questionnaires. Participants included 84 teachers, of whom 32 work in Almeria city centre, while the other 52 attend other schools in the outskirts. The teachers were selected at random to guarantee a representative sample for finite populations [30]. All of them were teachers of EFL and 36.9% were CPBL practitioners, capable of providing in-depth feedback on their understanding of CPBL operationally. As this reflected their own field experiences, their feedback provided additional insight into the data, in particular when describing and summarising its main characteristics.

Table 1 provides demographic information concerning the teachers-participants.

Table 1. Distribution of the sample according to their teaching stage, age, and gender.

Inter-Subject Factors			
	Value Label	***N***	**(%)**
Stage of teaching	Primary	58	69.05%
	Secondary	26	30.95%
Age	21–30 years	23	27.38%
	31–40 years	37	44.05%
	41–50 years	24	28.57%
Gender	Women	47	55.95%
	Man	37	44.05%
	Others	-	-

3.3. Instrument for Data Gathering

A questionnaire with 16 items was designed to gain a deeper understanding of the research problem and to register teachers' responses, which were measured using a Likert-type scale to easily operationalise teachers' perceptions. This tool has been recommended by De Winter and Dadou [31] because of its potential to both increase the quality of the survey and the response rate due to the ease and clarity of its scale descriptors. The first block of the questionnaire contained four items for gathering general demographic variables, including age, gender, stage of teaching, and overall experience in teaching. The second block contained 12 items: 4 to assess the level and type of difficulties teachers and students encountered when implementing CPBL; 4 to assess dimensions related to teachers' experience in implementing CPBL, as well as their level of satisfaction with the methodology and its outcomes, and whether or not they would recommend it to others; and the final 4, for the perceived impact on their students' motivation, including how their English language and research skills were impacted.

3.4. Research Procedures and Analysis

Before the process of data collection was initiated, ethical issues were taken into careful consideration. Prior to conducting the research, permission was obtained from school headmasters to gain direct access to these educational institutions and contact the teachers directly. Participants read and accepted the invitation to participate that the questionnaire included. Additionally, they were informed that their responses to the questionnaires would remain confidential. The collected data were then organised in an Excel spreadsheet and processed using descriptive statistics. Tables were used to both present the data and interpret the main findings.

The SPSS statistical package (v27.0) was applied to test the validity and reliability of this questionnaire to ensure that its overall trustworthiness was satisfactory (Cronbach's alpha = 0.803). The internal consistency also provided a good trustworthiness coefficient based on standardised items: alpha = 0.787. Furthermore, SPSS was employed to perform the following analysis:

1. The univariate (descriptive), to provide an overview of the approved sample and to also reduce and summarise the main features of the data set;
2. The multivariate, to determine how many and what kind of components are required to sum up the points observed in major variables [32]; an exploratory (data or factorial) analysis is applied to extract the major variables;
3. The variation of factor structure, to ensure optimum testing and the significance of the extracted factors or components; in this case, Bartlett's test and the Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy Description was applied [33]. 4. For trustworthiness, the Cronbach's Alpha test was applied. Moreover, for comparison of averages, an Anova statistic was used to measure and assess the differences in significant averages between dependent and independent variables. The results give

rise to whether the implementation of CPBL would be influenced by variables such as gender, age, the stage of teaching (primary, secondary), and so forth.

The applied test thus assessed if there would be any significant differences in the data based on these variables. A factorial analysis was first conducted to extract the most credible data and to group the most correlated variables, and then the Varimax normalisation rotation method with Kaiser was applied to formulate the resulting factorial matrix. Indeed, the data analysis emphasised three factors, which were summarised in the variation of 53.220%. The combined weight of these three factors was above 0.50.

4. Results and Discussion

Overall, the results highlight that, out of 84 teachers, 31 (36.9%) were implementing CPBL in their EFL classrooms. On the other hand, 53 teachers, representing 63.1%, said that they had never used it before. Remarkably, 79.76% of all respondents indicated a positive appreciation for the methodology as a powerful constructional tool.

Concerning the information on teachers' overall experience in teaching service as well as their experience regarding the implementation of CPBL methodology in their (EFL) classrooms, Table 2 introduces a brief outline of these findings.

Table 2. Teachers' overall experience in teaching and in implementing CPBL.

The Overall Time of Teaching Service (Item 4)				
			N	**(%)**
	<10 years		47	55.95%
	11–20 years		30	35.71%
	>21 years		7	8.34%
Teachers' experience with the implementation of CPBL (item 6)				
Never	Sometimes	<1 year	2–3 years	>3 years
53 (63.09%)	9 (10.71%)	10 (11.90%)	8 (9.52%)	4 (4.76%)

According to this study, most teachers have less than 10 years of experience in language teaching, followed by those with experience in teaching between 11 and 20 years. Teachers with more than 21 years of experience constituted the smallest proportion of the sample. Perhaps this indicates that the age group of young teachers in Spain represents the largest number. According to Sercu et al. [34], the average teacher age in Spain is 36.69. Furthermore, López et al. [35] find in their study that teachers in the age range of 29–49 represent 42% of the total. On the other hand, the age group 40–59 represents only 23% of the whole sample of 619 teachers (Mean = 39.86, SD = 10.49).

Relative to the factorial matrix and factorial weights reached for the dimensions in the implementation of CPBL, Table 3 displays the results obtained.

The sample adequacy analysis and the sphericity test both demonstrated the reliability of the factorial structure tested: (a) the correlation matrix reveals influencing factors of E.037, which produces values close to 0; (b) the Chi-square value (see Table 4) has a $p < 0.001$ significance; (c) the same worthiness discloses punctuation, indicating that the factorial structure is sufficiently accurate; (d) the sphericity analysis indicated the appropriateness of the applicability of the research variables (574.094; gl: 78; $p < 0.001$).

After the former, the conclusions drawn from the Anova analysis help to determine the presence or absence of mean differences. When the factors formed by the analysed variables are contrasted, the occurrence of statistically significant differences can be confirmed (IC 98.94).

Based on the results of this study, there is a significant difference regarding the independent variable "age" and its influence on CPBL implementation within EFL classrooms. Table 5 illustrates these differences.

Table 3. Matrix and factorial weights based on the use of CPBL.

Factors	Items	α
1. Teachers' experience with and perceptions of CPBL and students' outcomes	5. Implementation of the CPBL. Scale: Yes (0); No (1); Sometimes (2)	0.759
	11. CPBL and students' motivation. Scale: Yes (0); No (1); Sometimes (2)	0.779
	12. Students' use of English. Scale: Strongly disagree (0); Disagree (1); Neutral (2); Agree (3); Strongly agree (4)	0.777
	13. Students' research skills. Scale: Strongly disagree (0); Disagree (1); Neutral (2); Agree (3); Strongly agree (4)	0.777
	14. Teachers recommend CPBL to others. Scale: Yes (0); No (1)	0.789
2. Difficulties faced by the teachers and their overall satisfaction with CPBL's results	6. Duration of CPBL implementation. Scale: Never (0); Sometimes (1); Less than a year (2); Between 2 and 3 years (3); Over 3 years (4)	0.788
	8. Teachers' satisfaction with CPBL results. Scale: Very dissatisfied (0); Slightly satisfied (1); Satisfied (2); Quite satisfied (3); Highly satisfied (4); No idea (5)	0.776
	9. Teachers' level of difficulty with the implementation of CPBL. Scale: Very difficult (0); Difficult (1); Neutral (2); Easy (3); Very easy (4); No idea (5)	0.768
3. Students' difficulties and creativity	7. Difficulties encountered by students. Scale: Group dynamics (0); Research skills (1); Lack of engagement (2)	0.809
	15. Students' creativity. Scale: Always (0); Sometimes (1); Never (2)	0.809

Note. Extraction method: maximum plausibility. Rotation method: Varimax normalisation with Kaiser.

Table 4. Kaiser-Mayer-Olkin (KMO) and Bartlett measure of sampling adequacy description.

KMO and Bartlett's Test		
KMO Measure of Sampling		0.697
0Bartlett's test of sphericity	Approx. Chi-square	574.094
	gl	78
	Sig.	$p < 0.001$

As shown in Table 5, factor 1 has significant differences in five items that corroborate it and hence demonstrate a high correlation among the group of variables. As such, item 5 was designed to measure the dependent variable "implementation" of CPBL by teachers and consequently identify which age group most often implements it.

In this respect, the analysis confirmed that the responses of the youngest teachers (21–30 years) were the closest to value 0 (0.098 ± 0.115) (Table 5), followed by the range age 31–40 years (0.482 ± 0.102), and last (41–50 range), whose value was 1.028 ± 0.127. This means that young teachers are those who are most inspired and motivated to implement this methodology. These findings align with those found by Aksela and Haatainen [36], who discussed the views of active teachers on the advantages as well as the challenges of PBL and how these perceptions could promote its implementation and enhance teaching practice.

Moreover, the items related to students' motivation, use of English, and research skills were 11, 12, and 13, respectively. According to the analysis, it was highlighted that the youngest teachers (21–30) reached the highest score (Table 5) since they strongly agreed with items 12 and 13, followed by the age group of 31–40, and then the 41-plus range. This

finding was logical since the results demonstrated that younger teachers implemented CPBL more frequently when compared with older educators.

Table 5. Average punctuation (M), typical deviations, and Anova of average differences of the factorial structure of CPBL implementation based on teachers' age.

	Items	21–30 Years	31–40 Years	41–50 Years	F	gl	Sig. *
		Mean ± SD	Mean ± SD	Mean ± SD			
Factor 1	5	0.098 ± 0.115	0.482 ± 0.102	1.028 ± 0.127	17.924	2	0.000
	11	$2.220 \times 10^{-16} \pm 0.101$	$-4.302 \times 10 \pm 0.090$	1.278 ± 0.121	62.300	2	0.000
	12	3.777 ± 0.109	3.016 ± 0.097	2.222 ± 0.121	49.259	2	0.000
	13	3.631 ± 0.110	2.977 ± 0.097	1.694 ± 0.121	78.011	2	0.000
	14	0.119 ± 0.050	0.038 ± 0.045	1.000 ± 0.056	129.477	2	0.000
Factor 2	6	1.607 ± 0.232	0.764 ± 0.205	1.388 ± 0.257	12.451	2	0.000
	8	0.833 ± 0.215	3.714 ± 0.215	4.147 ± 0.191	8.381	2	0.001
	9	2.961 ± 0.250	3.933 ± 0.222	5.000 ± 0.277	16.170	2	0.000
Factor 3	7	0.637 ± 0.159	0.692 ± 0.141	0.833 ± 0.176	0.458	2	0.634
	15	0.333 ± 0.109	0.541 ± 0.096	0.278 ± 0.120	2.463	2	0.092

* Bonferroni: The difference of averages is significant at level $p < 0.05$ (bilateral).

CPBL requires more time to design and implement than traditional ways of teaching. Furthermore, the approach stipulates more ICTs' inclusion in almost all stages of projects approved for English language teaching and learning. In this regard, Paul [37] found that the age of the teacher negatively affected learning technology integration, with younger teachers more likely to use ICTs than older teachers. Thus, it is commonly believed that as teachers' age and designation advance, their enthusiasm for teaching diminishes, as they become bored after teaching the same content for years and years along with the increased responsibilities [38]. A study by López et al. [35] concluded that young teachers obtained the highest scores in digital competence and the creation of digital content. However, it should also be recognised that there are teachers who, as they grow older, tend to gain more experience, become more innovative, and care about what they do.

When investigating which age group recommended CPBL more to other teachers (item 14), it was found that teachers who fall under the group age 31–40 are those who recommended it more, with an average of 0.038 ± 0.045, followed by the youngest teachers, aged 21–30, 0.119 ± 0.050, and then teachers aged 41 years or more, with an average of 1.000 ± 0.056. This result is highly significant because, looking at the result of item 8, one can see the same teachers' age group 31–40 was the most satisfied with the methodology. Hence, it makes sense that the findings have indicated that they are the most likely to recommend CPBL, especially since the implementation produced satisfactory results for this age group. Another reason why this result is important is that this age group possesses a unique combination of qualities: strength as a youngster and experience as a professional.

Regarding teachers' implementation of CPBL in the teaching of EFL and their perceptions of CPBL on students' outcomes (factor 1), two significant differences were found: first, young teachers were more willing to implement CPBL in their classroom and showed more positive attitudes towards it. Second, even though teachers over the age of 41 did not show high interest in the implementation of CPBL, their responses generally reflected that they had positively valued the methodology. Undeniably, there is considerable enthusiasm on the part of younger teachers for implementing CPBL, which is associated with motivation and rigorous preservice or in-service training in the most active paradigms for teaching and learning EFL.

On the other hand, data from Table 5 proves that the second factor has an average difference in three items that confirm it. For instance, when it comes to analysing (item 6), through which the study attempts to measure the variable "duration" of CPBL implementation by teachers in their EFL classroom, the results show that teachers who implement CPBL

more frequently in their classroom are those aged between 21–30. As a piece of evidence, the comparative analysis revealed the following average punctuation of 1.607 ± 0.232.

It must be emphasised that the highest value in Table 5 for item 6 refers to teachers who have had more experience implementing this approach from 2 to 3 years. By contrast, the lowest value refers to those who have no experience at all or those who are recent implementors, which means that either they rarely implement it, or have an overall experience of less than 1 year.

Item 8 of the questionnaire pertains to those who implemented CPBL to test the dependent variable, teachers' "satisfaction" with CPBL's implementation results. Concerning this item, Table 5 shows that a significant difference was discovered, which demonstrated that teachers aged between 31–40 years were more satisfied with the results since this group age attained a score of 3.714 ± 0.215, which is close to the value 4 ('highly satisfied'), followed by the youngest teachers with the average punctuation of 0.833 ± 0.215. On the other hand, older teachers selected the value 6, which means 'no idea' since many of them did not implement the approach. Keeping in mind that teachers who are under the age bracket of 31–40 are more satisfied with the results of CPBL than the youngest, this sustains that experience accompanied by motivation are important factors in making the implementation of CPBL successful.

On the other hand, the result obtained from item 9, related to the variable "level of difficulty in implementing CPBL", was carried out based on teachers' age. For teachers aged 41–50 years, the majority selected the value 6, mentioning the scale 'No opinion.' Therefore, the average punctuation of 5.000 ± 0.277 was the nearest to the scale value 6, which indeed does not reflect the level of difficulty faced by this group because they represent the least number of CPBL implementors. On the other hand, teachers whose age is between 31–40 chose value 4, meaning "very easy", which reinforces the previous discussion about this group, which is characterised by its young age, vitality, and activity. On the contrary, the first group 21–30 selected the value 3, meaning "easy", which could mean that they need more motivation or professional experience to strengthen their eagerness. This accounts for why teachers who are flexible and willing to adapt to new circumstances of the CPBL approach in their classrooms also need ongoing guidance on how to put it into practice [39].

Additionally, the results achieved from item 7 (factor 3) sought to search for teachers' points of view regarding the type of challenge or difficulty students may encounter when working cooperatively on a project. In this regard, the youngest teachers demonstrated more concern regarding "group dynamics difficulty"; meanwhile, the younger teachers (31–40) selected "research skills difficulty". However, the answers of the third age group signalled the "lack of engagement" difficulty. When the youngest teachers mention "group dynamics" as a major challenge faced by their students, it can suggest that those teachers lack some essential skills. These skills could be essential in helping students build certain capacities that make them able to be involved successfully within their groups, for instance, tolerating or solving differences, and building agreements that respect the voices of the other members of the group [40].

Students' research skills' difficulty, which was pointed out by the teachers' age group (31–40), could be a signal of students' necessity for tutorial support to enhance their research skills and overcome this difficulty; meanwhile, the last difficulty outlined by the older group of teachers was "lack of engagement". This could probably indicate the existence of a misunderstanding of the topic being investigated by the students, or maybe they lack intrinsic or extrinsic motivation. These two elements, along with others, can cause a feeling of unenthusiastic and dissatisfaction, which can have a negative impact on students' engagement in their teamwork. Indeed, this can be resolved if discovered early enough by the teacher.

Item 15 sought to analyse how teachers perceived the use of active methodologies in the EFL classroom and if they developed creativity in students. In this regard, teachers between the ages of 41–50 years or more were the most convinced that using different active methodologies in the EFL classes improves students' creativity and motivates them to be-

come more participative. The average punctuation proved their contentment 0.278 ± 0.120, followed by the youngest 21–30, then the younger 31–40. Certainly, this result reflected that the third group age of teachers were those with long experience in teaching and, consequently, they were the professionals who had tried multiple methodologies throughout their long journey of teaching. Therefore, they took it for granted that differentiating active methodologies could help their students develop their creativity and achieve better results in their learning of EFL.

It is important to note that the results of the multivariate statistical analysis did not highlight any significant differences concerning the independent variable stage of teaching (primary or secondary) and its impact on the implementation of CPBL. The following result was achieved: F = 635 ^{b}, gl = 60.000, $p < 0.815$. Additionally, the independent variable gender had no significant differences related to the CPBL implementation as found from the factorial data analysis: F = 1.571 ^{b}, gl = 13.000, $p < 0.120$. Hence, they were not interpreted or discussed.

5. Conclusions

This study investigated whether some teachers' individual differences, such as age, gender, and stage of teaching, have an overall effect on the implementation of CPBL in EFL. There were significant differences connected to the study variables, suggesting that the participants' ages played a critical role in how teachers perceived and implement CPBL in their classrooms. That said, the findings showed that only a limited number of EFL teachers were using CPBL on a consistent or regular basis. Although most of its adopters were young educators, 79.76% of all participants indicated a positive appreciation for the methodology as a powerful constructional tool and were eager to incorporate it into their classrooms. Additionally, teachers agreed that CPBL motivates students, enhances their research skills and capabilities in using ICT, and makes their English fluent because their learning happens in real-world situations.

One major reason why some teachers were hesitant to implement CPBL was a lack of prior experience or background knowledge of how to integrate it into their EFL classroom routines. According to Van and Hang [41], teachers' knowledge of how to teach cooperatively through project-based learning is fairly limited and incomplete in most cases. Due to these issues, numerous difficulties surfaced during the implementation phase. Some of these difficulties are attributed to classroom management, as in the case of dysfunctional group dynamics, such as free riding, leadership problems, poor time management, and unresolved conflicts, which frequently compromise learning outcomes. This, in turn, generates teachers' lack of motivation and interest in accepting this teaching approach, even in a general manner. Otherwise, the majority of practitioners who looked favourably upon CPBL usage in their classrooms had previous experience of working either with CL or PBL. Additionally, they were convinced that this approach to teaching can both promote students' learning and develop their English skills in a positive way.

Motivating teachers to use CPBL in their classrooms requires ongoing relevant training, designed in a way that is easily adaptable to existing lesson plans. Likewise, teachers who practise CPBL could also be encouraged to exchange whatever they feel is useful to others in the spirit of community, with the aim that like-minded colleagues or other institutions can similarly gain from their success. Teachers, for example, can share the outcomes of cooperative projects, the methods and timelines, the challenges and difficulties, and their alternative solutions. Good practice models could evolve in positive ways if teachers had professional training or if their projects were detailed in periodical educational magazines that could be shared with others. Correspondingly, the rewarding of outstanding performances, teaching practices, and innovative learning methods can significantly improve teachers' motivation as they feel appreciated. By such means, they can continue with their excellent work.

Finally, it is important to indicate that the study has certain limitations. The first of these lies in the fact that we did not gather quantitative data directly questioning students

about their performance; instead, we focused mainly on teachers' perceptions, and this can be taken into consideration for future research that involves CPBL methodology, including not only teachers but also students. The second limitation is that the small sample may have an impact on the applicability of the results obtained. Similarly, the population was Spanish teachers, and CPBL use may differ from one country to another depending on the level of use. Thus, future cross-country comparison studies may ensure the generalizability of the results while also providing new insights into the development of CPBL in English teaching and learning.

These findings have beneficial implications for course designers, and they may also inspire teachers who work in the field of teaching EFL. In particular, those who are experiencing difficulties or challenges in implementing this methodology, or others who are willing to enhance their capabilities to implement CPBL in their classrooms in the future.

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