



Project Based Learning: A quest for motivation when teaching Spanish as a second language at an Australian University

By

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*Thesis
Submitted to Flinders University
for the degree of*

Doctor of Philosophy

College of Humanities, Arts and Social Sciences

2nd of August 2021

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Abstract

A Project Based Learning (PBL) approach to teaching and learning has attracted the attention of a considerable number of researchers influenced by its reported positive effect on learners' motivation, autonomy, and engagement. In Higher Education, the adoption of a PBL approach to teaching and learning is scarce, particularly in the domain of second language acquisition (SLA). This research investigates both the perceptions of students and teachers at an Australian university when involved in language learning tasks designed according to PBL principles. To date, PBL research in SLA has focussed mainly on the students' perceptions when in a context of English as a second or foreign language and not on languages other than English (LOTE), and there is no significant research on the practical implications for the teaching practice.

In response to this, this thesis comprises two complementary studies. Study one uses a mixed approach, collecting both quantitative and qualitative data to address the questions about the benefits and challenges for teachers when using PBL for SLA at Higher Education. A new online questionnaire was designed addressing questions that were related to the effects of PBL on students' and teachers' motivation, the challenges and benefits they found in their teaching practice, and the effect of digital tools in their PBL classes. The participants of the questionnaire included 36 respondents from 13 different countries. The results support the idea that PBL, when used in teaching and learning an L2, can increase motivation and engagement, that despite the difficulty that working collaboratively for a long time involves for students and teachers it is also a valuable skill that can result in more motivated behaviour and that the use of digital tools is devoted mainly to the logistics of studying.

Study two involves the practical applicability of PBL instruction in the context of a class of university students at an Australian university of intermediate-level Spanish-language learners during two semesters, done in collaboration with two instructors from the same institution. This study's main goal was to understand better and improve teaching. The analysis of the surveys and interview data suggests that university students experienced both challenges and gains during this learning experience. Specifically, participants' views indicate that the PBL experience had a positive effect on their second language (L2)

willingness to communicate (WTC), impacting positively in their ability to develop autonomy and self-confidence in producing linguistic output in the L2.

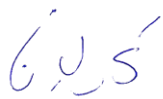
The conclusions of these two complementary studies show mixed results about the positive effect of PBL instruction on the context of teaching and learning Spanish as an L2. Even though the group of experienced PBL teachers from around the world reported many benefits associated with their use of PBL in their classes, the results of the class implementation at an Australian university also suggest substantial challenges like the negative emotionality towards working in teams, the anxiety and fear originating from a pedagogical shift and how the participant's preconceived ideas about education can profoundly impact the outcome negatively.

Declaration

I certify that this thesis:

1. does not incorporate without acknowledgment any material previously submitted for a degree or diploma in any university; and 2. to the best of my knowledge and belief, does not contain any material previously published or written by another person except where due reference is made in the text.

Signature:



Carolina Castro Huércano

Date: 2nd August 2021

Acknowledgments

Thanks to Kurna land, a magical place in the world to be treasured and preserved, that will always remain in my heart.

I would like to thank all my supervisors for their guidance and support in this very long and difficult journey, Dr. Olga Sánchez Castro, Dr. Antonella Strambi and Dr. Jeffrey Gil. Thanks to Dr. Antonella Strambi for her learning designer point of view on things, that really helped when theory seemed to drown me. Thanks to Dr. Jeffrey Gil for accepting to co-supervise me last minute with unparalleled generosity and kindness. My Ph.D. has been full of ups and downs and very extenuating personal circumstances that threatened to end it several times prematurely, however, during all the storms and tornados I counted with the invaluable support of my primary supervisor, Dr. Olga Sánchez Castro, who always showed empathy and an incredible work ethics as I have not known before in any other teacher or mentor. She went the extra mile to help me progress and showed understanding when I struggled. She is definitely an excellent teacher and academic, but most importantly, she is an amazing person who I am thankful and lucky to have met.

I have a special place in my heart to all the community of CHASS at Flinders University, all the people with whom I shared a cup of tea and thought-provoking conversations in the common kitchen, I learnt so much in that kitchen! My special thanks to the guys from Drama, you are so beautifully divergent! Dr. William Peterson, Dr. Maggie Ivanova and Dr. Sarah Peters, and my colleagues and mini expat community at the languages department, Javier Díaz Martínez, Isa, Alba, Dr. Stefano Bona, and Dr. Christele Maizonniaux. Thanks to Dr. Rosslyn von der Borch for recommending me a meditation app that changed my life and her incredible honey!

During the hard days when I made my shared office a common home, I felt I was part of this cool club of archaeologist adventurers, yes John McCarthy, Peter Ross and Katarina Jerbić, you rocked my world with your stories and warmth. My office mate and friend Dr. Areti Devetzidis taught me so many things, from gardening, art to how to be a social justice warrior for more than 40 years and then decide to do a Ph.D!

I feel also grateful to my friend Dr. Maria B. Garda, with whom I shared so many connecting feelings and memories and who always reminded me, without hesitation, that I could do this.

It is hard to explain how much belonging to the WHIP postgraduate association changed me, we were these three wonder kids reinventing the wheel so many times, and it was both hard work and a lifesaver. My friends and excellent team members of the WHIP association Grace Chipperfield and Ryan Morrison taught me the real value of collaboration and who were incredibly easy-going when I went too creative and bossy in D& D!

Thanks to my friend Dr. Yarrow Andrew who gave me calmness in all the moments of storm and made me even more aware of the power we all can change things around us with their example.

Endless gratitude to my family in Australia for taking me in as their own. Especially, I would like to thank Veronica and Pieter Raams, my parents in law, who have always been there for me when I needed them and helped me learn more about love and acceptance than anyone in the world.

I will always feel thankful to my brother Lolo Castro Huercano, for hosting me in Spain every time I could spend time with my son, even when it was a difficult time for them too.

There are no words that can describe my appreciation to my beautiful partner Jay, whom I met as a Ph.D. student and surprisingly, has stuck with me despite the craziness involved in this. I want to thank them for believing in me blindly, more than anyone has ever done before, for their unparalleled kindness all the many times I was stressed and cranky, and for leaving their world behind to come to Spain with me.

Finally, I want to thank with all my heart my son Pedro, who sadly had to mature prematurely when I left to begin my Ph.D. journey in Australia. He always showed me understanding, love, and kindness despite his very young age and the hardships of the

situation. I dedicate this Ph.D. to him because he has always been the light at the end of the tunnel and my strongest motivation to both begin and finish this adventure.

Dedication

To the sweetest and nerdiest artist in the world, my dear son Pedro.

List of Abbreviations

PBL = Project Based Learning, Project-based Learning

PBILL = Project-based language learning

SLA = Second language acquisition

L2 = Second language

FL = Foreign language

EFL/ ESL = English as a foreign language / English as a second language

Chapter One: Introduction

“The fact is that given the challenges we face, education doesn’t need to be reformed — it needs to be transformed. The key to this transformation is not to standardize education, but to personalize it, to build achievement on discovering the individual talents of each child, to put students in an environment where they want to learn and where they can naturally discover their true passions.”

— Sir Ken Robinson

Learning a foreign language is like magic, we can be the other for once and stop fearing them, we can experience their culture like our own, explore other ways of thinking because there are definitely more than one, and discover their immaterial richness, hidden in words, sounds, and traditions.

Project Based Learning (PBL) came to me as a very intriguing and captivating methodology that could potentially attenuate or remedy some of the global educational issues, with a particular focus on improving students’ language learning motivation while fostering their 21st century skills. That was the start of my long journey of discovery and experimentation, of which this thesis is a travel diary. The main aim of this research is to test the impact of PBL on students and teachers when in the context of teaching and learning Spanish as a foreign language in Higher Education in Australia.

PBL can be briefly defined as “a teaching method in which students learn by actively engaging in real-world and personally meaningful projects” (PBL Works, 2018). This method has had an upsurge of interest in educational forums in recent years. It should be noted that the acronym of PBL can also stand for Problem-Based Learning in the area of Second Language Acquisition (SLA) and in other areas of education in general. Problem-Based learning has its own history, being developed mainly in Tertiary institutions from the 1960s when using it to train medical students using case scenarios (Larmer, 2015). Problem-Based learning can be considered a type of Project Based Learning, as it also involves working in groups to answer complex questions, generally presented as case scenarios or simulations.

However, there are also important differences, as Project Based Learning expert John Larmer points out:

“Project-based learning is often multidisciplinary and longer, whereas problem based learning is more likely to be a single subject and shorter. Generally, project-based learning follows general steps while problem-based learning provides specific steps. Importantly, project-based learning often involves authentic tasks that solve real-world problems while problem-based learning uses scenarios and cases that are perhaps less related to real life”. (Larmer, 2015).

Though many consider this a new pedagogical approach, PBL has its roots in the late 19th century, in the ideas of John Dewey (Douglas & Stack, 2010), who postulated that learning occurs through students’ interactions and inquiry. John Dewey is known to be one of the major forces of progressive education reform in the USA as well as one of the main proponents of constructivism, a theory that explains how we humans construct knowledge and learn. One of the main ideas of constructivism is that in order for humans to develop understanding, the learner needs to engage in making meaning of things and experiences. Throughout the early 20th century several other figureheads such as Maria Montessori, Jean Piaget, Rudolf Steiner and Lev Vygotsky developed further this theory in different ways but based on common learning and teaching foundations. What all these constructivist thinkers share is the concept that learning is about constructing meaning as opposed to passive reception (Ültanır, 2012).

PBL is a constructivist approach at its core, as it promotes learning by doing, discovering, investigating, cooperating, answering meaningful and authentic questions, and developing self-direction in learners. Interestingly, it was not until the 1990s that PBL started to gain momentum in the educational sphere. This rise coincided with the beginning of a global education crisis.

As a teacher of foreign languages, I found myself at the beginning of the 2000s questioning my practice while at the same time educational institutions and governments around the world were in the same process of self-evaluation and inquiry. I saw this research as an opportunity for me to contribute to these global debates, intending to play an active role in the transformation process.

The rise of PBL is apparent from the increasing numbers of articles, conferences, and training programs, as well as the schools that now embrace PBL as their main approach. Its major benefit is promising to prepare students for real life, to foster life skills needed in society, such as collaboration, communication, creativity, critical thinking, and problem-solving. PBL also encourages the sharing and creation of content, creativity, innovation, and entrepreneurship. Teachers and educational institutions alike are more receptive to embracing a pedagogical shift because they are seeking practical and immediate solutions to the current problems in education. PBL advocates suggest its potential to address some of the major problems of educational systems that have been failing for decades to engage young people in the path of lifelong learning and harnessing their true potential. They argue that PBL helps align the educational system's needs with those of students and society.

I firmly believe that the purpose of formal education should be to help students to become a productive part of society, to collaborate in the solution of community and global problems, as well as to achieve personal fulfillment and happiness. However, is that widely materialized at educational institutions around the world at present?

If we look at the global decline in student engagement and motivation, the high unemployment rates of youth, and their apparent lack of interest in schooling, then we may think the answer is no. This realization acted as a potent wake-up call for me when I was teaching English as a foreign language (EFL) at a school in Spain.

In my EFL classes, I tried to motivate my students using several active pedagogies, collaborative activities, and the promotion of digital tools in class with varying degrees of success. I lacked clear points of reference, models or mentors in such a novel situation. I wanted to learn more about the promising PBL methodology, it complied with all the requirements of what I believed students needed; to feel more motivation through authentic and interactive learning experiences as well to prepare them for real life. I reviewed the literature searching for answers as I had always done before, reading, studying, or memorizing. I found much information on the theory, some sample projects, and successful interventions. However, what I wanted to learn was the know-how of a

teaching intervention in general. More concretely, I wanted to understand how this would look in teaching foreign languages, which can have specific challenges.

At that point, I realized there was little written on the design and implementation of PBL and foreign languages. As Beckett and Slater (2020) mention as editors of their latest book on Project-Based Language Learning:

With the exceptions of an MA thesis study by Lee (2014), Li (2010), and Zachoval (2011), there has been little research, especially experimental research, addressing how PBL promotes the development of language form and function, particularly in technology-mediated PBL contexts. (p. 8)

It was very challenging to find high-quality PBL sample activities in the foreign languages area that I could use as models. It was even more unusual for languages other than English (LOTE) since English as a second or foreign language is predominant in terms of academic production in applied linguistics and it represents the bulk of learning materials produced and published. That was the moment when the seed of this thesis was planted.

Existing research on the advantages of PBL in second language teaching at different educational levels offered some value, but what I really wanted to learn were the practical details about how to implement it in class. Many questions swarmed in my head. How can I navigate the class dynamics? How will I be able to assess it? What would be the reaction of students to working in teams extensively and creating content for a public audience? Will it motivate the students? What skills and knowledge do my students and I need to navigate PBL effectively? How would PBL instruction in foreign languages be similar or different to other content areas? If I encounter challenges, which are the most common ones, and what is the best way to overcome them? I felt both, fascinated and excited about the multiple avenues that this methodology could open to second language acquisition (SLA), primarily because of its emphasis on authenticity and interaction, which are essential when communicating.

The foundational research of Eyring (1989), Beckett (1999), and Stoller (2006), who pioneered comprehensive studies on the features and impact of PBL instruction in the

area of SLA, serve as the pillars from which to build up in the area of teacher practice, as well as the concrete impact PBL may have on students of a second or foreign language.

To better understand the underpinnings of PBL practice in SLA and to increase the quality of the data I could draw upon, I designed two complementary studies for this thesis. Study One was an exploratory study for which a new online questionnaire was designed using a mixed approach, with both quantitative and qualitative data collected. This questionnaire was addressed to other Higher Education educators around the world in the area of second or foreign languages and was created to access expert PBL teachers' opinions and recommendations, as well as other educators who were interested in this methodology. I believed it was essential to explore current best practices and any challenges and recommendations on how to overcome them so as I could use that information to design the PBL units at the host organization in the most efficient way. It was also relevant, given the small sample size, to contrast it with the results of Study Two, a class implementation with a cohort of Australian university students in the area of Spanish as a second language. This first exploratory Study One intended to address research question one (see below), as the data collected was to be contrasted and would complement the results from the analysis of Study Two.

After the analysis of the data of Study One, the results confirmed some of the main ideas defended in PBL literature regarding its benefits, such as the power to motivate and engage students, the value of collaboration, the enjoyment from teachers, the positive effect of the use of some digital tools and the value of authenticity of PBL when it comes to second and foreign languages. However, it also opened up some new questions in the research agenda about the challenges and their impact on the feasibility of PBL instruction, such as the lack of teacher training and peer and institutional support, the increase in time investment, and the difficulty encountered by some students in collaborating efficiently.

Study Two was a class intervention, where two different student projects were designed and implemented during two semesters, each over three weeks, in a class of Spanish as a second language (L2) at a university in Australia. Study Two was thus designed to address research questions two and three (see below). Data were collected from three paper

surveys created for the study, from interviews with both students and teachers, and from my field notes in class during the two-class intervention studies. From this data, the goal was to identify the benefits and challenges that teachers and students experience to determine ways to overcome them and propose recommendations for the future direction of PBL in SLA. Both studies address questions that are prominent for bridging the gap between theory and teaching practice and by contrasting their results, similarity and differences arose provocative questions for future research paths that will be further explored in the conclusion of this thesis.

Research questions:

Research Question 1: What are the challenges and benefits that educators can encounter in the implementation of a Project Based Learning approach to teaching and learning in the context of Second Language Acquisition in Higher Education?

Research Question 2: How can these challenges be addressed in the implementation of a PBL approach for Spanish language learning in an Australian university?

Research Question 3: What is the impact of PBL instruction on the learning and teaching of Spanish as a foreign language in an Australian university?

3.1. What is the impact of technology when used together with PBL instruction on students of an L2/FL?

3.2. What is the experience of the Spanish language learners in terms of motivation for language learning?

3.3. What is the experience of the Spanish language educators from an instructional perspective?

This thesis comprises seven chapters. Following the introduction, Chapter Two presents a comprehensive literature review of three of the main content areas that this study is based on; language learning motivation, PBL, and digital learning. The first section reviews motivation's theoretical background in second language acquisition (SLA) as well as an overview of the motivation theory adopted for this study, Directed Motivational Currents (DMC), and the creation of a Motivation System for Education

(MOSE). Chapter Three presents the specific research methodologies used in the two studies as well as an overview of the participants, instruments, procedures, and means of data analysis. The result of study one is presented in Chapter Four, integrating results, analysis, and discussion. Chapter Five displays the design process and applications to the class interventions of the PBL units. Chapter Six shows the results, analysis, and discussion of study two, the two-class implementations. The thesis concludes in Chapter Seven, where results from the two studies are interpreted together, and suggestions for future research are made.

Chapter Two: Literature Review

This study focuses on the impact of Project Based Learning (PBL) on the motivation of students of Spanish as a second language (L2), teachers' perceptions, and the use of digital technologies. It aims to test if, as the literature suggests, PBL instruction can have a positive effect on the learning experience of Higher Education L2 language learners and foster their motivation to learn the L2. Secondly, to examine the factors that can facilitate the implementation of this approach in their L2 classes.

The first section of this chapter describes the theoretical background of the concept of motivation used in this study. The second section focuses on defining PBL, elaborating on the features for success in its implementation, the recommended teaching practices to use, the impact on students according to research, and the challenges it involves for the different education stakeholders. Finally, the third section explores the impact of digital technologies on Second Language Acquisition and when used as tools to enhance PBL.

2.1. Motivation

Research on motivation in Second Language Acquisition (SLA) has been especially fruitful in recent years (Dörnyei, 2001, 2005; Dörnyei & Schmidt, 2001), but the issue lies in the abundance of different theories and models, that make it difficult to define what motivation is, even if it is a term widely used in education forums. Dörnyei (2001) states that researchers disagree about everything that relates to the concept of motivation, using it as an obsolete umbrella that hosts a wide range of concepts that do not have much in common.

The educational community has widely recognized that motivation is a crucial factor for a positive outcome for Second Language (L2) students' learning experiences (Dörnyei & Schmidt, 2001; Ellis, 1994; Gardner, 1985).

Motivation is regarded to be responsible for why people decide to do something, how long they are willing to sustain the activity and how hard they are going to pursue it.

Motivation to learn a second language (L2) has been defined in different ways throughout history. Gardner emphasized that is directed by a desire to be like people in a linguistic community different from one's own (Gardner, 1985), the will to rise to the expectations of others (Deci & Ryan, 1985), the desire to do something one finds pleasurable (Czikszentmihalyi & Rathunde, 1993), or even the need to meet an academic language requirement (Gardner, 2001).

One of the most comprehensive definitions is the one given by Dörnyei and Ottó (1998:26) 'motivation can be defined as the dynamically changing cumulative arousal in a person that initiates, directs, coordinates, amplifies, terminates, and evaluates the cognitive and motor processes whereby initial wishes and desires are selected, prioritized, operationalized and (successfully or unsuccessfully) acted out.'

Historical analysis is necessary to understand the shift in the paradigm of motivation in L2 from cognitive to the socio-dynamic focus, providing an overview on motivation theories in Second Language Acquisition (SLA) to contextualize the concept of motivation used in this study.

2.1.1. Retrospective in motivation in Second Language Acquisition

Dörnyei and Ushioda (2011) provide a quite straightforward historical classification of motivation research in the field of Second Language Acquisition (SLA):

1. The social-psychological period (1959–1990), characterized by the work of Robert Gardner and his associates in Canada
2. The cognitive-situated period (during the 1990s), characterized by work drawing on cognitive theories in educational psychology
3. The process-oriented period (turn of the century), characterized by a focus on motivational change
4. The socio-dynamic period (2005-present), characterized by a concern with dynamic systems and contextual interactions.

1. The social-psychological period

The origin of the field of study of motivation in a second language can be traced back to the publication of the seminal article *Motivational Variables in Second Language Acquisition* by Gardner and Lambert in 1959. Before that time, motivation research was part of the field of educational psychology and there was no separation in the study of motivation between any subject matter and a second language. Gardner and Lambert (1959) aimed to prove that the attitudes towards the L2 community play a relevant role in second language acquisition (Muir, 2016).

The main L2 motivation research in this period, the 1960s, focused on a social psychological perspective, being Gardner's motivation theory the most influential to current trends. Gardner proposed the Socio-educational Model (1985), in which he defines motivation as a 'combination of effort plus desire to achieve the goal of learning the language plus favorable attitudes towards learning the language'.

The author differentiated two kinds of motivation, the integrative and the instrumental. Integrative motivation refers to learners' desire to at least communicate or at most integrate (or even assimilate) with the members of the target language. The instrumental being the pragmatic side of learning a language to get a better job or passing an exam (Gardner, 1985).

Integrative motivation has three dimensions: integrativeness, attitudes towards the learning situation, and motivation, being motivation the one that is considered to be more influential on the achievement of students of a second language (Masgoret and Gardner, 2003: 174). Gardner (2010) believes that students who are motivated aim to accomplish their objectives, and they enjoy anything which involves achieving their goals.

Gardner's contribution to second language motivation is beyond the development of his theory of motivation for more than 30 years; his findings and rigor set the scene for an established new domain of research to be developed later on.

There has been some criticism related to Gardner's concept of integrative motivation because it is based on a bilingual context in Canada, where students of a second language

feel motivated to be part of the L2 community around them. However, this is not the only possible scenario in L2 teaching and learning in the world since in monolingual contexts where learners are not often in contact with L2 speakers, learners are not commonly driven by integrative motivation. Therefore, a need was envisaged to reinterpret the notion of integrative motivation.

2. The cognitive-situated period

From the 1990s onwards, there was a shift to the later dubbed cognitive-situated theories (Dörnyei & Ushioda, 2011). There was an abundance of cognitive theories borrowed from the field of educational psychology that were applied to the study of motivation in SLA. As Crookes and Schmidt (1991) explain, educational psychology did not account for when teachers refer to motivation in their class since they are not describing the reasons of their students to learn but rather the attitudes they are showing. The authors suggest that 'most of the works on SL learning have not dealt with motivation at all' (p. 502)

Among the most prominent theories of this period, the self-determination theory (Deci, Connell, & Ryan, 1989) stands out for its vast repercussions in the field. It was introduced mainly into the field of L2 motivation by Noels and her colleagues (Noels et al., 2000). Deci and his associates state that 'to be self-determining means to experience a sense of choice in initiating and regulating one's actions.' This is referred to as autonomy. The theory distinguishes between two kinds of motivations: intrinsic and extrinsic. The first refers to an individual's motivation to perform a particular activity because of internal rewards such as joy, pleasure, and satisfaction of curiosity. Whereas in extrinsic motivation, the individual expects an extrinsic reward such as good grades.

These two terms can relate to Gardner's integrative and instrumental types of motivation though Deci et al. give an approach that is not so much about how people (e.g. teachers) can motivate others, the focus is on 'how people can create the conditions within which others can motivate themselves' (Deci, Connell, & Ryan, 1989).

Noels (2001), classifies intrinsic motivation (IM) in one of three kinds: IM-Knowledge (the pleasure of knowing new things), IM-Accomplishment (the pleasure of accomplishing goals), and IM-Stimulation (the pleasure sensed when doing the task).

Studies conducted by Noels and colleagues (Noels, 2000, 2001) demonstrated that intrinsic motivation is enhanced when teachers allow more autonomy to learners, are less perceived as controlled by them, and provide encouraging feedback.

Another core concept in this theory is amotivation, it happens when the learner does not see a relation between the efforts they make and the outcomes they get. This happens when they lack self-efficacy or a sense of control over the desired outcome. In this case, the learner has no goal and thus possesses neither intrinsic nor extrinsic motivation to perform the activity (Noels et al., 2001).

Goal theories focus on the reasons or purposes that students perceive to achieve a goal (Anderman & Midgley, 1998). There are four mechanisms by which goals affect individuals' performance:

1. Goals serve a directive function as they direct attention and effort toward goal-relevant activities and away from irrelevant activities
2. Goals have an energizing function, and they help individuals regulate their effort to the difficulty of the task
3. Goals positively affect persistence
4. Goals affect action indirectly by leading to the arousal, discovery, and/or use of task-relevant knowledge and strategies.

(Locke & Latham, 2002)

Two-goal theories have been particularly influential in the study of motivation: the goal-setting theory and the goal orientation theory.

In the goal-setting theory, people must have goals to act since human action is caused by purpose and for action to take place, goals have to be set and pursued by choice (Dörnyei, 1998). Locke and Latham (2002) concluded that goal-setting and performance are related; that goals affect the performance of the task, the energy expended, the strategies used, and its duration and maintenance. It has also been found that 'goal setting is most effective when there is feedback showing progress concerning the goal' (Locke and Latham, 2002).

Since mastering a language is not a goal to be achieved within a short time, Dörnyei suggests that planners set sub-goals (proximal sub-goals) that can be achieved within a short time. Such sub-goals might have a powerful motivating function for they also provide learners with feedback on their progress. They can, once achieved, increase self-efficacy and motivation.

The goal orientation theory was developed in a classroom context (Dörnyei, 2001). This theory states that an individual's performance is closely related to his or her accepted goals. An essential contribution of the theory focuses on the distinction between two types of goal orientation (Ames & Archer, 1988; Ames, 1992): performance vs. mastery (or learning) orientations.

Goal setting is also a part of the Flow theory that mentions that goals should guide the context. Flow is also called 'Optimal experience' and is a concept developed by Csikszentmihalyi. It could be defined as 'the holistic experience that people feel when they act with total involvement (Csikszentmihalyi, 1975: 36). It is the state in which people are so involved in an activity that nothing else seems to matter; the experience itself is so enjoyable that people will do it even at great cost, for the sheer sake of doing it (Csikszentmihalyi, 1990). He identified four flow components:

1. control; 2. attention; 3. curiosity; 4. intrinsic interest.

Csikszentmihalyi also defined eight dimensions of the flow experience, which relate to having clear goals, the balance between challenge and personal skills, focussed concentration, sense of potential control, loss of self-consciousness, time distortion, and a self-rewarding experience.

3. The process-oriented period

The process-oriented period elaborates on the need in the literature to debate on the 'ongoing changes of motivation over time' (Dörnyei 2005: 83). Motivation is believed to be a dynamic construct, and it varies throughout time. The most relevant model reflecting this period is one of Dörnyei and Otto (1998).

Dörnyei and Otto's (1998) process model of L2 motivation was developed to respond to the need of defining a framework on motivation that could be instrumental for L2 classroom interventions. Both authors believed that existing models on L2 motivation didn't provide a sufficiently comprehensive summary of all the relevant motivational influences on classroom behavior; which tended to focus on how and why people choose certain courses of action while ignoring or playing down the importance of motivational sources of executing goal-directed behavior, and they did not account for the dynamic nature of motivation. Dörnyei and Ushioda (2011) explain that 'A basic first step in analyzing motivation from a temporal perspective is to clarify the conceptual distinction between motivation for engagement (choices, reasons, wishes, intentions, decisions), and motivation during engagement (how one feels, behaves and responds during the course of learning' (pp. 60-61). Drawing from the action control theory of Heckhausen and Kuhl's (1985), they proposed a linear, cyclical construct made of a so-called 'actional sequence' that is formed by three phases which are related to different motives: the preactional stage, the actional stage and the postactional stage (Dörnyei 2005, p. 84).

Firstly, the preactional stage, accounts for the motivation that has to be generated. The actional stage, refers to the fact that the generated motivation needs to be 'actively maintained and protected' during the time the action takes place (Dörnyei 2005: 84). Finally, the postactional stage, relates to the retrospective evaluation learners make about how the action was completed, that is, self-assessment. The most important point of this last phase is how students process their past experiences belonging to their retrospective phase what will determine which activities they will be motivated to do.

This model was later reconsidered by Dörnyei (2009a), who identified two main shortcomings. Firstly, it assumes a linear process with a beginning and an end, and secondly, it depicts the actional process as occurring in isolation, not considering other processes in which the learner may be engaged.

4. The Socio-dynamic period

Even though the process models could draw attention to the different stages of the motivational process and highlighted the prominence of the everyday experience of language learning, 'their linear approach was soon overshadowed by an emerging awareness and focus on the complexity of the innumerable factors which affect language learning and teaching, and indeed which affect the field of SLA in general SLA research is currently in the socio-dynamic period' (Muir, 2016, p. 15). This period focuses on the situated complexity of the L2 motivation process and its organic development in interaction with a multiplicity of internal, social, and contextual factors (Dörnyei, 2009a). The complex dynamic systems perspective sees motivations as 'emergent from relations between human intentionality and the social world' (Sealy & Carter, 2004, p. 206)

The most relevant theory of this period is the L2 Motivational Self System, which was postulated by Dörnyei (2009b) and integrates major second language learning motivation theories made by Gardner (2001), Noels (2001), and Ushioda (2001) as well as research on the concept of the self from the domain of psychology.

Dörnyei reformulated the L2 motivation theory by reframing it in terms of self and identity. The L2 motivational self-system (Dörnyei, 2005, 2009a, 2009b) aimed to integrate various emerging research orientations that endeavored to account for the complexity of language learning in the L2 classroom.

The L2 motivational self-system is composed of three elements (Dörnyei, 2009b):

- The Ideal L2 self: a representation of what an individual would ideally like to become.
- The Ought-to L2 self: a manifestation of the expectations of others regarding an individual's future.
- The L2 Learning Experience: representing other factors relevant to the specific learning context.

According to Dörnyei (2010), the ideal L2 self is related to the integrative and internalized instrumental motives, whereas the ought-to L2 self, is linked to what learners think they ought to have to avoid failure and achieve their goal, and this connects with the more

extrinsic of instrumental motives, while the L2 Learning experience represents the external factors influencing the self.

This theory has gained validation through research performed in a variety of contexts, such as Hungary (Csizér & Kormos, 2009), Saudi Arabia (Al-Shehri, 2009) and China, Japan, and Iran (Ryan, 2009; Taguchi, Magid & Papi, 2009) and different sample groups from Secondary students to adults.

The Ideal L2 self, out of the two types of self-concepts, has received strong empirical support. Csizér and Lukács (2010) describe it not only as a 'crucial component of long term success in language learning' (p. 9) but also as an essential element of motivated learning. The ideal self was found to explain 42% of the variance in motivation (Dörnyei, 2009b); additionally, Busse (2013) reported in her study of students of German that the ideal L2 self was a 'substantial component in these students' motivation to study German' (p. 386).

The importance of the idea of vision in the theory of possible selves gained momentum in the field of psychology when bringing together the concept of self and motivation.

In the area of L2 learning a vision can be defined as 'the sensory experience of a future goal state, or in other words, a personalized goal that the learner has made his/her own by adding to it the imagined reality of the goal experience' (Dörnyei & Chan, 2013, pp. 454-55). The visions we create involve the same neural mechanisms as the ones we use for real events (Reisberg & Heuer, 2005). Our brain can struggle to differentiate the real event from a detailed vision (Cox, 2012). Taylor, Pham, Rivkin, and Armor (1998) hypothesize there is great motivational potential in the use of these visions, making learners believe they are authentic possibilities.

The more thorough comprehension of the implications of the concept of vision and imagery as an integral part of the L2 motivational self-system has sparked literature on concrete intervention studies (Jones, 2012; Magid & Chan, 2012; Sampson, 2012), hence producing a growing set of resources for L2 teachers to use when deciding to include vision and imagery in their classes (Hadfield & Dörnyei, 2013; Arnold, Puchta & Rinvoluceri, 2007). A reference work in this area is Dörnyei and Kubanyiova's *Motivating*

learners, motivating teachers, where they explore the essentials of their vision-inspired teaching practice, providing practical classroom guidelines.

2.1.2. Directed Motivational Currents

Directed motivational currents (DMC) have emerged precisely from the L2 motivational self-system, goal and as an extension of the concept of vision (Dörnyei et al., 2016; Dörnyei, Muir & Ibrahim, 2014; Ibrahim, 2016; Muir, 2016).

This construct links with the dynamic nature of motivation and emphasizes the crucial role of goal vision in achieving long-term motivation. The Directed Motivational Currents can be described as an intense motivational drive capable of both stimulating and supporting long-term behaviour, such as learning. The notion of directed motivational currents is unique in that it does not separate motivational impetus and subsequent action - as is the case in all other theories of motivation - but instead views them as a unified construct. (Dörnyei, Ibrahim & Muir, 2014). According to Muir (2016):

A DMC represents the perfect match between a vision and an accompanying action plan which amplifies rather than absorbs energy: DMCs are capable of capturing the power of a final vision and transferring it through a unique structure into sustained momentum in one so doing prolonging the initial vision led surge and enabling individuals to function at levels over and above what they might normally be capable of. (pp. 26-27)

DMC is conceived as a unique period of heightened motivation that is set into motion by the combination of several factors in the pursuit of a specific goal or vision. It is a similar concept to the already mentioned 'Flow' (see section 2.2.1.), but differs from this state of total absorption in several key features, most notably in that flow focuses on a person's involvement in a single task that is intrinsically rewarding whereas a Directed Motivational Current (DMC) involves a prolonged process of engagement in a series of tasks that are rewarding primarily because they transport the individual towards a highly valued end (Dörnyei et al., 2014).

The main link of DMC with Flow is the concept of total absorption that can be identified in both. Nevertheless, a more thorough examination identifies three prominent differences that make DMC a unique concept, 'the timescales over which each play out, the underlying structures underpinning each, and the starkly differing sources of satisfaction and enjoyment.' (Muir, 2016, pp. 33)

1. Timescale: Flow experiences are typically encapsulated in short periods to perform single tasks for a few hours, while DMC experiences operate over longer periods like weeks, months, or even years.

Flow theory (Csikszentmihalyi, 1990) posits an optimal form of short-term engagement, while DMC represents 'an optimal form of engagement for long-term projects' (Muir, 2016, pp. 27). The long-term motivation here is described as 'motivated periods lasting a week, several weeks or longer, and, significantly, encompassing multiple, varied tasks as opposed to high motivation in carrying out a single task or motivation lasting only for the duration of a single language lesson' (Muir, 2016, pp. 27).

Including the concept of time in theoretical conceptualizations for motivation has proven so far to be challenging since it describes a complex construct in continuous evolution. As explained by Dörnyei and Ushioda (2013) 'relatively little research has addressed the process of motivational development over time, either at the micro-level of moment-by-moment experience or the macro-level of long-term experience or life history' (Dörnyei and Ushioda, 2013, p. 6)

2. Underlying Structure: To remain in flow one has to increase the levels of complexity of the activities by challenging yourself. Hence Flow is fuelled by the inclusion of 'cognitive twists' (Muir, 2016, pp. 36), whereas DMC is a compound of multiple assorted tasks that could be seen as unrelated or not likely to inspire motivational behavior if not seen as a means to an overarching goal.

3. Sources of satisfaction and enjoyment: Within flow the individual has their focus on the experience itself, whereas in DMC they have it both in the experience and also maintains awareness of their progress so as not to lose contact with the end goal. In other

words, the individual experiencing flow is guided by an intrinsically rewarding activity, while in DMC the different tasks involved over time are part of a master plan to achieve the main goal, hence the pleasure does not come from the intrinsic pleasure gained of a single activity but from ‘the understanding of this task within the wider context of the overall current of motivation. Pleasure, therefore, is derived not from the specific activity being undertaken [...] but from the knowledge that the activity is taking an individual forwards to approach a highly desired and personally significant end goal.’ (Muir, 2016, pp. 40).

1. Essential Elements of DMC

After a brief introduction to the DMC, in this section, its core elements will be discussed. DMC has five prominent characteristics: goal/vision orientedness, the launch of a DMC, DMC structure, positive emotional loading, and the final stages of DMCs (see figure 1)

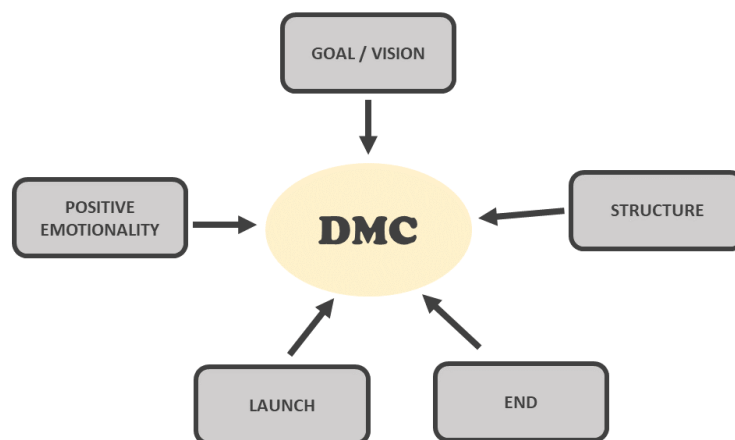


Figure 1: Graphic conceptualization of the main elements of DMC.

A. Goal / Vision Orientedness:

DMC is fuelled by an explicit end goal in the mind of the experiencer. According to goal theory (Locke & Latham, 1990, 2002), a goal needs to be considered important by the individual for it to instill high levels of commitment. According to Dörnyei and colleagues (2016) the use in conjunction with three strands of research - the vision theory, the self-

concordant goals, and proximal subgoals - can help to define the relevance of goals in DMC.

As explored in the former section the concept of vision together with the theory of the possible selves, unveils the power of visualized goals to achieve higher and sustained motivation (see 2.1.1. for reference).

Kennon Sheldon and his colleagues elaborated on the concept of self-concordant goals (Sheldon & Elliot, 1998, 1999; Sheldon & Houser-Marko, 2001), which are goals that 'tap into the core values and beliefs of an individual and are, therefore, deep seated and highly identity relevant' (Muir, 2016, pp. 41). Their main contribution to the concept of goals is that it is not for a goal to be self-determined, but it has to connect to the individual's identity and essential values to be sustained in time and have higher relevance than other types of goals. Relatedly, self-concordant goals are linked to DMC experience in the sense that they relate to the identity of the individual, as opposed to the goals of an individual experiencing Flow, who is motivated by an intrinsic reward of the task in hand.

Sheldon and Elliot (1999) explain that 'self-concordant goals do not necessarily feel "good" nor are necessarily self-gratifying...the key distinction is not whether the goal is pleasurable but rather whether the person feels ownership as he or she pursues the goal' (p. 484), that is what can explain DMC as a prolonged pursuit of an end goal with a set of complex and often non-pleasurable intrinsically but meaningful in the constellation of the individual's identity and connected self-concordant goals.

Regarding proximal subgoals, Miller and Brickman (2004) explain how to lead the way for a long-term self-concordant goal, needing a structure of smaller goals to guide action. The authors describe that 'as the system of subgoals becomes clearer and particular subgoals are accomplished, the level of commitment to the future goals grows stronger.' (Miller & Brickman, 2004, p. 15). Nevertheless, just having a strong vision will not equal having a well-developed 'action plan', which is a key element to DMC.

B. The Launch of a DMC:

This element of DMC refers to the clear starting point that is connected to a triggering factor that initiates action. For this starting point to occur two factors have to be present according to Dörnyei and colleagues (2016):

1. Alignment of the necessary conditions
2. Availability of a specific triggering stimulus

The initial stimulus is regarded as vital and can have large implications for future behavior (Larsen-Freeman, 2015). The effectiveness of this trigger comes from a dynamic interplay of an array of different factors involved in the context of an individual since when these conditions take place, they 'not only prepare the ground for the triggering stimulus, but they also make the system more responsive to the impact of the trigger.' (Dörnyei et al., 2016, pp. 60-61)

C. The DMC Structure:

DMC has a unique structure which is different from Flow due to its particular self-renewing capabilities (Muir, 2016) and also from any other motivation construct in that the mere structure of DMC 'plays an active role in maintaining the motivational current' (Dörnyei et al., 2016, in Muir, 2016, p. 49). In the realm of DMC, this is not conceived as a self-discipline but rather as an 'effortless outpouring of energy where conscious attention is not required to maintain the current' (Muir, 2016, p. 50) but rather as the interplay of the DMC elements together.

In the following paragraphs, I will describe the role of the four core elements that structure DMC.

1. Behavioral routines, motivational autopilot, and nonconscious self-regulation
2. The protective shield of visionary singlemindedness within DMC
3. Subgoals and perceptions of progress
4. Affirmative feedback

D. Positive Emotional Load:

It is a common factor in the DMC experience to feel joy, satisfaction, and well-being, where 'individuals experience a unique sense of connectedness between activity and identity' (Muir, 2016, p. 54). This idea is related to the theory of the possible selves mentioned formerly in this section, accounting for 'how an individual's ideal self becomes highly accessible and frequently activated' (Muir, 2016, p. 54). Positive emotionality in DMC can also be explained from the point of view of goal theories and the achievement of self-concordant goals.

Three constructs depict the positive emotional load related to DMC, these are eudaimonia, dedicated effort in the pursuit of excellence, and authenticity.

E. The End of DMC

The relevance of the final stages of DMC is more explicit in the context of second language learning because it is usually a lifelong process that can continue after a 'heightened period of DMC motivation has come to an end' (Muir, 2016, p. 61). DMC in this domain hence represents only a small part of a much longer learning path.

In this section, there will be a focus on the issues that can affect the final stages of DMCs and make it lose energy, which are:

1. A growing dissonance between subgoals and the final vision
2. The disappearance of the protective shield of visionary single-mindedness
3. Increasing perception of effort as a subjective experience.

2.1.3. Motivation Framework used for this Study

As seen in 2.1.3, motivation is a complex construct since it tries to explain the very core of human behaviour and it is traditionally considered responsible for why people decide to do something, how long they are willing to sustain the activity and how hard they are going to pursue it. Finding its source and effects on learning is essential to the success of any L2 learning experience, and consequently, for the design of learning materials and the choice of what methodological approach should be used in class.

However, using the wide and complex construct of motivation to create learning materials is a challenge for any education practitioner who wishes to create them while aligning to content standards and theoretical frameworks on motivation because of the implied complexity of the task.

The factors that foster motivation can interrelate synchronically or asynchronously in the learner's life. This idea emerges from the latest trend in SLA motivation theories, the so-called socio-dynamic period, explained in section 2.1.2., where L2 motivation is conceived as a process and its behaviour depends on a complex set of internal, social, and contextual factors (Dörnyei, 2009a) and also the Dynamic Systems Theory (DST) which describes a "context which has multiple factors in play, each influencing those surrounding them and thereby causing multiple interferences" (Muir, 2013). The DMC theory has a clear focus on intense long-term motivation, but its most important feature for teachers is that it concentrates on the factors that can serve the purpose of designing learning experiences in formal education.

Direct Motivational Currents by Dörnyei and colleagues (2014) see section 2.1.2. for a more comprehensive explanation, it is one of the main pillars for the motivation model of this study because it achieves a clear instrumentality for enactment in teaching practice and instructional design, as well as manages to embed different motivation theories in a symbiotic construct. As Dörnyei and colleagues (2014) explain, the significance of a DMC lies in the fact that the conditions for its appearance can be replicated in educational settings by including for example, "well-designed language learning tasks, longer-term projects or even study-abroad experiences" (p. 99). In this section, I will elaborate on what serves as the theoretical framework for this study, prominently inspired by the construct of DMC.

The Motivation System for Education (MOSE) is a tool that the researcher has designed for this study so as it can guide both the instructional design of the projects to be implemented and the conceptualization of what I understand motivation is concretely for the context of this study, that is, the teaching/learning of an L2 in a formal education environment. The MOSE does not cover comprehensively all possible elements of motivation in an L2 learning context but rather, it taps on the essential features of DMC

and the elements believed to be replicable by educators to foster motivation in a formal educational context, such as a school, college or university with regular face-to-face classes. Hence, this tool facilitates the identification of the main features involved in fostering motivation to facilitate the design of learning materials and the choices made in teaching practice. Similarly, it facilitates the detection of motivation markers to inform on the motivational impact of the learning experience on students, so as it can be revised, improved, or replicated depending on the results.

It is possible to recreate some favourable conditions for learning in a formal environment of education but there are other external and internal factors affecting the learner that can deeply impact their motivation and cannot be easily reproduced or influenced by educators. The latest research on L2 motivation suggests that learners' social context (Pavlenko, 2005) and emotions (Scovel, 2001) are essential determinants when shaping their learning experiences. However, the MOSE focuses mainly on the motivational factors that offer a more precise application by education stakeholders in designing learning, to become a feasible and accessible tool for educators and learning content designers (see figure 2 below).



Figure 2: Motivation System for Education (MOSE) was created by the researcher for this study.

In the following paragraphs, the researcher will describe the elements of the MOSE separated into two subcategories, educational interventions, and observable motivated behaviour.

MOTIVATED BEHAVIOUR

1. Self-Regulation

Even if students' motivation may be externally facilitated, the generation of a solid long-term motivational force is only possible if an individual takes full ownership of the targeted goal and the action sequence that leads to it. This creates a strong link with self-determination theory (Deci & Ryan, 1985), which states that any meaningful engagement

with an activity must be self-regulated, self-determined, and autonomous (Ryan & Deci, 2000).

Self-regulated learning (SRL) strategies describe the actions and processes at the acquisition of information or skills that involve agency, purpose, and instrumentality perceptions by the learners (Zimmerman, 2011). Some of the strategies students display when they self-regulate their learning are described by Zimmerman and Martinez-Pons (1986): self-evaluation, organizing and transforming, goal setting and planning, seeking information, keeping records and monitoring, environmental structuring, self-consequences, rehearsing and memorizing, seeking peer assistance, seeking teacher assistance, seeking adult assistance, reviewing tests, reviewing notes, and reviewing texts.

However, even if SRL stems from an individual psychological concept, there is a growing need to integrate this concept with the social, shared and interactive processes of learning (Järvenoja et al., 2008), such as social regulation, shared regulation, and co-regulation (Hadwin & Oshige, 2006; Järvelä, Volet, & Järvenoja, 2010), to understand its role in real-life social learning environments, and in educational contexts, within collaborative groups.

Research establishes an intricate connection of SRL with motivation and emotion in learning environments (Boekaerts & Corno, 2005), and the regulation of motivation is a major theme of research within prominent models of self-regulated learning (Boekaerts & Cascallar, 2006; Wolters, 2003). Hadwin (2008) argues that motivation is connected to SRL in three main ways:

1. The learner's motivation knowledge and beliefs influence the types of goals that are set, the strategies that are chosen, and one's persistence in a given task.
2. Engagement in SRL produces new motivational knowledge and beliefs that influence engagement in current and future tasks.
3. Learners self-regulate their motivational states during learning.

Consequently, when students can use SRL strategies successfully, they usually have more motivation to achieve learning goals (Zimmerman, 2011). The study from Zimmerman (2000) indicates that if students are motivated to learn, they devote more time and employ more self-regulated strategies.

2. Focus

When students are motivated they enjoy investing considerable levels of time and effort to perform the learning tasks, hence they can be 'in the zone' or focus for long periods. This concept relates to the one of 'flow' by Csikszentmihalyi (2009), who explains that:

Flow is a subjective state people report when they are completely involved in something to the point of forgetting time, fatigue, and everything else but the activity itself. It is what one feels when reading a good novel, or playing a good game of tennis, or when having a stimulating conversation. The defining feature of flow is intense experiential involvement in the moment-to-moment activity, which can be either physical or mental. (p. 394)

However, flow usually can not be maintained long-term, it is a very intense and energy-draining experience that can be only sustained at intervals of time with rest periods. In this thesis when we refer to focus, we are talking about students investing considerable amounts of time and effort, more than usual for them, but not necessarily as intensely as in the concept of flow.

3. Sense of Achievement

Students feel they are achieving more than they expected when they are involved in a long-term motivation experience, DMC, and hence this relates to a sense of reward and positive emotionality (Muir, 2016).

4. Positive emotionality

The concept of positive emotionality is described within the DMC theory as the "clear perception of progress towards the desired target, with the resulting sense of fulfillment leading to positive emotionality associated with the process."

This concept is related to the idea of 'eudaimonic well-being' (Ryan & Deci, 2001), which refers to personal wellness as not equal to happiness, but more in the lines of personal development and fulfillment of goals. The result of this is that there is a positive disposition to perform activities even if they were perceived as boring or challenging before because the person experiencing positive emotionality sees them as conducive to the accomplishment of a final goal.

Waterman (1993) explains that the eudaimonic experiences of an activity are associated with: (a) an unusually intense involvement in an undertaking, (b) a feeling of a special fit or meshing with an activity that is not characteristic of most daily tasks, (c) a feeling of intensely being alive, (d) a feeling of being complete or fulfilled while engaged in an activity, (e) an impression that this is what the person was meant to do, and (f) a feeling that this is who one really is. (Waterman, 1993: 679)

The sense of positive emotionality can be also experienced in the context of collaborative learning when working in teams, if the experiences display real positive interdependence, and working together for mutual benefits results in group bonding (Johnson et al., 1998).

EDUCATIONAL INTERVENTION

1. Structure

To initiate and maintain motivation on an intense and long-term basis, Dörnyei and colleagues (2014) as part of their DMC theory, suggest that there have to be three conditions present. Firstly, there must be a trigger that must be consciously launched. Once it has begun, then the 'current' of motivation should be prominent and have self-direction. Finally, that motivation must be maintained by continued behavior, or routines that support it through including regular subgoals. As part of the DMC theory Muir (2016), explains that goals should be: clear, relevant, real & authentic. Goals are also of relevance within the flow theory (see section 2.1.2.) because they provide a structure to experience (Csikszentmihalyi, 2009) and consequently focus attention.

It is not only necessary to have a clear and overarching goal but a series of subgoals, that is, achievable smaller goals that break down large tasks into doable mini-tasks with their

timeframes and set skills that can lead learners to a structured pathway to achieve the main goal satisfactorily, they can also foster long-term motivation (Muir, 2016). Additionally, the goal of the tasks should be perceived as aligned with the students' own L2 goals so as they are meaningful to them and they should have the opportunity to take ownership of its enactment (Dörnyei, et al., 2014).

These subgoals should be framed in a way that gives students an ongoing perception of their progress, being able to acknowledge the process of how their products are being constructed with a set of small doses of reward when completing every subgoal and hence encouraging the sense of accomplishment before the completion of the main task.

Relating to the views from the goal-setting theories, goals are also regular and scheduled opportunities for feedback (Locke and Latham, 2002), which research considers one of the most effective teaching practices and with a deeper impact on students (Hattie, 2008). Regular feedback in the shape of subgoals is also an efficient tool for teachers when trying to customize scaffolding to individual needs. When working in groups or teams there should be both group and individual goals set regularly to track the progress, have opportunities for feedback and accountability.

As mentioned above, the third requirement for DMC is the existence of recurring behavioral routines (Dörnyei, Muir & Ibrahim, 2014), such as writing a learning journal every week or writing ten sentences with the new vocabulary acquired in the L2. These behavioral routines become an essential element of student habits and fuel motivation in a structured pathway.

Hence, a new routine is put in place to harness goal achievement. DMC theory also notes that to be motivational, tasks should be well structured and include “multiple smaller elements each of which functioning as proximal sub-goals, and there will be a clear starting point and a well-defined pathway which frames progression towards a specific outcome” (Dörnyei, Muir & Ibrahim, 2014, p. 26). That means that classes must have a very clear structure and students should know what to expect in terms of scheduled tasks, due dates, and individual and group accountabilities.

2. Collaboration

This feature refers to Collaborative Learning (CL), that is, an instructional method in which students with different performance levels work together in small groups toward a common goal. These students have accountability for one another's learning as well as their own. Consequently, the success of one learner can foster optimal learning in other students in their group (Gokhale, 1995). When teams or groups are effective and feel integrated, these students can be involved in the design of their learning and have a voice on the content or class rules and structure, this ownership of their learning makes them feel more satisfied and hence motivated (Johnson and Johnson, 1989).

Among the many benefits of CL mentioned by Pantiz (1999) we find the major development of a social support system, reduction of anxiety, creating a positive atmosphere, increasing students' self-esteem and positive attitudes towards teachers and peers (Johnson and Johnson, 1989) among others, all connected to the increase of motivation in students. The authors note that CL develops a sense of community and that it also fosters the motivation of students to learn a specific curriculum. Both motivation and building a sense of community can interact with each other in a propelling motivational boost, since both are known to motivate learners, and often it is not clear if the sense of community instills the desire to collaborate or the other way around.

CL is considered to foster motivation because, as Dörnyei (1997) remarks, the group dynamics of CL encourages the appearance of a supportive learning environment that features a strong cohesiveness among learners, and there is a motivational basis of CL which underlies student achievement gains.

Additionally, students collaborating improve their ability to “engage in meaningful learning that will allow them to manage the fast-changing, knowledge-based society of the twenty-first century” (Darling-Hammond, 2008, p. 196). When students collaborate in groups research shows they achieve higher grades, retain information longer, and have reduced dropout rates, improved communication, and collaboration skills, and a better understanding of professional environments, as mentioned later in section 2.2.3. (Johnson, Johnson, & Stanne, 2000; Terenzini et al., 2001; cited in Oakley et. al, 2004).

In L2 teaching contexts, there has been a long tradition of working in small groups for communicative activities, however, that does not always mean that the activities did are cooperative. Students who are truly working collaboratively are linked by a positive interdependence, that is, "when one perceives others in a way so that one cannot succeed unless they do (and vice versa) and/or one must coordinate one's effort with the efforts of others to complete the task" (Johnson, Johnson & Smith, 1995).

The challenge for educators precisely lies in how to achieve interdependence when facilitating small group learning activities. According to Olsen and Kagan (1992), there are 5 major ways to foster CL:

1. Structuring the goal: Groups work towards a single team product.
2. Structuring the rewards: In addition to individual scores or grades, some sort of team score is also calculated, and joint rewards or grades are given for the group's overall production.
3. Structuring student roles: Assigning different roles to every group member so that everybody has a specific responsibility.
4. Structuring materials: Either limiting resources so that they must be shared or giving out resources that need to be fitted together.
5. Structuring rules: Setting rules that emphasize the shared nature of responsibility for the group product.

In addition to those, Johnson and Johnson (1995) note three other requirements for effective CL:

1. Individual accountability
2. Mastery of social skills
3. Regular group processing.

Johnson & Johnson suggest that CL is more effective when the group rewards for learning are combined with individual accountability to make sure students make their share of the group work. In the case of social skills, students may naturally be able to navigate their mini-communities or groups, but often they must be taught, like Johnson and Johnson (1995) comment, we are not born with these interpersonal and group skills, we

need to learn them. Regarding regular group processing, the authors argue that it is key for CL effectiveness that groups reflect regularly on their work, what have they done that has been successful in terms of tasks' completion, and how they should continue or change. This group processing improves the group maintenance and overall improvement of performance, and also fosters their social skills, and encourages feedback from peers.

3. Community

The concept of community used in the MOSE has two different conceptual branches. On the one hand, it refers to one of the main types of motivation to learn an L2, the one that occurs when the learners' goal is to become closer to the target language community. Gardner (1985, 2001), theorized on this type of motivation with his concept of "integrativeness", formerly explained in section 2.1.2. The term also denotes the learner's desire to interact with the target language community (Dörnyei, 2005). Organizing learning activities that connect students with the target culture makes the goal of learning that language more meaningful and authentic.

Another dimension of community is the one happening within the class. Learning is facilitated by establishing positive interpersonal relationships among the students and also between the teacher and the student. This awareness of the relevance of the affective side of SLA stems from some prominent language learning methods from the 1970s like The Silent Way, Suggestopedia or Community Language Learning (Arnold & Brown, 1999), this last one that explicitly advocates for the facilitation of community building in class as the main strategy. One of the main goals of these methodologies is to reduce the level of students' anxiety since it is a hindrance for efficient learning and motivation, as Arnold and Brown note, 'when anxiety is present in the classroom, there is a down-spiraling effect' (Arnold & Brown, 1999). One way to address this issue is fostering community-building activities that bond students and increase their level of trust and facilitating cooperative learning as the main instructional model as explained in the former section.

4. Authenticity

A growing body of research suggests that students engage in deeper learning and improve their learning performance when they participate in authentic learning activities (Barron & Darling-Hammond, 2008). Evidence-based research supports the idea that effective teachers are the ones who use the content of their disciplines engagingly by promoting learning experiences that are meaningful to students and connected to authentic, real-world scenarios (Darling-Hammond et al., 2008; Kuhn, 2005; Ravitz, 2009).

Based on this concept, Newmann and his colleagues (Newmann & Associates, 1996; Newmann, King, & Carmichael, 2007) used as guidelines a set of intellectual challenges that adults face in real life to develop evidence-based standards that measure the authentic intellectual work (AIW) occurring in a classroom. The AIW standards assess the degree to which teaching and learning:

- go beyond the reproduction of prior knowledge to construct new understandings about meaningful problems;
- engage students in disciplined inquiry that uses prior knowledge and rules of evidence to ensure that newly constructed knowledge has depth, rigor, and value;
- require complex communication of student understandings through extended descriptions, explanations, justifications, and dialogue;
- feature work that has value beyond school; student products have an impact on others in ways that go beyond the demonstration of factual recall.

(Newmann & Associates, 1996, pp. 22–28).

Learning experiences can be authentic in different ways. They can have an authentic context, such as students solving problems of people around the world (e.g. plan to design and build a bridge in an isolated community to help kids reach a school); or it can have a direct impact on their community and school, having a real impact in their environment (e.g., students designing a guide to foster tourism in their town or creating an app to let young people in their region know about youth events). Finally, an authentic learning activity can display “personal authenticity when it relates to the students’ concerns, interests, cultures, identities, and issues in their lives” (Larmer & Mergendoller, 2015).

The idea of making learning authentic can be materialized in the creation of learning artifacts by students, a tangible product, a presentation, or a solution to a problem among others. If these learning artifacts are shared and made public, the motivational effect on students is even greater because they know they are not only creating something as a response to a real problem and using the skills they would use in future work or social life situations, but also they would have an authentic audience, rather than just their class. In the context of L2 teaching/learning, public product sharing encourages students to be more accurate in the form of their language production (Skehan, 1998, p. 274).

The use of authentic materials in SLA has been widely implemented since the 1970s due to the prominent adoption of the Communicative Language Teaching (CLT) method, which advocates for the promotion of communication language skills through exposure to authentic language input. Authentic materials refer to language created by native speakers without a language teaching purpose (Tomlinson, 2007). However, these authentic materials should be selected considering the student's appropriate level of the L2, age group, interests, and so on. Gilmore (2007) notes that authentic materials allow students to be exposed to real input and be prompted to produce output organically.

Despite all the benefits mentioned above about including authenticity in pedagogy, they also present some challenges to teaching practitioners, they are greatly demanding in terms of teachers' time, energy, and intellectual resources and external pressures, like cover content and format of standardized tests (Hammer, 1997; Rossi & Pace, 1998; Saye & Brush, 2006).

2.1.4. DMC through intensive group projects

In the domain of language learning, the concept of group DMCs is of considerable importance since teaching in a classroom implies a group endeavor by itself. There is evidence that both individual and group DMCs occur in the area of language learning and also in life (Muir, 2016, p. 67). Drawing on the flow theory, literature shows that 'group flow', which as opposed to individual flow taps on a 'property of the entire group as a collective unit' (Sawyer, 2006, p. 158), can foster more intense emotional effect than when experienced alone (Muir, 2016, p. 68).

In the area of instruction in classroom environments, “group DMCs can be understood as manifesting themselves as intensive group projects” (Muir, 2016, p. 70). Many relevant connections are found between DMCs and learning with projects. Tough (1979) claims that individuals involved in “learning projects are “swept up” in the enthusiasm of an experience” (Muir, 2017, p. 80). Additionally, the self-direction that learners are offered during intense projects is realized by an increase in the sense of agency that otherwise cannot be achieved in learning experiences where the control is mainly delegated to the teacher (Mohan & Lee, 2006).

Among the many teaching methodologies using projects at its core, Project Based Learning (PBL), presents itself as the most updated, rigorous, and comprehensive of all, with a current exponential growth around the world in the education arena. In the following section, I will elaborate on the specifics of PBL and relate it to the realms of motivation and SLA.

2.2. Project Based Learning

2.2.1. PBL History

Project Based Learning (PBL) is not an entirely new methodology since the use of projects in different forms can be traced back hundreds of years ago. Michael Knoll (1997) in his study *The Project Method* identified the following main stages in the use of projects in education:

- 1590-1765: The beginnings of project work at architectural schools in Europe;
- 1765-1880: The project as a regular teaching method and its transplantation to America;
- 1880-1915: Work on projects in manual training and general public schools;
- 1915-1965: Redefinition of the project method and its transplantation from America back to Europe;
- 1965-today: Rediscovery of the project idea and the third wave of its international dissemination.

An approach to working in projects in general education was introduced by the constructivist philosopher John Dewey in the USA at the end of the 1890s (Douglas & Stack, 2010). Dewey's work was characterized by a firm conviction that education has real power to transform society in positive ways. Relatedly, he stated that "the chief means of continuous, graded, economical improvement and social rectification lies in utilizing the opportunities of educating the young to modify prevailing types of thought and desire" (Dewey, 2002, p. 127).

His theories were a clear reaction to the way education started replicating industrial processes. Due to World War I, society experienced deep changes that impacted the way they perceived learning. As the industrial sector went through rapid development as never known before in history, many educational institutions imitated the industrial procedures in the ways they designed learning experiences, teaching methodologies, and even educational spaces. Schools treated students as raw materials that they wanted to transform into the end products (Bransford, Brown, & Cocking, 2000). Using mass production processes on students impacted how schools perceived the design of curriculum, instruction, and assessment (Bransford et al., 2000).

Dewey observed how young people had natural curiosity, creativity, and strive to question the establishment, however, schools did not capitalise on those qualities, but rather tried to impose on them their belief systems and did not encourage reflection and critical thinking. To describe the American educational system Dewey (1958) uses the metaphor of the teachers who try to "pour" knowledge into the "empty heads" of the students. He believed that education is not about telling or being told, but it is a process that students themselves construct.

As Williams (2017) remarks about the American education system, the main issues that Dewey tried to change at the beginning of the 20th century still prevail: "Education in most classrooms today is what Dewey would have described as a traditional classroom setting" (p. 91), that he deemed not appropriate for the development of young people.

"Education becomes the art of taking advantage of the helplessness of the young; the forming of habits becomes a guarantee for the maintenance of hedges of custom" (Dewey, 2002, p. 64 in Perez-Ibanez, 2018). Schools are institutions for social reproduction aimed

at keeping the status quo (Perez-Ibanez, 2018) and where students are “trained to enrich the system, not themselves” (DeFalco, 2016, p. 58)

DeFalco (2016) stated that “Deweyan education reform can help to alleviate the exploitation of workers—if schools sincerely want to become instruments for democracy instead of maintaining the status quo” (p. 64).

Dewey drew a very clear map on how to fix some of the major issues of his time that sadly prevail today, mainly stemming from a utilitarianism conception by educational institutions of students as end products to provide easily manipulated labour for privileged sectors of society. Students’ well-being, happiness, and real competitiveness in the job market are handicapped by their “education”, lacking elements like the promotion of critical thinking skills, creativity, problem-solving, communication, collaboration, and social and emotional learning skills. His philosophy emphasized education being student-centered and recommended introducing authentic situations and contexts at schools. He believed in learning by doing, empowering students to not only learn content but also to acquire skills and critical thinking habits.

Constructivism continued evolving in the second half of the 20th century with the works of several prominent figures, such as Maria Montessori and her revolutionary early-childhood method that spread internationally. Montessori promoted ideas such as education does not happen by listening to words but by the experiences we have in the environment (Boss, 2011).

Jean Piaget, who was a developmental psychologist, laid the foundations for us to understand how we make meaning of our experiences at different stages in our lives and inspired the “constructivist approach to education in which students build on what they know by asking questions, investigating, interacting with others, and reflecting on these experiences.” (Boss, 2011).

During the mid to late 20th century, a former collaborator of Piaget, Seymour Papert played an important part in applying constructivist ideas, that he reinterpreted as “constructionism”, to computer and games education. “His underlying idea was that children must be empowered to take charge of their own thinking and learning process,

rather than be forced to become a passive receptor for top-down instruction and multiple-choice quizzes. Helping children learn to be good learners was much more important than teaching them a rigid curriculum.” (Harel, 2020).

David A. Kolb published his model of Experiential Learning Theory (ELT) in 1984, where he developed the idea that a person would learn through discovery and experience. Admittedly, Kolb was inspired by the main constructivist thinkers, Dewey’s philosophical pragmatism, Lewin’s social psychology, and Piaget’s cognitive developmental genetic epistemology form a unique perspective on learning and development (Kolb, 1984).

Dewey’s ideas were further developed by his student William Kilpatrick in his pamphlet “The Project Method” (1918), which laid out the basic principles of what we call PBL today. Since then, PBL has been developed in different ways across educational levels and contexts. PBL has been widely used as a teaching methodology in Higher Education curricula and professional training in such areas as medicine, nursing, engineering, and sciences since the 1970s.

There has been also historical opposition to constructivist approaches that promote learning to be student-centered and based on inquiry, such as PBL, based on the claim that learners acquiring content in specific content areas should be the focus of education (Kirschner et al., 2006; Loveless, 2013), others believe there can be a middle ground where PBL and direct instruction can go hand in hand when needed if conducive to inquiry (Markham, 2012). Nevertheless, pedagogical approaches that emphasize deeper learning and the development of skills needed for success in life like PBL have become increasingly popular in general (Huberman et al., 2014), and they are being promoted in a varied range of areas of Higher Education, in Elementary and Secondary education levels (Knoll, 1997).

2.2.2. Defining PBL

There is not a universal definition of Project Based Learning (PBL) (Thomas, 2000), different characteristics have been attributed to this label and sometimes there are overlapping terms like problem-based learning (Wood & Head, 2004), project approach,

or project-based approach (Ho, 2003) or project work (Fried-Booth, 2002; Haines, 1989). It is also more common in the literature to find Project-based Learning with a hyphen rather than Project Based Learning without it, however, for this study, the researcher has opted in for this second option as she is adopting the main terminology and instruments developed by the Buck Institute for Education. In essence, PBL can be described as a teaching methodology that focuses on student-centred projects to facilitate student learning (Mergendoller, 2006).

Learners acquire knowledge and skills by working for an extended period to investigate and respond to an authentic, engaging, and complex question, problem, or challenge (Buck Institute for Education, 2015), and the outcome is the creation of a learning artifact. PBL also embeds a real narrative as opposed to disconnected lessons that imitate reality, the approach unwraps a tale about a problem that must be solved or an activity that must be developed and the learning happens along the way (Wolpert-Gawron, 2015).

PBL is part of a wider movement that claims that to move education forward in the ever-changing 21st society it is necessary to use inquiry-based and active learning approaches (Knoll, 1997). The overarching aim is to enable learners to become self-directed learners who can apply sound higher-order thinking skills to real-life situations. PBL stems from constructivism learning theories (Pellegrino & Hilton, 2012), as stated in the previous section. Hence it advocates for a concept of knowledge as being constructed (Thomas, 2000), emergent, and grounded in action or experience (Jonassen et al., 1999) as opposed to rotten memorization.

Constructivist learning experiences involve active learning, constructive learning, cooperative learning, and authentic learning. PBL has also a firm social and collaborative focus, being influenced by the ideas of Vygotsky, also labeled as social constructivism, in which students learn through interaction and mentorship from “More Knowledgeable others” (MKO) and by being supported in different ways in their Zone of Proximal Development, that is, the distance between the student’s ability to perform a task independently and through the assistance of others (Vygotsky, 1978).

Correspondingly, the features of social constructivism found in PBL are key to foreign language learning (Sidman-Taveau & Milner-Bolotin, 2001), such as the negotiation of the task, going beyond the mere negotiation of semiotic signs, or the Zone of Proximal Development.

As explained by Darling-Hammond and colleagues (2008), projects should have 'multiple solutions and methods for reaching solutions and should lead students to confront and resolve conflicting ideas' (p. 214). They also emphasize the relevance of learners being producers and creators, and in this way, most PBL experiences culminate in the production of learning artifacts by students, which will be discussed in point 10 of this section.

As opposed to a project being an aftermath of learning content in a lecture way, when using PBL, content is "baked inside of a long-term project, a real-world problem students need to solve in a creative and authentic way" (González, 2016).

In a review of literature about PBL, Thomas (2000) identified five core features:

1. The use of projects that focus on content that is central to the curriculum. These projects become the primary vehicle for content learning, and often, assessment.
2. Projects are based on driving questions. Driving questions must be a spark and the thread to the project and crafted both to promote optimal student engagement and foster the active intellectual pursuit of solutions.
3. Projects involve students in ways that require them to identify problems, develop and design solutions, and create an end product such as a presentation, report, invention, or model.
4. Projects are student-centred to the greatest extent possible. Teachers serve as resources, facilitators, and guides, but it is the students who define, choose and carry out their projects.

5. Projects are developed from reality-based ideas and problems rather than academic exercises and pursuits. The projects represent authentic efforts in solving or investigating real-world dilemmas.

After an analysis of the variety of available definitions, Markham and colleagues (2003) add to the former features a focus on the process and acquisition of skills, such as cooperation, feedback, reflection, or performance-based assessment.

PBL is a methodology under the inquiry-based learning umbrella construct, hence inquiry is the cornerstone and 'conductive material' that guides PBL into making meaning collaborative by interacting with others to answer questions and consequently construct knowledge about the world. It is natural to humans, and this is even more accurate with children and young people, to wonder about the world and build their image of it by asking questions and interacting with other people and their surroundings. PBL, as part of inquiry-based learning, emphasizes process and content equally, valuing communication, collaboration, and reflection as much.

The inquiry process takes more time than just looking for information, copying and pasting it, or the note-taking process in a lecture type of class. Projects can incorporate different information sources, from interviewing people, reading a book to searching a website. Students may also investigate the needs of the end-users of their products to refine them (Buck Institute for Education, 2017).

2.2.3. Instructional design in PBL

PBL researchers and practitioners bring attention to the need to have a set of benchmarking guidelines for the optimal design of PBL units within the curriculum to facilitate the implementation of PBL by teachers and education stakeholders (Larmer & Mergendoller, 2015; Thomas, 2000).

In this study, the researcher identified the need to follow an instructional model with a track record of being user-friendly for both teachers and students, as they all were unfamiliar with the approach and it implied a steep learning curve to get adapted to it.

The multiplicity of conceptions of what PBL is in conjunction with its complexity called for the need for visual and organizing tools for teachers to be able to both design and implement PBL with success. The visual PBL models and materials for teachers provided by the Buck Institute for Education (BIE) are valuable resources for this study since they serve as a foundation to bridge the gap between theory and practice needed to achieve a more feasible class implementation.

The most used model worldwide for instructional design in PBL at that moment was the Gold Standards PBL model (see figure 3 below) from the Buck Institute for Education (BIE). BIE is an educational organisation based in the US with a history of more than 25 years working on helping teachers, schools, and school districts to implement PBL in their classes. Their materials are designed to be easily understood by teachers.

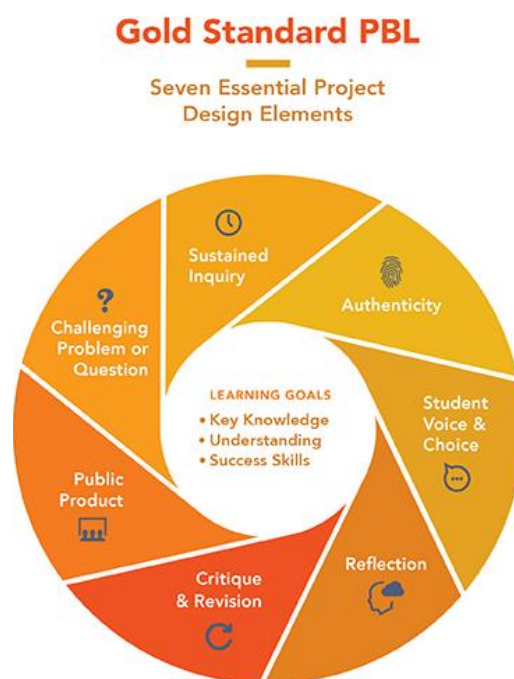


Figure 3: Project Based Seven Essential Project Design Elements from the Gold Standard PBL, retrieved from www.pblworks.org. CC-BY-NC-ND

According to BIE Project based Seven essential Project design elements (see figure 3 above), when designing a PBL unit teachers should include a challenging problem or question, sustained inquiry, authenticity, student voice and choice, reflection, critique and revision and a public product.

The researcher took these elements as the pillar for her design and reviewed the literature on the main design elements that prove to have achieved successful outcomes in PBL implementations. As a result, she decided to include the following elements to her class implementations design: Driving question, content and skills, authenticity, and learners strategies such as structured students' collaboration and reflection. These elements will be applied to the design process of the two-class implementations found in Study Two of this thesis.

The following paragraphs will be dedicated to briefly explain each of these elements more thoroughly.

1. Driving Question

The project begins with a driving question and this is the core and the trigger of the whole learning experience (Larmer & Mergendoller, 2015). One of the main goals of a driving question is to focus the inquiry (Boss, 2011); it also captures and communicates the purpose of the project to guide the teaching and learning throughout the project. A real and engaging problem or question makes learning more meaningful to learners since there is a real need to learn something to use that knowledge to try to solve a problem or answer a question. This question will guide the inquiry process; it needs to address a specific problem to keep students focused. The driving question must condense the goal of the project in a brief and precise way. It also should reframe the standards in ways that are accessible to both the teacher and the student (Miller, 2015). According to Krajcik and Mamlok-Naaman (2006) "a driving question is a well-designed question that students and teachers elaborate, explore, and answer throughout a project" (p. 3). To achieve a high-quality driving question Krajcik and colleagues proposed the following five criteria: 1) feasible, 2) worthwhile, 3) contextualized, 4) meaningful, and 5) ethical (Krajcik & Mamlok-Naaman, 2006; Krajcik & Shin, 2014). Another relevant feature of a driving question is that it is revisited several times by learners during the project in a sort of 'loop', to try to answer the question in each project stage (Parker et al., 2011).

2. Content and Skills

Some studies on PBL address the importance of making the connection between projects and the learning goals in the curriculum (Barron et al., 1998; Darling-Hammond et al.,

2008; Larmer & Mergendoller, 2015; Thomas, 2000). The Buck Institute for Education (BIE) refers to this topic in their definition of “Gold Standard PBL” (Larmer & Mergendoller, 2015), an instructional design guide for PBL practitioners. The BIE maintains that a well-designed PBL approach should teach “students the important content standards, concepts, and in-depth understandings that are fundamental to school subject areas and academic disciplines” (Larmer & Mergendoller, 2015). They also remark the relevance for students to acquire what they call ‘success skills’ through content knowledge. Success skills refer to a set of 21st-century skills that they consider more relevant for success in life, such as to think critically, solve problems and collaborate with others.

3. Authenticity

Regarding the nature of the content embedded in projects, research suggests that the topic of a PBL learning experience should be authentic and connect with real world’s issues (Thomas, 2000), to be meaningful to learners and hence facilitate that they establish a connection between formal learning environments, like schools, and real-world scenarios. Authenticity proves to be of considerable relevance in the case of teaching/learning a second language since the exposure to authentic linguistic input, and the production of meaningful and contextualized output can potentially improve the learner’s communication skills, as explained in section 2.2.5 of this thesis.

4. Learners’ strategies

In this section, three core learners’ strategies that are considered relevant for the active development of PBL are briefly explained, the skills needed for structured collaboration, their ability to make informed choices and choose and distribute tasks, and their reflection skills.

Structured student collaboration

Teamwork is an integral part of PBL since, as mentioned before, it stems from the ideas of social constructivism in which the interaction enhances learning with others with different sets and levels of abilities. Notably, literature shows that students involved in small-group learning activities achieve higher grades, retain information longer, and have reduced dropout rates, improved communication and collaboration skills, and a better

understanding of professional environments (Johnson, Johnson, & Stanne, 2000; Terenzini et al., 2001; cited in Oakley et al., 2004). PBL is also known to impact students positively across grade levels, academic subjects, gender, ethnicity, and achievement level (Slavin, 1996).

In a review of findings from more than 1,200 research studies conducted in the past decades on cooperative, competitive, and individualistic efforts, Johnson and Johnson (2009) discuss the implications on how to facilitate teamwork and recommend (1) structuring group work, (2) explaining the task and positive interdependence, (3) monitoring students' learning and intervening to provide assistance and increase interpersonal group skills, and (4) evaluating students' learning and helping students process how well their group is doing.

Additionally, Slavin (1991) comments on the key roles of assigning interdependent roles and accountability:

- Team goals and/or rewards based on individual learning growth.

When the team goal is tied to the learning of each individual, team members care about others' learning and actively help each other. Assigning interdependent roles to students has been shown to increase students' learning and engagement through teamwork (Slavin 1996; Johnson & Johnson, 2009).

- Individual accountability.

To increase group-work success, team rewards or goals should depend upon growth in each individual student's skills and knowledge. Individual learning growth must be measured in relation to each student's past performance in order to ensure that everyone has an equal chance of success. For example, teams might be awarded points based on each member's meeting or exceeding past performance, based on individual assessments.

PBL practitioners also recommend tracking the team progress and set goals and sub-goals, with the team and individual accountability, due dates, team meetings, make their progress visible, but sharing it with the rest of the class (Mergendoller & Thomas, 2005).

Group contracts can facilitate assigning tasks and individual accountability for team members while helping to track progress on the team processes and outcomes (Mergendoller & Thomas, 2005).

Student Voice

Allowing students to make choices in their learning paths connects them more deeply with the learning process, making it more meaningful to them individually. When students have ownership of their learning they may choose what, when, and how to learn. In some cases, the teacher would bring the driving question to the class and students would elaborate a set of sub-questions that can evolve in the project process depending on their findings. This is the most common scenario for novice PBL doers, facilitators, and students, but after doing a considerable amount of projects, the intensity of teacher guidance can be reduced and learners can make more choices, like the topic of the project, driving question and teamwork organization. They can usually also decide on the format of the product they produce as a culmination of their learning and as an answer to the driving question and how and with whom they will share it (Larmer & Mergendoller, 2015).

Reflection

Reflection is a key component of PBL; as remarked by Darling-Hammond and colleagues (2008), time should be provided for “students to reflect deeply on the work they are doing and how it relates to larger concepts specified in the learning goal” (p. 216). Students and teachers must have time to reflect on their learning, how they are learning, and why they are learning (Larmer and Mergendoller, 2015). Reflection can occur in different ways, such as an open discussion in class, learning logs or journals, scheduled formative assessment, peer critiquing, and the final public presentation by the students. Reflecting on their learning process enable them to be aware of their metacognitive skills, strengths, and weaknesses, giving them the tools to improve their learning for life.

5. Teaching Strategies

Scaffolding

The use of scaffolding has been mentioned as an essential element in the corpus of recent research on PBL (Darling-Hammond et al., 2008; Krajcik and Shin, 2014; Thomas, 2000). In essence, scaffolding consists of breaking up the learning into smaller pieces and then giving tools, structure, models, or mentoring for each of them. A learning scaffold can be also described as any method or resource that helps a learner to “accomplish more difficult tasks than they otherwise are capable of completing on their own” (Singer et al. 2000, p. 170). The term is visually descriptive indeed, using the metaphor of a building scaffold, teachers facilitate temporary support to students so as they can reach a higher level of understanding or necessary skills to construct knowledge and when they do not need it anymore they can be gradually removed and eventually the student is given more ownership of their learning.

Although the term scaffolding was not introduced by Vygotsky per se, it is usually used as a synonym of his Zone of Proximal Development. Vygotsky suggests that group or team members should have different levels of ability so more advanced peers can help less advanced members operate within their zone of proximal development (McLeod, 2012). Ideally, in PBL, this occurs in two main ways, firstly, teachers act as mentors and facilitate learning to students when needed by directing them to the right resources and guiding the inquiry process without giving answers but the clues to be able to answer by themselves. Secondly, when teams are structured in a way that there are different roles and levels of abilities, so as the interaction of the team members results in participants feeding on each others strengths and hence making all of them excel.

Scaffolding has been also compared with the relationship between a master and an apprentice. Hence teachers model and coach learners, break down tasks, and share strategies to solve problems and think critically (Blumenfeld et al., 1991). In a foreign/second language class, for example, teachers may pre-teach or review essential vocabulary on a given text and afterward work on it for reading comprehension and discuss it.

Feedback

Research indicates that feedback is one of the most effective teaching techniques; it has the most significant effect size on learning of any intervention studied (Hattie, 2008). Students should learn how to give and receive constructive teacher and peer feedback to improve their products but also acquire life skills that can be very valuable in their future work environment, where teamwork is predominant. It also provides opportunities for students to modify and correct their learning artifacts before the final assessment, learning from their mistakes and often being able to incorporate opinions from people outside their team when the feedback comes from other peers outside their teams, for example. Students need to be given opportunities to review and revise their work, and critique with constructive language rather than giving grades during these formative assessments emphasized improving the quality of work rather than on the student (Darling-Hammond et al., 2008).

6. Multi-faceted assessment

Assessment has been traditionally understood as a way to test learning at the end of a learning unit, academic year, or even educational stage, with no room for improvement while students are in the middle of a learning experience. In the PBL approach, though, there should be multiple opportunities for feedback, reflection, and time for students to revise their work; teachers can provide rubrics and give examples that demonstrate intended learning outcomes from professionals acting as mentors or peer students. It is also vital that the assessment criteria are clearly stated to students from the beginning of the project (Barron & Darling-Hammond, 2008).

When the learning design allows and fosters frequent feedback opportunities, teachers are regularly updated on the students' evolution and performance and can adapt their instruction and provide appropriate scaffolding to the students who need it. Additionally, the focus is the process of learning rather than just the final product or a test, helping students comprehend better that learning is a result of a cumulative effort and consequently improving their resilience. This happens because when students are focused on learning, as opposed to measuring themselves, failure is more likely to provoke continued effort, as opposed to a helpless response (Dweck, 2000).

Darling-Hammond and colleagues (2008) propose that inquiry-based learning assessment must involve:

- Intellectually ambitious performance assessments that enable students to learn and apply desired concepts and skills in authentic and disciplined ways.
- Evaluation tools, such as assignment guidelines and rubrics, which define what constitutes good work and effective collaboration.
- Formative assessments to guide feedback to students and to shape their instructional decisions throughout a unit.

Learning is more effective when the teacher provides students with frequent assessments and redirection through project milestones and fosters reflection (Barron & Darling-Hammond, 2008). In terms of materializing this type of assessment in a PBL class, these are some examples of formative and summative assessment that can guide students into the successful completion of their projects:

Table 1

Types of assessments from Powerful Learning: What We Know About Teaching for Understanding. Darling-Hammond and colleagues (2008).

Type of Assessment	Form of Feedback
Rubrics	Detailed specifications of students' work products, with levels of progress, defined. Students should understand the rubric before beginning the work and should revisit it throughout a project.
Solution Reviews	A public opportunity for students to show work in progress and obtain feedback from peers, teachers, or other community members.
Whole Class Discussion	Structured classroom discussions provide a venue for the vetting of ideas and explanations and surface misconceptions that can be addressed mid-project.
Performance Assessments	Individual or small-group projects, usually of short duration, that enable teachers to assess

	students' ability to apply acquired knowledge in a new context.
Written Journals	Students maintain an ongoing record of experiences, reflections, and problem-solving throughout a project.
Portfolios	Students compile a collection of their work over time, usually highlighting progress and including personal reflection.
Weekly Reports	Students create weekly written responses to a set of simple questions throughout the duration of a project.
Self-Assessment	Students evaluate their work according to predefined criteria, often using such tools, such as a rubric or focus questions.

An essential part of ongoing assessment in PBL is that it develops the student's ability to evaluate their work, being able to internalize learning goals and content standards as well as an awareness of their learning process, that is why teachers can ask students to help define the assessment criteria to ensure they truly understand them (Mergendoller & Thomas, 2005).

For final (summative) assessment criteria, Hung (2008) suggests these six criteria:

1. necessary knowledge acquisition (for example, "need to knows," or content objectives)
2. depth of study
3. effectiveness and efficiency of research methods
4. logical and effective reasoning
5. conceptual integration of knowledge
6. effective problem-solving strategies

Barron and Darling-Hammond (2008) recommend these six assessment criteria:

1. use of evidence
2. accuracy of information

3. evaluation of competing views
4. development of a clear argument
5. attention to writing conventions
6. collaboration

7. **Learning artifacts**

Creating a public product can benefit students in different ways. Firstly, a public product is authentic and thus engaging for students since they know that what they produce is going to be seen by a larger audience than their class, which fosters their motivation to improve the quality of the product (Larmer & Mergendoller, 2015).

Additionally, when they create a product, they make their learning visible, and it can be discussed, not only by teachers but by other peers or external participants/users. The effect of this is the flourishing of a learning community where education stakeholders share their knowledge and interact with it.

Making student work public facilitates the sharing and discussion for all the participants in the educational community and the world (Larmer & Mergendoller 2015; Ravitz, 2010).

2.2.4. Teaching Practice in PBL

The role of teachers in PBL is facilitating learning as opposed to the traditional role of delivering content. It is not uncommon that teachers fear losing control of their classes when moving from a teacher-centered to a student-centered approach. There is evidence that teacher resistance impacts negatively on student success and the general effectiveness of PBL instruction (Beneke & Ostrosky, 2008; Hertzog, 2007). The teachers' perception often handicaps implementation that PBL is too challenging considering student behavior and ability level (Hertzog, 2007), what is more, Mergendoller and colleagues (2006) state that not all teachers might be well-suited to project-based instruction.

What is evident is that teachers need proper and ongoing support to be able to succeed in the shift of teaching practices. The success of PBL does not only depend on the methodology itself but on the motivation of teachers, who learn by being engaged in peer

collaborations with other teachers in the form of mentoring, professional development, and peer critiquing among others.

It is a recurrent misconception among teachers that they do not teach when doing PBL; however, multiple new tasks are involved in facilitating PBL, and the BIE clearly defines them in their Project Based Teaching Practices, part of their Gold Standard PBL, a set of benchmarking guidelines for teachers to help them transition from the teacher-directed to the student-centred mind shift when facilitating a learning experience. (See figure 4 below).

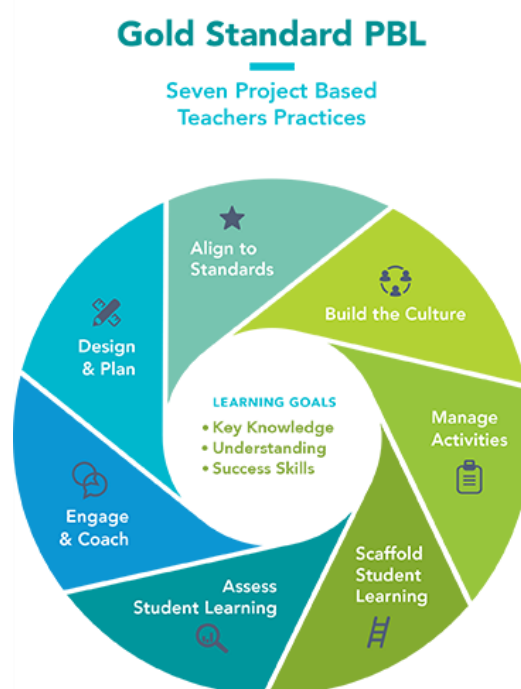


Figure 4: Project Based Teaching Practices from the Gold Standard PBL, retrieved from www.pblworks.org. CC-BY-NC-ND

These are the definitions of the guidelines by BIE editor in chief John Larmer and senior fellow John R. Mergendoller (Larmer, & Mergendoller 2016):

Design & Plan

Teachers create or adapt a project for their context and students and plan its implementation from launch to culmination while allowing for some degree of student voice and choice.

Align to Standards

Teachers use standards to plan the project and make sure it addresses key knowledge and understanding from subject areas to be included.

Build the Culture

Teachers explicitly and implicitly promote student independence and growth, open-ended inquiry, team spirit, and attention to quality.

Manage Activities

Teachers work with students to organize tasks and schedules, set checkpoints and deadlines, find and use resources, create products and make them public.

Scaffold Student Learning

Teachers employ a variety of lessons, tools, and instructional strategies to support all students in reaching project goals.

Assess Student Learning

Teachers use formative and summative assessments of knowledge, understanding, and success skills, and include self and peer assessment of team and individual work.

Engage & Coach

Teachers engage in learning and creating alongside students, and identify when they need skill-building, redirection, encouragement, and celebration.

2.2.5. Benefits

Research suggests that students who engage in PBL benefit from gains in factual learning, content that are equivalent or superior to those of students who engage in traditional forms of instruction (Thomas, 2000). The benefits of working in projects in education have gained momentum in recent years among practitioners and researchers in all areas of expertise and the field of Second Language Acquisition (Fried-Booth, 2002; Ho, 2003; Legutke & Thomas, 1991), providing them with a learning environment conducive of assuming real communication tasks and authentic interactions.

Teachers worldwide struggle to bridge the gap between educational policies asking for students to acquire 21st-century skills and the actual class implications in curriculum design, learning materials, and teaching practice. PBL is reported to prepare students for

their future careers, facilitating the acquisition of 21st Century skills, such as digital literacies, critical thinking, problem-solving, collaboration skills, creativity, and innovation. As Hutchinson remarks (2015), “students who are immersed in PBL develop 21st-century habits of mind related to collaboration and communication, critical thinking, problem-solving, and self-direction” (p. 2). PBL promotes “the development of collaboration skills, improvement of critical thinking and creative thinking, complex problem solving, transfer of learning, and positive attitudes towards tasks” (Lee, Huh & Reigeluth, 2015).

PBL can also facilitate the use of technology in a way that promotes collaboration within and outside the school, connecting the educational community with the real world and potentially solving social problems. Teachers, if adequately trained in PBL, can find teaching more rewarding and enjoyable too.

In addition to the benefits mentioned above, the literature suggests that in PBL, students demonstrate improved attitudes toward learning, more engagement, are more self-reliant, and have better attendance than in more traditional settings. (Thomas, 2000; Walker & Leary, 2009).

2.2.6. Challenges

The literature on PBL has underestimated the challenges of implementing this methodology efficiently (Bullard & Bullock, 2006; David, 2008). The enactment of PBL involves many sorts of changes in all the participants of the educational community, from students, teachers to schools, and parents. In the following paragraphs, I will elaborate on the challenges for the different stakeholders.

Challenges for teachers

Research suggests PBL is challenging for teachers to implement despite its positive benefits, also teacher resistance impacts negatively on student success and general effectiveness of PBL instruction (Beneke & Ostrosky, 2008; Hertzog, 2007). In the study

of Marx et al. (1997) the following obstacles were found for an optimal implementation of a PBL unit: (a) projects were time-consuming, (b) classrooms felt disorderly, (c) teachers could not control the flow of information, (d) it was challenging to balance giving students independence and providing them supports, (e) it was difficult to incorporate technology as a cognitive tool, and (f) authentic assessments were hard to design.

Moreover, these difficulties are worsened by the gap existing between the timeframe provided by the national standards imposed on educational institutions of every country and the realization that PBL needs more time for its implementation than a teacher-centred approach, adding up stress on the established teacher role description, obliged to cover a certain amount of content in a defined set of time.

Often teachers are perceived as the only ones to be responsible for making the shift happen in specific school contexts, which stems from a misunderstanding of PBL being just a class pedagogy and not a holistic educational community approach in which all education stakeholders must be involved and be held accountable for its success.

Sometimes, new education criteria imposed from national, or state education bodies are imposed on teachers and school without allowing them to fully understand them and be adequately trained and supported in the transition process, as it has happened with inquiry-based approaches like Project Based Learning. Other times, some very enthusiastic teachers believe in PBL as a solution for the lack of engagement, motivation, or poor academic results; however, they do not count on any or some of the essential support systems, like colleagues, students, parents, or school, to make it succeed.

Consequently, professional development must be provided to teachers for an extended period as well as ongoing mentoring to foster optimal PBL implementation for both teachers and students. Several studies suggest that despite teachers finding the transition period into PBL methodology challenging, they can enjoy it more than traditional methodologies in the long run (Strobel & van Barneveld, 2009).

Challenges for educational institutions

Many educational systems chronically lack resources of all sorts, monetary funds, and personnel mainly. Hence, it commonly presents a challenge to implement PBL because it involves readjusting teachers' workload to allow for training, coaching, and more planning time, which means a substantial investment in school resources. It can also be challenging to comply with the national, state, or district content demands, given that PBL is more time consuming than traditional approaches, and also standardized tests, which are designed to measure teacher-centered learning, and students can potentially find the assessment format unknown and not aligned with the type of assessment they are used to in PBL.

Nevertheless, student achievement can be higher when using inquiry-based approaches if systems and policies align with project-based principles (Ravitz, 2010). That is why the success of the enactment of PBL relies on a whole shift from all the participants of the educational community, meaning not only the teachers but also the school and educational system (Barron, et al., 1998; Blumenfeld, et al., 1991; Geier, et al., 2008; Ravitz, 2010).

Challenges for students

Despite literature informing of the multiple benefits of PBL on students, its implementation in class also involves a significant change for students with a long record of teacher-centred instruction.

Some students may feel very engaged, but others may not because of not being ready to be involved in this sort of methodology for different reasons. They may not be mature enough to work collaboratively, and a lack of training and transition scaffolding may end up in feelings of not being able to do it and reject being involved in the process. Change is more robust for some people than for others, and without proper support, some students can be afraid of failing and even feel anxiety about underperforming. Others may lack the necessary critical thinking skills to solve complex questions with open answers since in their former instructional methodology answers were mainly provided by their teachers.

For a proper PBL implementation, there should be a monitored transition plan from the educational institution that caters to all education stakeholders, including students. They must understand the reasons for this shift in methodology and the potential benefits it would have in their academic and later professional life. Students need to understand the goal of the change and, most importantly, be willing to commit to investing their time and effort to adjust to the new situation by learning new skills and embracing new forms of instruction.

2.2.7. Project-Based Language Learning

According to Beckett (2002), PBL was introduced to the area of SLA when Krashen (1981) postulated his hypothesis on the comprehensible input, hypothesizing that we could learn a second or foreign language like children learn their mother tongue, hence being exposed extensively to the target language. However, Swain (1985) after an evaluation of students in the French-Canadian immersion educational system concluded that the exposure of these students to comprehensible input in French did not lead to their fluency in French and she proposed that instead, they produced comprehensible output by being involved in meaningful interaction with native speakers. This shift in the point of view led to initiatives like Brumfit's (1984) project-based communicative language teaching methodology and later approaches in which projects and SLA focussed on real interactions with native speakers and their communities (Fried-Booth, 1982; 2002; Stoller, 1997; Gras-Velázquez, 2019) and recently by the mediation of digital technologies too (Slater & Beckett, 2019; Thomas, 2017).

PBL instruction has experienced a recent renaissance in various domains of knowledge and levels of education, including SLA (Fang & Warschauer, 2004). However, empirical research on PBL for second and foreign language education has been scarce (Beckett, 2006), emerging from the pioneering works at the dissertation level of Eyring (1989) and Beckett (1999). From the publishing of the book by Beckett and Miller (2006) *Project-Based Second and Foreign Language*, there has been a decade of very scarce comprehensive publications in this area, but recently the works of Thomas (2017), *Project-Based Language Learning with Technology*, with an emphasis in the interaction of Project Based Language Learning (PBL) and digital technologies and the latest *Project-Based Learning in Second Language Acquisition* by Gras-Velazquez (2019), that focusses

in the creation of communities of practice, demonstrate a growing interest in this area in academic forums.

Regarding terminology, in the area of second language acquisition (SLA), the term Project-Based Language Learning (PBL) is acquiring more relevance in studies like in the recent studies of Gibbes and Carson (2013), Farouck, (2016), and Dooly and Sadler (2016), but it is still not a widely used term. However, it is used to define the courses by the national foreign language Resource Centre of the University of Hawai'i at Manoa, where they define PBL as:

A transformative learning experience designed to engage language learners with real-world issues and meaningful target language use through the construction of products that have an authentic purpose and that are shared with an audience that extends beyond the instructional setting. PBL can be conceived as a series of language learning tasks that are articulated toward a common goal: the construction of a public product.

(NFLRC Projects, 2014)

The gained recognition of using projects in education has been reflected in some EFL contexts, remarkably the Israeli curriculum for EFL endorsing PBL, accounting for its many benefits and hence promoting it nationwide as an appropriate methodology to be used in their educational system (Jakar, 2006). In addition to Israel, many other countries in the world are exploring the benefits of PBL by suggesting, promoting, or making it compulsory, just like recently in 2016 Finland has implemented nationwide the so-called 'Phenomenon Based Learning', deeply rooted in PBL and other methodologies with a student-centered constructivist orientation (Phenomenon Based Learning, 2016).

Following this introduction, the next sections will display an overview of the challenges and benefits of PBL when teaching and learning an L2.

2.2.7.1. Benefits

PBL has been regarded as an appropriate approach to facilitate content-based second language education (Stoller, 1997), English for Specific Purposes (Fried-Booth, 2002), community-based language socialization (Eyring, 2001). Among the reported benefits of

PBL in SLA, it is remarkable its ability to integrate, content, language, and skills (Beckett & Slater, 2005).

PBL instruction in the area of SLA promotes the integrative use of the four primary communicative skills (Miller et al., 2012), writing (Yeh, 2009), reading (Bosuwon & Woodrow, 2009) listening skills (Gardner, 1995), and speaking (Mennim, 2003).

Stoller (2006, p. 25) identifies the 8 most commonly cited benefits attributed to Project Work in Second and Foreign Language settings in a comparative study of 16 publications related to this area, which are:

1. Authenticity of experience and language;
2. Intensity of motivation, involvement, engagement, participation, enjoyment, creativity;
3. Enhanced language skills, repeated opportunities for output, modified input, and negotiated meaning, purposeful opportunities for an integrated focus on form and other aspects of language;
4. Improved abilities to function in a group (including social, cooperative, and collaborative skills);
5. Increased content knowledge;
6. Improved confidence, sense of self, self-esteem, attitude toward learning, comfort using language, satisfaction with achievement;
7. Increased autonomy, independence, self-initiation, and willingness to take responsibility for own learning;
8. Improved abilities to make decisions, be analytical, think critically, solve problems;

From all the evidence collected by Stoller, the benefit that was most commonly reported was authenticity since students doing project work usually experience more realistic tasks than the ones offered in their textbooks. In project work, they are continuously exposed to authentic language since they have to write notes, reports, diaries, or journals to reflect on their process, construct knowledge, and critical skills. They also read all sorts of texts or conduct interviews to collect and analyze the information with a meaningful purpose to try to answer the main driving question of the project (Stoller, 2006).

The second benefit that is most commonly reported is the intensity of motivation, involvement, engagement, participation, enjoyment, creativity. Research suggests that PBL results in high levels of student engagement (Belland, Ertmer, & Simons, 2006; Beringer, 2007; Brush & Saye, 2008; Ravit et al., 2012; Walker, & Leary, 2009). Motivation and engagement are the main drivers of this study since one of the crucial goals is to evaluate the impact on the motivation of Second Language (L2) learners in Higher Education when implementing PBL in their classes (see section 2.1. for a review on motivation).

Enhanced language skills rank third in Stoller's (2006) comparative study of the effects reported from PBL into the SLA arena. Educators report a positive impact of PBL on writing, speaking, listening, vocabulary, and grammar, likely related to the full exposition of language opportunities to produce and understand in various complex and while performing integrated skills meaningful tasks. Projects also foster opportunities for focus on form, most concretely occurring just before the information-processing stage, processing, and reporting phases (Allan & Stoller, 2005). Similarly, the fact the final learning artifact is shared with a real audience encourages students to be more accurate in the form of their language production (Skehan, 1998, p. 274).

Related to the above-mentioned communicative skills, there is another benefit from using PBL instruction in the SLA context that is reported by literature and that is Willingness to Communicate (WTC). WTC refers to how language learners use any chance to communicate in a second or foreign language (Farouck, 2016). The main factors of WTC are believed to be the learner's perceived communicative competence, their imperativeness with the target's language culture, the motivation to learn that language, and anxiety (Yashima, 2002; MacIntyre and Doucette, 2010). PBL instruction in the contexts of L2 learning and teaching has been reported to improve the WTC and oral skills of the students (Couto-Cantero, 2011; Farouck, 2016; Keleş, 2019). The improvement of WTC in students is of utmost importance as authentic communication is the ultimate goal from most L2 learning pedagogies, including the most commonly used and accepted in the last two decades, the Communicative Language Teaching (CLT) method. The priority is set for students of an L2 to be able to communicate in natural situations in the target language and with native speakers.

Connected to the WTC, there is an indirect and prominent positive outcome of PBL activities, and that is community engagement. As PBL instruction is an inquiry-based methodology where students ponder about complex and authentic questions, interacting with others to produce valid answers that will be shared to an authentic audience, this leads very easily in the area of L2 to the connection of students with the target language communities in their home countries or abroad utilizing digital technologies. When in a foreign language context, it is common to find communities of speakers of that target language in the country unless it is a minority language, or the students are located in geographically isolated places. PBL presents then an invaluable opportunity to build intercultural bridges among communities and promote collaboration and mutual understanding while trying to solve authentic problems. In a world where the large immigration waves are impacting negatively the levels of tolerance and racism from host countries, it would be of determinant importance to work from the education sector to build bridges among cultures and to cooperate to find solutions for those problems. In the context of second language learning, the students living in a foreign country would benefit immensely from interacting with native speakers, learning the target culture and customs, and learning how to integrate and adapt.

Nevertheless, the reported benefits of PBL on the main communicative skills of students above mentioned are not always clear for the students themselves. A major issue when implementing PBL in an L2 class is that students do not understand how they can learn an L2 if it is not through explicit lecturing on “vocabulary, grammar, speaking, and writing, rather than for building skills in such areas as research and cooperative work.” (Beckett & Slater, 2005). Making learning outcomes achieved explicit to students regularly could be one way to address this issue.

2.2.7.2. Challenges

Despite the vast array of benefits from using PBL in education and concretely in SLA, there are some challenges to be considered when implementing a PBL experience to facilitate L2 learning.

1. Lack of regulation of language input

Even if PBL fosters the creativity of language, this can lead to two main issues. The first one is that students may not be exposed sufficiently (with several repetitions) to essential vocabulary, and the second one is that it is difficult for the teacher to regulate that they learn specific vocabulary and grammar related to common standards (Conti, 2015). It is hence of significant importance to set clear linguistic goals from the beginning of the project and provide tools for students to be able to both acquire and practice these linguistic structures.

2. Prioritization of product over language acquisition

The main goals of a PBL project are to learn and acquire specific knowledge and skills through the cooperation, interactions, and creation of a learning artifact. There is the risk that focusing too much on the making of the product can sometimes take the spotlight from the language acquisition learning process.

As Ng (2020) and colleagues remark “insufficient gains in learning could be due to insufficient focus on form by the project designers and implementers. That is, the focus was placed on other aspects of projects, such as subject matter and skills, rather than the development of language form.”

There must be strategies put in place to check that ‘each lesson is enhancing learner target language proficiency’ (Conti, 2015) using formative and summative assessment; for this purpose, the ‘project diary’ from Beckett and Slater (2005) (see figure 5 in point 4 of this section) tries to serve as a checkpoint in this matter, and not only for language proficiency but also for content and skills.

3. Uneven use or lack of use of L2 in group interactions

When teams interact with each other, commonly, they tend to resort to their L1, since using an L2 to negotiate complex tasks and decisions can be challenging especially if their level of mastery in the target language is still not very advanced and not using their L1 could completely or partially impede the completion of the project. The question remains if the use of their L1 to construct knowledge and create a product in an L2 is of value in

terms of language acquisition. Teachers are often not present in these interactions, so it is very difficult to regulate the use of the L2 and to understand its implications.

4. Students do not see the correlation between PBL and learning an L2

A preeminent problem when using PBL instruction in an L2 class is that a high number of students perceive that language learning is associated with a more traditional lecture-type approach where the primary communicative skills are taught explicitly rather than acquired in the process of a project. It is of utmost importance to present the learning outcomes of working on projects to students so as they understand the purpose of using this methodology.

In the early systematic work of Eyring (1989), she obtained mixed results when analysing the teacher and students' evaluations of her study of US teachers who implemented PBL in her ESL class for the first time. The teacher appreciated the work done by the students in projects, however, due to their increasing disengagement, she decided to come back to more traditional types of classes. The students of both the study from Eyring (1989) and Beckett (1999) developed their projects successfully but paradoxically "expressed dilemmas, frustrations, and tensions" (Beckett, 2002, p. 60).

In the study from Beckett (1999), the students reported as reasons for not liking project-work that it was time-consuming or that the oral part was too hard, creating in them some language anxiety. When Eyring (1989) investigated the perceptions of 11 students in the context of project-based instruction in ESL, she found that the students did not appreciate being able to have so much choice and among the activities ranked the highest were traditional activities like grammar lessons, talking to their teacher and writing essays among others. Beckett comments on this discrepancy between the learning gains and the students' perceptions:

The students thought this activity disallowed them from learning ESL as they used to learn it, that is, learning vocabulary, grammar, conversational English, and English composition, even though they did all these during their project work. (Beckett, 2002, p.62)

For this reason, there is an identified need to make this learning process visible for students so as they see the purpose of using PBL instruction. In a pioneering article Beckett and Slater (2005) designed a tool called ‘The Project Framework’ to show students of ESL how they can learn language, content, and skills through projects (see figure 5).

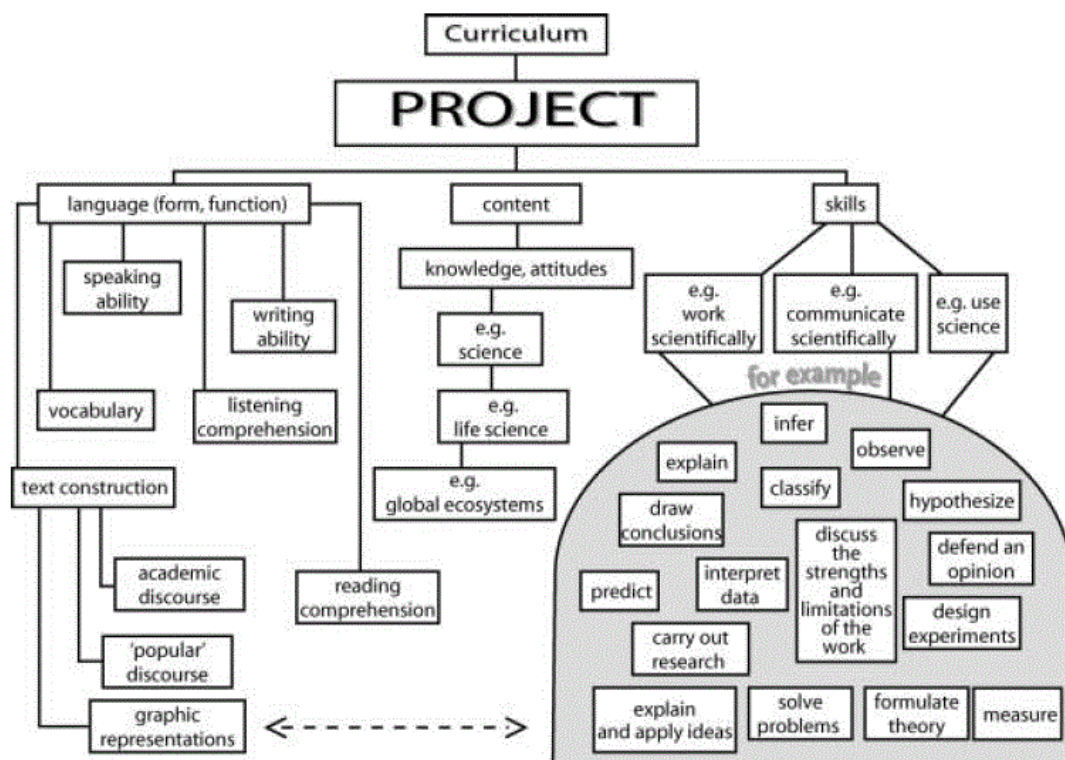


Figure 5: The Project Framework, from Beckett and Slater (2005), page 110. *Reproduced with permission.*

Using this graphic representation of the project helps teachers and students categorize the learning goals in three main areas, language (form and function), content, and skills. The components of each category are to be discussed by teachers and students together, and then it serves as a “reminder that all the individual components which the teachers and/or students have chosen to include [...] are key aspects of the curriculum and the students’ educational goals.” (Beckett & Slater, 2005, p. 111). The planning graphic was later updated by Beckett and Slater (2017) to include technology knowledge.

This tool is accompanied by a project diary (see figure 6) that students write weekly while involved in the project to summarize their learning experiences and raise awareness of

their specific gains. This diary is not only focused on linguistics achievement but also on content and skills as an integral part of the project learning goals, as it is from the PBL methodology.

Project Diary

Week _____ Name _____

Activity	Knowledge and skills		
Things I did this week.	Things I learned this week.		
	Language (e.g. vocabulary expressions, grammar)	Content (new information about your topic)	Skills
I spoke English to _____	_____	_____	_____
I talked English about _____	_____	_____	_____
I read _____	_____	_____	_____
I looked for and found _____	_____	_____	_____
I looked for and didn't find _____	_____	_____	_____
I wrote _____	Things I hoped to learn this week, but didn't. (State reasons for not learning.)		
I observed _____	_____	_____	_____
I created a key visual about _____	_____	_____	_____

Figure 6: *The Project Diary*, Beckett and Slater (2005) page 111. Reproduced with permission.

One recent example of the application of the 'Project Framework' is the case study of Muir (2016), where she uses this tool with a different outlook for the implementation of a project in a class of 17 business English language learners at an East Coast University of Australia (see figure 7), concluding that the experience succeeded in fostering long term motivation or DMC to both students and teachers (Muir, 2016).

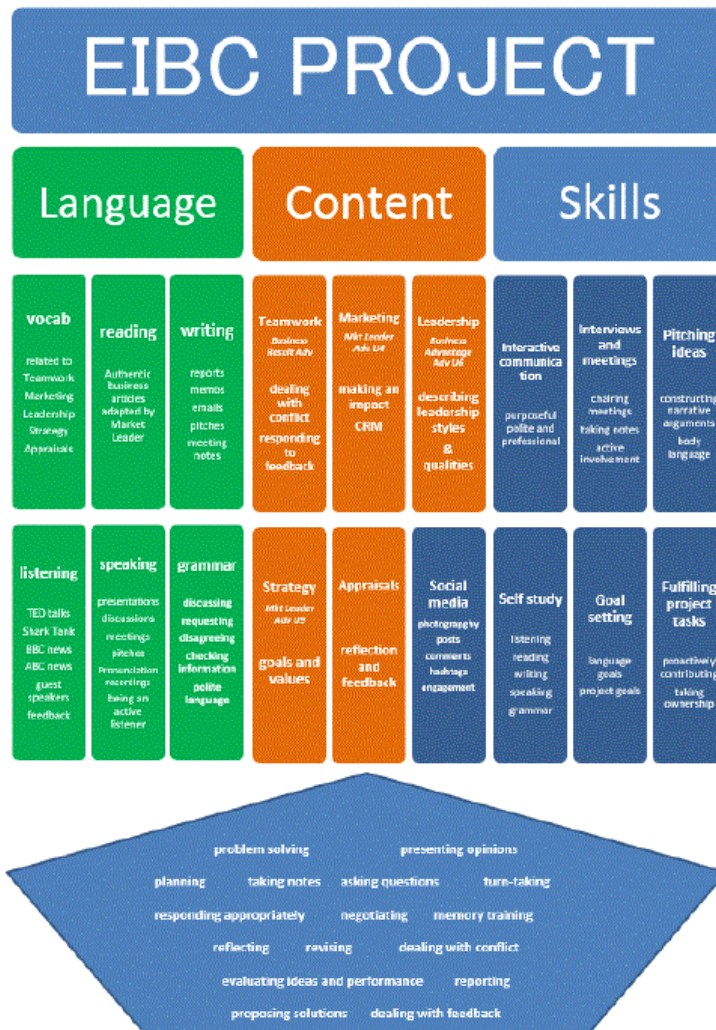


Figure 7: The EIBC Project, Muir (2016), page 317. *Reproduced with permission.*

2.3. Digital Learning

Over the last three decades, digital technologies have become essential companions of our daily lives. They are used to consume, create, collaborate and network among other functions by most of the people in the world (McBride, 2009). Stakeholders in education must rethink curricula, pedagogies, and education policies to try to match the profile of the future global citizen with their current pedagogies and educational systems.

Technology has a significant role in this education crossroads, as the origin and means of global social change. It has “rewired” our brain and hence our learning, communication, and relationship scenarios (see figure 8).

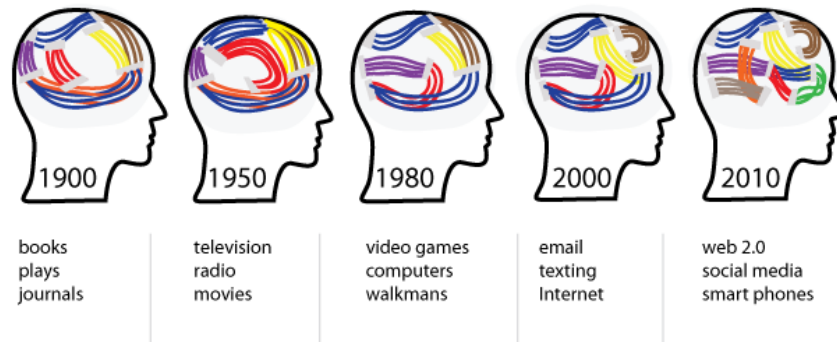


Figure 8: Rewiring the brain through shifts in technology retrieved from <http://idratherbewriting.com/2011/01/21/contemporary-reading-behaviors-favor-short-formats/>.
Reproduced with permission.

Most learners nowadays are considered “digital natives” (Prensky, 2001), that is, they were born in the digital era and speak the language of technology, they are skillful with the Internet, video games, apps, and so on, whereas most of the teachers are “digital immigrants” and have learnt technology as a “second language”.

Cobo and Moravec (2011) use the term “Knowmad” to define the qualities of the future worker describing them as ‘a nomadic knowledge and innovation worker – that is, a creative, imaginative, and innovative person who can work with almost anybody, anytime, and anywhere’. Consequently, knowmads are valued for the personal knowledge that they possess, and this knowledge gives them a competitive advantage (Cobo & Moravec, 2011).

Either the term “Knowmad” or “digital native” refer to individuals who usually experiment with new technologies, especially the collaborative ones, namely social networks, and cooperative software, they learn continually, formally and informally, anytime and anywhere (Cobo, 2008). This has been labeled as “invisible learning” or “lifelong learning”.

Similarly, George Siemens' learning theory, connectivism, describes a learner as a self-managed and autonomous seeker of opportunities to create, interact and have new experiences, where learning is not the accumulation of facts, but the ongoing development of a rich mosaic of skills and experiences, to create the conditions in which a person can become an accomplished and motivated learner (Downes, 2014).

Many experts and educational institutions attempt to envisage these future skills and the vast majority agree that students must have an enormous scope of abilities, such as creativity and innovation, critical thinking and problem solving, communication and collaboration, flexibility, initiative and self-direction, social and cross-cultural interaction, productivity, accountability, and digital skills among others (Trilling & Fadel, 2009), commonly referred to as 21st century or life skills in educational forums. The skills mentioned by Cobo (2011) that a knowmad should have, that is to be creative, imaginative, and innovative and the skills cited in multiple educational forums as 21st-century skills, coincide with the skills that a PBL approach to teaching and learning fosters, such as collaboration, communication, critical thinking, problem-solving, and self-direction (Hutchinson, 2015).

The question remains on how education can reshape itself to be conducive to the acquisition of these skills needed for individuals to succeed in life. These myriads of new learning goals, with a strong skill transfer orientation rather than the former predominant knowledge transfer one, represent a challenge for most teachers, educational institutions, and policymakers because the very essence of this time is fast change.

The emergence of the network society has led to profound changes in the way we process information and communicate, now getting new technologies to be recurrent mediators of these activities, especially in the area of communication in which computer-mediated communication (CMC) has become a cornerstone of our daily interactions (Castells, 2000).

Learning using technologies has become one of the top priorities of governments and educational institutions to be able to provide for the new needs of learners and influenced by a massive wave of research supporting its benefits on learning. When we talk about

digital learning we refer to ‘the application of technology to the learning and teaching process, which can be either ‘a specific practice is part of a CALL, TELL, generic Edtech, or digital learning repertoire’ (Carrier et al., 2017:1–2). Carrier and colleagues categorize digital technologies in three types: (1) input technologies (e.g., interactive whiteboards, projectors, virtual reality headsets), (2) interactive technologies (e.g., online quizzes, videoconferencing), and (3) portable technologies (e.g., tablets, voting devices, and head-mounted displays).

Research has consistently reported on the significant benefits of the revolution of digital learning on the improvement of education, in such areas as the better catering for the needs of diverse students and equity of access, enhanced personalization, and efficiency of the delivery of learning (Henderson et al., 2015).

However, some voices are claiming that in reality, the positive theoretical potentiality is not always the actual outcome. The effects of digital technologies on learning have proven to be inconsistent when used in different disciplines, target groups, and institutions, among others (Selwyn, 2014). Similarly, there is still little evidence of mainstream adoption of innovative technologically-enhanced instructional design in educational contexts, and most of the educational offerings, even if in digital format, are still being focussed on content and assessment and being delivered via traditional didactic approaches (Conole, 2013; Thomas & Reinders, 2010).

In the following sections, the researcher will focus on the intersections among PBL and using digital technologies for Second Language Acquisition or also referred to as Computer Assisted Language Learning (CALL).

2.3.1. Computer-Assisted Language Learning

There has been a rapid growth in the interest of researchers and practitioners on applying digital technologies to language learning to improve motivation and performance, though the conversation has moved recently from whether they should be used to how to implement them in an effective way (Chapelle, 2014). This area of study is usually referred to as Computer Assisted Language Learning (CALL), which studies the

interaction of new technologies and second language acquisition. Interestingly, it has been characterized by having a focus on small-scale case studies and more concretely on English as a Foreign language (Chapelle, 2001).

In recent years, there has been a theoretical paradigm shift in Second Language Acquisition (SLA) field from a cognitive to a social orientation (Block, 2003; Johnson, 2004), which aligns with the current Web 2.0. society emphasizing collaboration, creating, and sharing knowledge. Therefore, Web 2.0 technologies provide learners of an L2 with the adequate tools and environment that foster their learning through collaboration and a community-based environment (Dippold, 2009; Ducate & Lomicka, 2008; Kessler, 2009). Research in Computer Assisted Language Learning (CALL) and social media has remarkably increased (Dervin et al., 2012; Lomicka & Lord, 2009; Wang, S. et al., 2012), and in related areas, such as mobile learning (Shield & Kukulska-Hulme, 2008) and gamification (Thorne et al., 2012).

Recent research indicates that Web 2.0 technologies can enhance students' motivation and engagement in language learning (Liou & Peng, 2009; Kessler, 2009; McCarty, 2009; Pinkman, 2005; Román-Mendoza, 2009).

The key findings of a study by Luke Plonsky and Nicole Ziegler (2016) where they selected and analysed 10 recent meta-analysis studies on the use of digital technologies for the learning of an L2, show that "learners in technology-mediated or technology-assisted contexts are likely to experience and perhaps surpass the positive developmental benefits associated with traditional FTF learning environments." Additionally, the authors identify four recent tendencies in CALL that have a high level of efficiency: Glossing, Computer-mediated communication (CMC), Gamed-based Language Learning, and Mobile Assisted Language Learning (MALL).

Game-based language learning is related to using meaningful games for learning an L2. Suh, Kim, and Kim (2010) found "that participation in synchronous game-based interaction led to higher scores in listening, reading, and writing" (Plonsky & Ziegler, 2016). In the study of Rankin, Gold, and Gooch (2006) participants were involved in a

synchronous game and experienced improvements in “vocabulary knowledge and target language output” (Rankin, Gold, and Gooch, 2006 in Plonsky & Ziegler, 2016, p. 25).

In an analysis of 19 primary reports about the implementation of MALL projects, focused on mobile-based applications, Burton (2015) concluded that “80% of the studies examining the use of MALL for L2 learning, positive outcomes were reported.” (Plonsky & Ziegler, 2016, p. 25). However, the author was also cautious about the results since the studies in the sample lacked rigorous research methodology, which impacts negatively making a reliable and valid analysis using effect sizes.

Social Networking Sites (SNS) such as Facebook, Twitter, and others have attracted much attention among CALL researchers and educators. Their principal use among students, especially in the Vocational, Higher, and Secondary education levels, have encouraged several case studies and inclusion in some organizations standardized curricula (Antenos-Conforti, 2009; Halvorsen, 2009; Harrison and Thomas, 2009; McCarty, 2009; Wang, Q. et. al, 2012). Currently, in the new e-learning 2.0. paradigm, the Learning Management Systems (LMS), widely used in all levels of formal education, are working on making links with Social Networking Sites (SNS), to serve as the means to create, distribute, share and manipulate different types of open content online (Zourou, 2012), with the teacher as a facilitator of self-directed learning (Steinert, 2010).

However, there is little evidence of mainstream adoption, as opposed to isolated case studies and publication in this area, of the use of technology that involves the paradigm mentioned above shift from cognitive to social constructivism. As Kenning explains, when referring to SLA ‘while technological progress has affected how languages are learnt and taught, it has not initiated paradigm shifts’ (Kenning, 2007, p. 195). Rigid educational structures slow to react and reinvent themselves, with a robust hierarchical nature and less entrepreneurial, or the fact that educators are rarely in the position of authority to make these sorts of decisions, are some of the most common reasons to prevent this paradigm shift to be materialized in class (Laurillard, 2009). Additionally, the often unplanned or not a well-structured implementation of new technologies in education, not to mention the minor support and allocation of time or other resources for

academic staff to learn about them, has created a feeling of reluctance and a perception of their use as a waste of resources among educators (Warschauer, 2006).

This reluctance felt by some teachers to use new digital tools is not regularly the case for informal learning, where there has been an exponential growth in second language learning online communities, such as Duolingo, Busuu, Italki, Palabea to name a few. They promote language learning through users' interaction among themselves or/and with tutors, using sometimes structured content on many different levels depending on the type of community. They have become very popular given their flexibility, social factor and potentiality to be used anywhere on mobile phones.

Determining an appropriate pedagogy for digital education has been a matter of debate in Education for a long now (Beetham & Sharpe, 2007) and as mentioned in the former sections, pedagogic theories are gearing mainly towards the social constructivist approach, for which interaction, communication, and community are essential cornerstones (Warshauer & Grimes, 2008), elements that are also the pillars of the PBL methodology.

2.3.2. Technology mediated PBL

Literature shows that instructional design that includes cooperative learning, like the use of Project Based Learning (PBL) activities (Beckett & Slater, 2005; Stoller, 2006) with the help of new technologies, such as social media and online collaboration tools, can positively impact L2 learners' motivation (Abbass, 2008; Miller, Hafner, Ng, & Fun, 2012; Simpson, 2011; Wong et al., 2006; Yoshida, 2014; Zhou, 2012).

As Beckett and Slater (2020) explain the use of PBL together with digital technologies promotes ubiquitous collaboration among learners in the world and fosters linguistic competencies:

Technology-mediated PBL makes learning multimodal and dynamic, enabling students to learn and articulate their learning linguistically and visually in collaboration with their regional, national, and global peers, utilizing each other's strengths, and without limitations of time and space (p. 8).

However, theoretical, and empirical research about project-based approaches mediated by technology in SLA is at a very primitive stage (Dooly & Sadler, 2016 in Beckett & Slater, 2020). The notice of publication for April 2021 of the edited book *Project-Based Language Learning and CALL: From Virtual Exchange to Social Justice* by Thomas and Yamazaki, reinforces the above claim. The book abstract states that it is the first book on this topic:

This book is the first substantive scholarly book on project-based and cross-curricular language learning using digital technologies. The book includes new empirical research on project-based language learning utilizing CALL technologies and conceptual and theoretical chapters that address new methodological approaches for researching project-based and cross-curricular language learning in digitally-mediated learning environments. (Thomas & Yamazaki, 2021)

Using PBLL infused with digital technologies also promotes the acquisition of multiple literacies. Multimodal PBLL equips students “with the knowledge and skills necessary to be active and informed citizens and workers in a changing world—a world of diversity and one in which our means of communication and access to information are changing rapidly” (Cope & Kalantzis, 2013, p. 131 in Beckett and Slater, 2020).

There is also some evidence in the study by Nishioka (2016), after analysing language-related episodes occurring during storytelling projects, that higher-level students had better learning outcomes than lower-level students, “suggesting that language level may play a notable role in technology-mediated PBLL, with lower levels perhaps requiring more direct instruction of language than higher-level students” (Beckett and Slater, 2020, p. 9)

Michael Thomas (2017) claims in his case study of an EFL classroom in a Japanese private university using project-based instruction infused with digital technologies, that one of the main aims of using this type of instruction is to equip students with a more well-rounded education, providing them with such skills as digital literacy, critical thinking, social and collaborative skills. The author emphasizes the important role of building community in the class to achieve those goals, and how project-based instruction can

foster their realization by encouraging learners to be active participants of a culture of 'openness and resource sharing', inspired by our current Web 2.0. society.

The flourishing of the sense of community in the class and positive relationships because of teamwork is also reported in the case study of Lindsay Miller and colleagues (2012). The authors implemented a technology-enhanced PBL approach for English for Academic Purposes (EAP) for 65 students whose first language was either Mandarin or Cantonese. The project was to create a digital video collaboratively and then share it online. Student participants also felt they 'had improved their general English language skills by completing the project: oral skills, including presentation skills (73%) and pronunciation (67%),[...] grammar (43%), reading (44%), writing (44%) and listening skills (51%)' (Miller et al., 2012).

Interestingly, most of the research on PBL is about learning and on learners "pointing to the need for more research on PBL instruction and teachers, teacher training on PBL pedagogy, and teacher training on technology-mediated PBL in particular" (Beckett and Slater, 2020, p. 9). There is a need to investigate how to design teachers' training to equip them with the necessary skills and tools to effectively implement PBL units.

There is also research that shows how even if some students are motivated by projects infused with technology, not all students feel it is useful to learn an L2 (Terrazas-Arellanes, Knox, & Walden, 2015, in Beckett and Slater, 2020). Technology can sometimes be seen by students as merely mechanical, like using online dictionaries, spelling, language quizzes (Beckett and Slater, 2020), instead of a means to positively transform and connect.

PBL has proven to have many benefits but also certain challenges, such as resistance to change from conservative educational institutions or/and practitioners, the lack of resources of different types, such as time allocation for implementation, adequate professional development of academic staff, or even material resources like hardware and software.

A new upsurge in the use of technology-mediated PBL serves as a reference and cornerstone to shed some light on the practical methods to make it more feasible and effective for teachers and students alike to use.

Chapter Three: Research Methodology

Chapter Three describes the research design and procedural details of the two complementary studies contained in this thesis designed to attempt to answer the research questions posed in this study. In this order, the sections of this chapter cover the research questions, the theoretical background, the details of study one, and the details of study two and in each of the studies, there are six sub-sections as follows: context, participants, instruments, data collection, data analysis and finally ethics and trustworthiness.

As briefly mentioned above, this research is composed of two studies that complement each other. Study one is presented in Chapter Four, and it is an online survey study of L2 teachers in Adult education around the world designed to explore the current and practical perceptions from teachers of second languages on the benefits and challenges of PBL in this concrete area since their practical perceptions have not been widely represented in literature to date.

Study one then serves as a pilot for study two, presented in Chapter Six, which is a class implementation of two PBL projects to learn Spanish as an L2 in the context of an Australian University. The conclusions and recommendations from the teacher participants in study one will be used to design the learning materials and course structure of study two with the attempt to incorporate or emphasize the items that teachers claimed as beneficial and try to improve the challenges they mention, which is described in Chapter Five.

This study consciously taps into teachers' experiences and encourages their voices to be heard as that is part of its original contribution to knowledge.

3.1. Research questions

The researcher has created the main three research questions for this study as a guide to further explore the gaps found in literature firstly on the specific challenges and benefits of PBL in formal education contexts of SLA, concretely Tertiary education, and secondly to investigate the possible ways these challenges can be overcome.

Research question 1 is designed to guide Study one, the exploratory study done with an online survey to worldwide educators of L2 in Higher Education. Research questions 2 and 3 were created to guide Study Two, a class implementation of two PBL projects to learn Spanish as an L2 in the context of an Australian University.

Research questions:

Research Question 1: What are the challenges and benefits that educators can encounter in the implementation of a Project Based Learning approach to teaching and learning in the context of SLA in Higher Education?

Research Question 2: How can these challenges be addressed in the implementation of a PBL approach for Spanish language learning in an Australian university?

Research Question 3: What is the impact of the implemented PBL intervention on the learning and teaching of Spanish as a foreign language in an Australian university?

Sub-questions:

3.1. *What is the impact of technology when used together with PBL instruction on students of an L2/FL?*

3.2. What is the experience of the Spanish language learners in terms of positive emotionality, motivation, and use of technology for language learning?

3.3. What is the experience of the Spanish language educators from an instructional perspective?

In the following section, the theoretical background on which the research methodology is based will be explained in more detail before proceeding to a more elaborate description of the two studies of this research.

3.2. Two complementary studies

The research presented in this thesis is made of two complementary studies. Study One is presented in Chapter Four and is an online survey for educators who teach a second or foreign language at a Higher or Adult education institution. Study Two is a class implementation of the PBL learning materials designed by the researcher concretely for this study after findings were analysed from Study One.

Study One and Two are complementary studies because even if they share some goals, they investigate different realities. Study One is an exploratory survey where the main goal is to understand the perceptions of teachers of Higher Education when using PBL in their classes around the world. The educators' perceptions collected were from many different educational contexts worldwide, not always comparable to the very concrete case of an Australian university. The online survey was designed to understand the global situation of PBL in the context of Higher Education when teaching Languages Other Than English (LOTE). This is relevant because, to date, most research has focused on the use of PBL instruction in EFL or ESL contexts, not LOTE. The prominence of English as a second language of prestige and hence with an added meaningfulness to L2 students is not comparable to other foreign languages in the world. The status of LOTE varies depending on where they are learnt, the economic and social status, and the gains provided to learners. The status of Spanish as a foreign language in Australia does not have the same language status as other foreign languages offered in the educational system. Additionally, the decision to offer a language and the choice of it depends on each educational centre, so there is no guarantee of continuity between the offer of languages in primary and secondary schools (*Distribución geográfica del idioma español*, 2016). The offer of languages in Australian educational centres has traditionally been distributed between European languages (French, German, Italian and modern Greek - the latter two due to the large presence of Italian and Greek migrants- and, to a lesser extent, Spanish) and languages Asian (Mandarin Chinese, Japanese, Indonesian and Vietnamese) (*Ministerio de Educación y Formación Profesional*, 2020). Study One intends

to promote a more practical overview of what similar educators experienced when using PBL in their classes, but always being aware that it may differ from the Australian Higher Education scenario. Hence, Study One served as a complement to Study Two, the class implementation at an Australian University, but must not be considered a phase of the same study.

3.3. Theoretical background

This study uses a mixed research method design, which is a procedure for collecting, analysing, and “mixing” both quantitative and qualitative data at some stage of the research process within a single study to understand a research problem more completely (Creswell, 2012).

Mixed-methods studies can serve several purposes, including triangulation (seeking convergence of results), complementarity (i.e., examining overlapping or different facets of a phenomenon), initiation (i.e., discovering paradoxes and contradictions), development (i.e., using qualitative and quantitative methods sequentially), and expansion (i.e., adding breadth or scope to a project), (Greene, Caracelli, and Graham, 1989).

The combination of both quantitative and qualitative data is shared in methodological triangulation, that is, an "attempt to map out or explain more fully, the richness and complexity of human behaviour by studying it from more than one standpoint" (Cohen and Manion, 2000). The triangulation aims to cover the information that would have been missed if only one method were used and give more credibility to the data collected.

The rationale for choosing a mixed-method research design is that neither quantitative nor qualitative methods are sufficient by themselves to capture the details of such a complex issue as students' motivation during and after a learning intervention. In the area of studying L2/FL motivation, there is a tendency to validate mixed methods approaches as suitable to capture the complexity of the issues investigated (Dörnyei, 2007).

A deeper and broader understanding of the answers to the research questions can be achieved when we use a combination of quantitative and qualitative methods. Research studies can benefit from the use of the strengths of an additional method to overcome the weaknesses in another method. While quantitative research can give us a descriptive picture of the studied phenomenon easily measured by numbers, qualitative research can go deeper into it and lead to a more complex interpretation. Mixed research can also provide strong evidence for a conclusion through convergence and corroboration of findings, as noted by Johnson and Onwuegbuzie (2004) and Tashakkori and Teddlie (1998, 2003).

Additionally, a mixed-method approach can help researchers to conduct research with a more rigorous procedure and produce more meaningful results. Using this approach is particularly relevant for studies such as this one, dealing with complex constructs (McMillan & Schumacher, 2010), such as human motivation and perceptions, since the use of only a qualitative or quantitative method will not suffice to produce outcomes that would meet the overall goals of this study.

Finally, the social and learning roles of the participants of this study were empowered by allowing them to make their impressions and reflections inform the design of future learning materials. The role of the researcher was the one of a facilitator, guide, formulator, and summarizer of knowledge and raiser of issues (Weiskopf and Laske, 1996).

The following sections 3.3. and 3.4. will elaborate on how studies one and two were developed.

3.4. Study One: Online survey for worldwide educators

3.4.1. Context

The methodological approach chosen for this study is in the form of exploratory research, which is primarily concerned with the discovery and with generating and connecting ideas and hypotheses; it “is the initial research, which forms the basis of more conclusive

research. It can even help in determining the research design, sampling methodology, and data collection method” (Singh, 2007, p. 64).

The purpose of this study is to probe the ideas and perceptions of current educators in Tertiary education who are currently involved or want to be involved with PBL instruction in SLA. Study one tries to offer a first impression on answering research question one, research question two, and sub-question 2.1. in this order: 1. What are the challenges and benefits that educators can encounter in the implementation of a Project Based Learning approach to teaching and learning in the context of SLA in Higher Education? 2. How can these challenges be addressed in the implementation of a PBL approach for Spanish language learning in an Australian university? 2.1. What is the impact of technology when used together with PBL instruction on students of an L2/FL?

The conclusions from this study will be used to inform the design of the PBL learning materials for the classes of university students of intermediate Spanish at an Australian university, as well as to review the initial hypotheses posed in this study, to validate, change or incorporate themes that are relevant for this research.

3.4.2. Participants

The sample comprised participants (n=36) falling into the category of current second or foreign language teachers at Tertiary or adult education institutions. The researcher sought participants from Australia, Asia, Europe, and the United States, and they were invited to participate in this research by sending them an email and asking them to complete an online survey.

The total number of responses taken forward for analysis (n=36) comprised 28 females and 8 male respondents. Participants were subdivided into two groups, group 1 (G1) were the teachers who had previous experience with PBL instruction, and group 2 (G2), the teachers who did not. Of the 36 total respondents, 17 were categorized in group 1, and 19 in group 2.

Nationality

Participants were from 13 different countries, 1 worldwide, 1 unknown.

Table 2*Countries of origin of participants*

Australia	8
Belgium	1
China	1
France	1
Greece	3
Indonesia	1
Italy	2
Korea	1
New Zealand	2
South Africa	1
Spain	10
UAE	1
USA	2
Worldwide	1
Unknown	1

Type of institution

Participants were mostly affiliated with Higher Education institutions (n=32), and there was a minority of private language schools (n=3) and the Peace Corps (n=1).

Position held

The statistical data collected shows that 15 out of 36 participants are in leading teaching roles, 11 are both topic coordinators and instructors, one is a topic coordinator, another is the leader of a language section, another was the head of foreign languages, and a final one is both and convenor of languages. This data suggests that teachers in leading roles may have more access to resources than teachers in non-leading positions and this can facilitate that they embark on a new methodology in their classes and the department.

Q2 What is your role in your department?

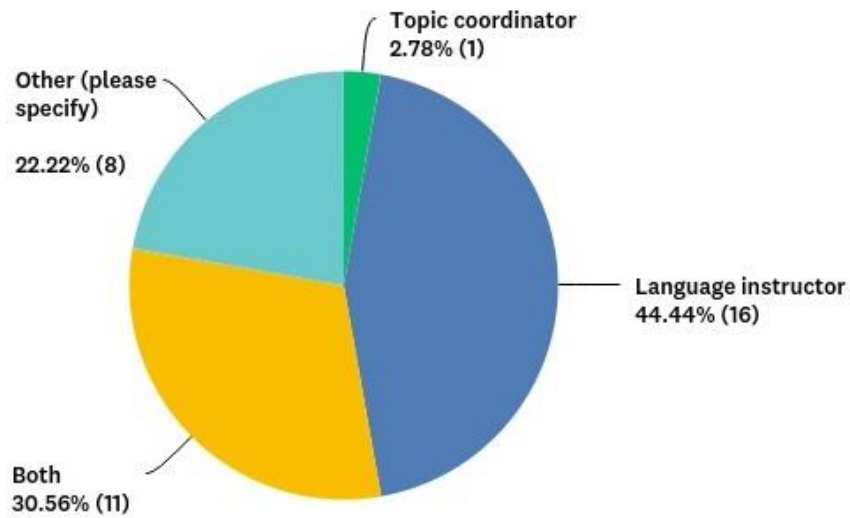


Figure 9: Chart showing the different professional roles of the participants.

Experience as a second or foreign language teacher

The vast majority of the participants are very experienced teachers; only a few (n=4) have taught for less than three years. This characteristic can be connected too with the data shown in the previous section 3.3.3. that reveals that most participants are in leading roles, hence being likely that they have more chances to adopt and implement new pedagogies.

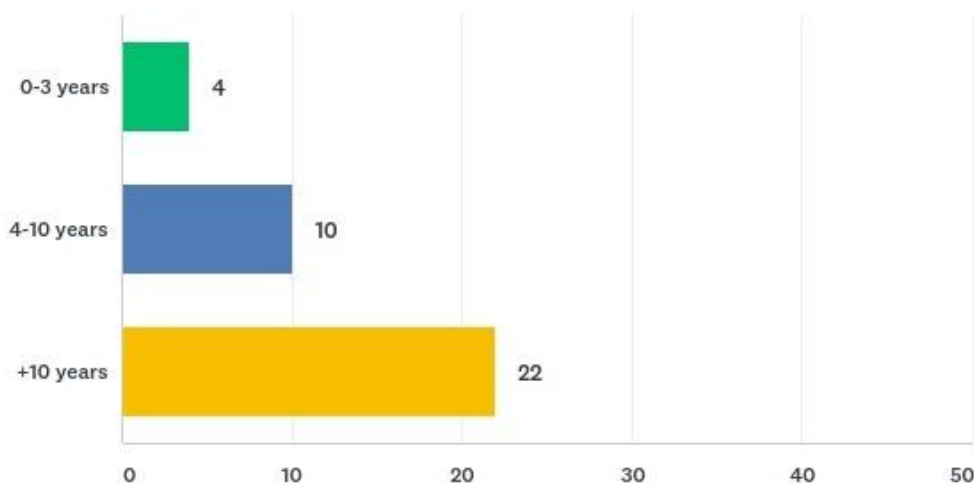


Figure 10: Chart showing the range of years of experience of participant teachers.

Time using PBL instruction

From the participants in group 1, the ones having used PBL instruction before, most of them (58, 82%) have used it for more than three years, so they are somewhat experienced with it.

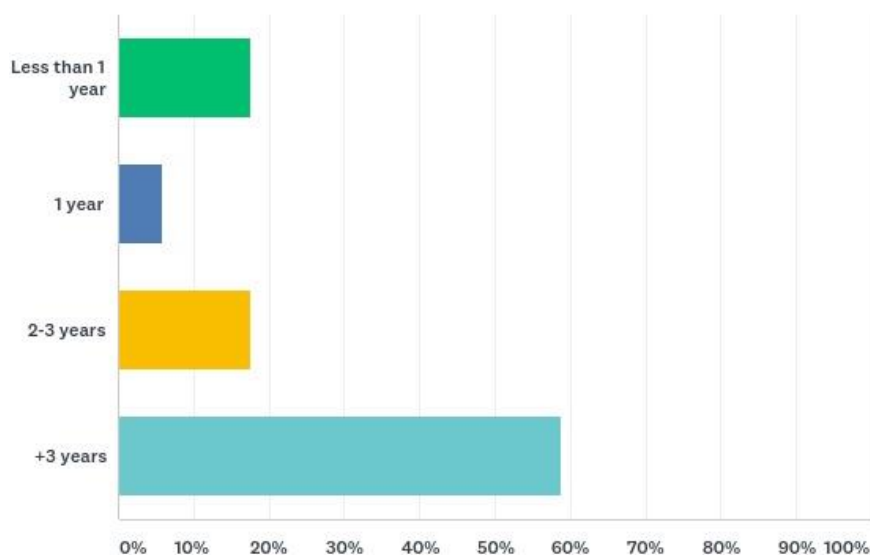


Figure 11: Chart showing the number of years of experience with PBL instruction of the participants.

Type of course

Most of the respondents teach a class of an L2 for general purposes, and the second most common cause is foreign language for specific purposes, an area in which PBL has a clear potential because of its CLIL/content-based inclination and authenticity. The other types reported in open answers are new technologies for language learning and foreign language audio-visual classes.

3.4.3. Instruments

For this study, the researcher used online expert surveys because they allow us to obtain information from specialists in a field that we are less knowledgeable or experienced in. Surveys facilitated the collection of current and first-hand information from education practitioners who either have experience using PBL instruction or are interested in using it. They will serve to inquiry into the current situation of PBL instruction in the Higher Education classes of L2/FL and screen for solutions to the challenges identified.

Using online surveys has been reported to offer some advantages such as their “cost-effectiveness, versatility, speed, and the opportunities for innovation” (Fabo, B., & Kahanec, 2018, p. 592). They also reduce the time to gather and analyze data, enable access to a broader population, and provide participants with the opportunity to complete them in their time and preferred location. Online surveys can also reduce the researcher’s influence and also the margin of human error when entering and processing data, and most importantly, as these participants are volunteers, there is a chance of greater authenticity in their responses (Cohen et al., 2007).

The online survey was designed using both closed-ended and open-ended questions; this allows participants to explain their views to previous closed-ended questions. The survey is made of a total of 27 questions, though it branches into two different streams depending on the answers of the respondents regarding their experience with PBL instruction. The rationale behind this is to investigate both the experiences of teachers who have experimented with PBL and the perceptions of PBL by teachers who have not used it yet but may be interested in doing so and for some reason, they have not been able or willing to do so.

The survey is comprised of three main sections (see Appendix D for the full final version), section one is typical for all respondents, and it branches out into two different sections depending on their previous experience with PBL instruction:

1. Section One: addresses demographical data, and it is composed of 8 questions.
2. Section Two: If the teacher has worked with PBL before, they would have to answer a total of 13 questions, 11 multiple choice questions, and two open-ended questions.
3. Section Three: If the teacher has never worked with PBL instruction, then they will answer six questions, out of which three are yes-no, two multiple-choice, and one open-ended question.

The grouping of questions has been designed to answer the two main research questions of this exploratory study (see section 3.2.) and to explore the key themes emerging from research on PBL in general and more concretely when applied to SLA.

The main subcategories investigated are motivation, teamwork, and use of technology that will be included in the macro themes benefits and challenges depending on how they are perceived by respondents (see table 3 below).

Table 3

Summary of distribution of sections, themes, and question numbers.

	Sections	Question
1	Statistical Data (8Q)	1-7, 27
1	Personal Data	1
2	Country of institution	1
3	Type institution	1
4	Position held	2
5	Foreign Languages taught	3
6	Experience as an L2 language teacher	4
7	Experience with PBL (yes/no)	5
8	Time using PBL instruction	6
9	Type of course	7
10	Willingness to share their email	27
2	Perceptions on PBL from respondents with previous experience (4 themes)(13 Q)	8-20
1	PBL	
	General perceptions towards PBL	8,18
	Advantages of PBL	11
	Disadvantages/Challenges of PBL	9,10,12,15
2	Teamwork	13
3	Use of technology with PBL instruction	
	Type of technology	14
	Effect of technology on students' motivation	17
4	Motivation	16
	Recommendations on improvement	19
	Open comments	20

3	Perceptions on PBL from respondents with no previous experience (3 themes) (6Q)	21-26
1	PBL	
	Willingness to use PBL in the future (positive/negative perceptions)	21,25
	Perception of potential challenges for PBL instruction	22
2	Teamwork	
	Perception on potential effect of PBL on students	23
3	Motivation	
	Perception of the effect of PBL on students' motivation	24
	Other comments	26

The researcher conducted reliability checks on the whole questionnaire instrument by calculating Cronbach's Alpha coefficient, which is a statistical procedure used to measure the internal consistency of a multi-item variable or scale (Dörnyei and Taguchi, 2010, p. 94).

In the entire questionnaire, there was an internal consistency coefficient alpha Cronbach $\alpha = 0.85$, which indicates excellent reliability.

3.4.4. Data Collection

To collect a diverse dataset that represented Higher and Adult Education educators of L2/FL, the researcher sent a letter and consent form to around 100 departments of languages of universities around the world and specialists distribution lists. This letter included a statement of purpose of the study, a confidentiality statement, and a consent form. The letter contained a link to an online survey created in Survey Monkey. Upon opening the survey, the researcher included another purpose and confidentiality statement, along with a notice that was advancing to the next page indicated further provision of consent.

Eligibility for the surveys was based on their profile as teachers of an L2/FL in a Tertiary or Adult Education institution. Three responses from Secondary teachers were discarded from the total participant pool for this reason. From the data obtained, the researcher sorted the respondents into two main groups, the teachers who had used PBL instruction

before, Group 1, and the teachers with no previous experience with PBL instruction, Group 2.

3.4.5. Data Analysis

The researcher collected the data using both quantitative (close-ended questions) and qualitative methods (open-ended questions) in the online survey, and the researcher analyzed this information after the survey was closed. The quantitative data were analyzed using statistics, finding the percentages, and the number of answers involved in all quantitative responses. Qualitative data were analyzed by implementing different steps based on Ary et al. (2006) and Lodico et al. (2006) and are briefly described in the following paragraphs:

1. Preparation and Organisation

After collecting the data from the surveys, the researcher familiarised herself with them by reading them and then copying them from the specific questions in Survey Monkey into a Word document table categorized tentatively according to the main themes previously identified. Data organized in this manner can be easily retrieved and ordered later (Lodico et al., 2006).

2. Coding

In this phase, the researcher follows an inductive process in which she investigates the responses for each section as a cluster to make connections and construct meaning. This process is commonly referred to as a coding process. The researcher looked for words and sentences that were interconnected and found with more regularity.

There is not a limit to the number of codes found in this initial stage, but this number will be reduced gradually as the relationships, and the focus is more evident and coherent (Lodico et al., 2006). The goal of doing this is to identify differences and similarities in the data (Ary et al., 2006). In a later stage, the codes found are divided into categories, which are used to present the findings together with the use of subcategories to answer the research questions (Creswell, 2008 in Simpson, 2011).

The following are examples of the categories found to be able to respond to research question one.

Table 4

Sample Coding Themes for Research Question One

Research Question One: What are the challenges and benefits that educators can encounter in the implementation of a Project Based Learning approach to teaching and learning in the context of SLA in Higher Education?	
<u>Categories:</u>	Benefits, Challenges
<u>Sub-categories:</u>	Enjoyment from teachers
	Motivation
	Engagement
	Authenticity
	Teamwork/collaboration skills
	Feasibility of implementation
	Suitability of space
	Institutional support
	Peer support
	Lack of time
	Resistance to change

Table 5

Sample Coding Themes for Research Question Two

Research question 2: How can these challenges be addressed in the implementation of a PBL approach for Spanish language learning in an Australian university?	
<u>Categories:</u>	Recommendations
<u>Sub-categories:</u>	Teacher training
	Peer support
	Scaffolding for students
	Investment of effort
	Risk-taking

Table 6

Sample Coding Themes for Research Sub-question 3.1.

<i>Sub-question 3.1.: What is the impact of technology when used together with PBL instruction on students of an L2/FL?</i>	
<u>Categories:</u>	Use of technology, the effect of technology on students' motivation
<u>Sub-categories:</u>	Motivation
	Types of tools

The researcher performed an inductive process to interpret the data by reflecting and explaining what she identified in the data, their essential meaning, and relevance to answering the research questions. The interpretation data were used to support or probe the findings on this matter from the relevant studies analyzed in the literature review of this thesis, chapter 2, or to connect with the prior experience of the researcher in her teaching practice. The quotes were copied directly from the respondent answers in English but 12 out of 36 respondents had the option to respond in Spanish language and the researcher translated their responses into English for a better understanding of the reader.

To conclude, the researcher performed this analysis intending to understand better, categorize, compare, and interconnect the data obtained in this study. This analysis served later to be able to provide evidence and logic on the critical interpretations and findings.

3.4.6. Ethics and Trustworthiness

Before sending the information to participants, a human ethics review proposal was sought and approved by the Social and Behavioural Research Ethics Committee (SBREC) at the research institution. Under SBREC guidelines, I obtained informed consent for the use of the online surveys for this study (see appendix A).

For this study, the researcher fostered credibility by targeting the recruitment process to a particular profile of participants who were involved in current practice in SLA in Higher

and Adult education, and some of them were very experienced using PBL instruction. Any e-mail correspondence remained confidential, as well as all the data collected throughout the research process. Questions in the survey were designed to allow for overlap and further probing questions to provide participants with several opportunities to describe their experiences and impressions thoroughly.

The present study used quantitative and qualitative data to enhance credibility since the use of mixed methods not only enables an in-depth understanding of the phenomena but also helps to establish the trustworthiness of data.

3.5. Study Two: Class implementation

3.5.1. Context

The research site of study two was in the natural setting of a class of students of their second year of Spanish for general purposes at Flinders University, Australia. These students came from different disciplines and studied Spanish as part of their majors or as an optative topic related to their interests. The Spanish language level of these students was approximately a B1 of the Common European Framework of Reference for Languages (CEFR). The researcher considered this level to be appropriate for this research since their Spanish language skills were expected to be sufficient to communicate orally in groups, write content online, and make a class presentation in Spanish. Year one students were discarded as an option because of their lack of enough level of Spanish to carry out the PBL tasks involved, and year three students did not represent the bulk of Spanish courses around the world since most of the Spanish as L2 classes are from beginner and intermediate levels.

3.5.2. Participants

This study involved university students and language instructors working in Higher Education.

Students

Student participants were enrolled at Flinders University in South Australia, and they were studying Spanish at an intermediate level as a foreign language (FL); that is, they were learning Spanish in a non-Spanish speaking environment. Students were invited to participate in the study in an information session during their class in which they received an information pack and consent forms. In semester one the cohort was comprised of 18 students and in semester two of 12 students. They all consented to participate, but only six students were chosen to use their data to conclude since they completed most of the surveys and interviews in both semesters (see table 7).

Table 7

Demographic information for student participants in study two.

	Study 2: Student Participants
Research site	A University in Australia
Sample number	6
Course	Year 2 Spanish as a Second Language
Age	18 to 32 years
Gender	5 females and 1 male

By selecting six students in total for the first semester and 12 in the second, the researcher intended to be able to see their evolution during the two semesters, if any, and to go deeper into their perceptions by getting to know them more deeply, to understand their personal experiences during the class implementation within their intrapersonal context. The six students were given pseudonyms in this study for privacy reasons, which are Sally, Cat, Hans, Audrey, Shane, and Iris. The two teacher participants were also given pseudonyms and their names were Ona and Cara. In the following paragraphs, there will be a brief description of their profiles intended to draw their portraits.

Sally

Sally was a 19 years old Australian university female student. She was a high achiever, and her skills in the Spanish language were overall higher than the average of the class. She worked part-time to pay for her studies, and hence she was always swamped and did not have much time for meeting outside the class. She was used to doing group work with

the same group of female friends in the class, one of them being in this study too, Iris. When the first project was proposed in class, Sally, Iris, and the other girls in that group were not flexible at all when asked to mix with other students; they claimed they work better among friends. The teachers decided to let them stay in that group since they showed a lot of negativity and reluctance or maybe fear the idea of working outside of their comfort zone. Sally was very disciplined and asked several questions about the assessment outcomes and grading system since that was important for her. She also showed much interest in Spanish culture and mentioned she wanted to travel to Latin America.

Cat

Cat was a 32 years old female Australian student, and she studied Spanish because she wanted to become an English language teacher who travelled around the world, concretely Latin America. She had come back to study at University after a long period of her life in which she just worked and did not get a Tertiary degree. Her motivation was to improve her standard of living and life options by getting more qualified. She was very participative in groups and flexible to accommodate her peers. Nevertheless, she struggled to face conflict and preferred not to address some issues when they arose in her group. Her level of Spanish was either average or lower than the class average; she concretely struggled with pronunciation and public speaking since she felt insecure about it.

Hans

Hans was a 30-year-old male Egyptian student who was a permanent resident in Australia since he was married to an Australian woman. English was his second language, but he was considered bilingual by his peers. His level of Spanish was higher than the average of the class, concretely his oral skills were outstanding, and he did not seem to feel shame to speak up as did most of the cohort. Hans was also a high achiever and wanted to become a Secondary teacher in Australia, considering being a Spanish teacher as one future career option. He had a part-time job and was always very busy but also dedicated to Spanish, and he used to take extra time to be able to improve the group project. Nevertheless, it was hard for him to understand other people not being so involved and not doing their assigned tasks promptly.

Audrey

Audrey was a 25-year-old female Australian student, and she studied Spanish because she wanted to improve her Spanish language proficiency to communicate more accurately with her husband, as he was a Spanish native speaker, and her daughter when the three of them were together. Her level of Spanish was higher than average in terms of oral skills, but she perceived she needed to learn more grammar and vocabulary. She had a part-time job and a toddler she took care of. Hence, she struggled to be able to meet for team meetings outside of the class.

Shane

Shane was an 18-year-old female Australian student of immigrant origin from Latin America, and she arrived in Australia six years earlier with her family, who were all native speakers of Spanish. Shane had a level of Spanish language proficiency that was considerably higher than the rest of the class since it was her first language, though, at that moment, she was already bilingual. Shane was remarkably participative and willing to collaborate in teams. She also asked several questions about the assessment method and showed concern about it since she seemed to be very motivated to have a future successful career.

Iris

Iris was a 22-year-old female Australian student. She was a very competitive high achiever with a level of Spanish higher than the average, though she did not have large amounts of confidence when expressing herself orally. She was extremely concerned about the assessment method since she aimed at having the maximum grade and showed reluctance to work in teams because she was afraid that would impact her grades negatively.

Teachers

There were two teacher participants involved in the Spanish Language department at Flinders University. Ona was both an instructor and topic coordinator; she was Spanish and had over twenty years of experience. Cara was also Spanish and a part-time instructor; she was also very experienced. They had not experimented before with the

PBL methodology in their classes, though, but they were willing to learn about it and to facilitate its implementation in their classes.

3.5.3. Instruments

The instruments were created to gain insight into the participants' PBL experiences in the L2/FL context. Data were collected through observations, semi-guided interviews, and questionnaires.

1. Surveys

Survey instruments have been traditionally employed in Second Language Acquisition (SLA) research to provide information on learner variables that are difficult to observe, such as motivation (Gardner, 1985). They can provide some valuable data on participants' perceptions of the study. Some of the advantages of using questionnaires are that there is no interviewer bias; they allow a sense of anonymity, they are convenient and not very time-consuming, so they allow time for a thoughtful answer, and they are non-threatening.

A total of three questionnaires were administered to student participants before beginning the implementation of the first project, just after finishing the first project, and finally, when completing the second project. In this way, data was collected on the evolution of the impact of PBL on the student participants over a period of four months.

The results of these questionnaires were intended to answer the research question three:

What is the impact of PBL instruction on the learning and teaching of Spanish as a foreign language in an Australian university?

A new questionnaire was developed specifically for this study. It was designed to collect data on the levels of motivation using the criteria from the DMC theory from Dörnyei, Ibrahim & Muir (2014) and on the participants' perceptions on the design of the learning materials used. It was partly based on Egbert's (2003) study on the flow theory on the questionnaire design by Muir (2016) to measure DMC and on the researcher's ideas.

Two paper questionnaires were developed for student participants and were administered both in class with the teacher present and via email to facilitate participants' thoughtful answers without time constraints.

Questionnaire One: measures the students' level of motivation before the implementation of the PBL project in the class.

The questionnaire comprises three main sections (see Appendix E for the full final version):

-Section One: addresses demographical data like age, gender, first language, and time studying Spanish as an L2.

-Section Two: describes the motivation experiences participants have had applied to their Spanish subject at university so far. This section, the main body of the questionnaire, comprises a series of 16 statements requiring responses along a six-point Likert scale reading Strongly Disagree, Disagree, No opinion, Somewhat Agree, Agree, and Strongly Agree.

The criteria measured are:

1. Positive emotionality towards learning Spanish

1-I really enjoy learning Spanish.

2-This topic bores me.

3-I enjoy this Spanish class.

4- Many times this topic feels like a real struggle to keep going.

2. Students perceiving that they are achieving more than expected

1- With this topic I am able to work more productively than I usually can.

2-I feel this topic is helping me to achieve all I want and more.

3. Focussed concentration.

1-When I am in the Spanish class I am usually distracted.

2-Spanish class learning activities do not seem like hard work to me, I am usually caught up in the flow.

3- When in the Spanish class, I am totally absorbed in what I am doing.

4. Students enjoying investing considerable amounts of time and effort.

- 1-I spend lots of time studying Spanish.
- 2-I concentrate on studying Spanish more than any other topic.
- 3-I would do this topic again even if it were not required.

5. Direction and self-regulation.

- 1-The aims and objectives of this topic are related to my own personal goals.
- 2-I regularly think about my goal for learning Spanish.
- 3-I often see myself achieving my goal to learn Spanish.
- 4- I feel that in this topic I can make decisions on how I want to learn Spanish.

-Section Three: This section collects qualitative data on students' perception of their motivation to learn Spanish as an L2 and the way they enjoy learning it.

1. What are the things that motivate you to learn Spanish? How?
2. What tasks or methodology that you have done so far in this topic helped you the most to learn Spanish?
3. What would you change the current methodology and learning materials? How would you improve this topic?

The purpose of having open-ended questions in this survey is to collect data that the researcher cannot foresee as there are too many variables responsible for students' motivation to learn an L2. By giving students the ability to expand on topics such as what motivates them when learning Spanish as an L2, what types of tasks or methodology they perceive as helpful to learn an L2, and how happy they are with their current teaching methodology, they can give the researcher relevant clues on how to continue and proceed with the project implementation successfully.

Questionnaire Two: measures the students' level of motivation after the implementation of the PBL project in the class and adds more questions on the PBL methodological approach and technological tools used. (see Appendix F)

This questionnaire consists of 3 sections, too as follows:

-Section One: addresses demographical data like age, gender, first language, and time studying Spanish as an L2.

-Section Two: uses the same questions as questionnaire one, including former criteria one to five, and adds two more criteria, new technologies, and teamwork, that aim to collect data on two cornerstones of the methodology used to understand students' perceptions. This section, the main body of the questionnaire, comprises a series of 26 statements requiring responses along a six-point Likert scale reading Strongly Disagree, Disagree, No opinion, Somewhat Agree, Agree, and Strongly Agree.

The new sections of this questionnaire are the following:

6. Use of new technologies

1-I enjoyed learning Spanish using social media (YouTube, Facebook, Twitter, Google apps)

2-I found Slack very useful to navigate the activities.

3-I would have preferred using just FLO to navigate the activities.

4-I liked using my mobile phone to learn Spanish.

5-I liked creating content online in the Spanish language (a blog, participate in a chat, write a review, upload a video to YouTube, and so on).

7. Teamwork

1-I enjoyed collaborating with people while learning Spanish.

2-I would have preferred to work individually.

-Section Three:

This section is made of open-ended questions that collect qualitative data on students' perceptions on their motivation to learn Spanish as an L2 and the way they enjoy learning it.

1. What did you enjoy the most and the least about this project? Give examples.
2. What technologies used in this project did you find helpful?
3. What would you change of the way this project was done?
4. If you could design your Spanish language learning materials what would they be like? Give details about what features you would enjoy and would help you learn better.

In question one, the researcher wanted to collect more concrete data about the elements from the project that students enjoyed, so they also have the opportunity to talk about items not mentioned in the survey.

In question two, the goal is that students can refer to specific technologies they liked that may not be reflected in the survey.

Question three is quite open to different interpretations and the researcher wanted to receive individual feedback from students on how to improve the project to be able to make future changes and improve the design and teaching strategies.

Similarly, question four intends to get concrete advice from students on what things work for them in terms of instructional design, to be able to make targeted changes for longer and deeper impact.

The researcher conducted reliability checks on the whole questionnaire instrument by calculating Cronbach's Alpha coefficient, which is a statistical procedure used to measure the internal consistency of a multi-item variable or scale (Dörnyei and Taguchi, 2010:94). In the entire questionnaire, there was an internal consistency coefficient alpha Cronbach $\alpha = 0.91$, which indicates high reliability.

2. Interviews

Interviews have been identified in the literature on research methodology as valuable tools to collect data on participants' perceptions because participants can discuss their interpretations of their learning experience and express how they regard situations from their point of view (Cohen et al., 2007). Interviews in this study were used to ascertain the impact of technology-enhanced PBL learning materials on motivation from the perspective of the learner and educator.

Interviews can also provide the means for collecting data that is not pre-determined – as is the case of questionnaire items – and provide opportunities for expansion and exploration of identified issues (Larsen-Freeman & Long, 1991). Additionally, interviews are a flexible tool for data collection because they allow not only participants' spontaneity

but also the possibility to adapt interview questions following answers given by participants. That is, in the interview process, the interviewer and interviewee jointly construct the interview (Sarangi, 2003) as they interactionally co-construct events in which the participant identity and positioning have significant analytical implications (Richards, 2009).

This study used semi-structured interview questions designed by the researcher that set up a general structure by deciding in advance the areas to cover and the main questions to be asked while the detailed structure is constructed throughout the interview. The participant being interviewed has a fair degree of freedom in what and how much to say on the selected issues. Another reason to use semi-structured interviewing is that it is believed to be a very flexible technique for small-scale research (Drever, 1995), such as this one since it allows the inclusion of spontaneous questions and answers from both the interviewer and interviewee.

Given that one of the functions of interviews is to follow up data collected through surveys (Borg, 2009), interview questions in this study seek further elaboration or clarification on survey answers to close and open-ended survey questions from student participants.

3.5.4. Data Collection

Data collection took place over two phases. Phase one involved the class implementation using PBL instruction and the first data collection, and phase two the second project implementation. Each of these phases will be discussed in further detail in this section.

Phase One:

The data collection was embedded in a teaching intervention; it began during the first week of the project implementation in semester 1 (weeks 8 to 10). In week 7, students were introduced to the project in class and then asked to complete Questionnaire 1.

All student participants (n=18) enrolled in intermediate Spanish at the University during semester one were invited to participate in the research project voluntarily. Participants were briefed on the project, including objectives and procedures of data collection and dissemination of results. Two teachers (one per group of students) introduced the

researcher to the student participants in their classes at the beginning of Semester 1. The researcher explained the research project and what will be asked from willing participants. All student and teacher participants indicated their willingness to participate in the project by signing the consent form and submitting it to the principal researcher.

The teaching methodology used in class so far was an eclectic one, very common in the post-method era. Teachers used a combination of Communicative Language Teaching (CLT), Task-Based Language Teaching (TBLT), and the grammar-based method. The class was strongly teacher-centred, where teachers made all the key decisions and strongly guided all learning activities. The teaching methodology that the researcher introduced was fairly different in several areas. Firstly, it was student-centred, and students were asked to take more ownership of their learning process, making many more decisions than before on their own in terms of choosing topics, products, getting projects organised, and teamwork dynamics. Additionally, the use of digital tools increased significantly, from the use of basically Power Point and a projector to the use of collaborative apps, creation of online content such as blogs and Facebook pages, and using an online language learning social network together with Skype for synchronous videoconferences. Working in teams for an extended time was one of the most significant differences and challenges, as students struggled to collaborate effectively and as learners reported, they were not used to such extended projects.

What were the roles of the teacher and students? What did you change about these aspects of the topics?

All students took part in a learning project based on collaborative tasks and the use of web 2.0. tools. The PBL introduction involved training students on how to participate and collaborate through team structures. Cooperative groups of 4 -5 were assigned interdependent roles and responsibilities. They worked in teams both in-class and online as part of the normal learning activities required for their language topic. This collaborative project was carried out in weeks 8, 9, and 10 in Semester 1. In week 6 in Semester 1 and before engaging in the collaborative project-based task, students were

invited to fill in the questionnaire (Questionnaire 1) designed to collect information on participants' motivational levels to learn Spanish.

During the collaborative project, the researcher co-taught classes during weeks 8 to 10. At the end of the collaborative project, participants were asked to complete the same preliminary survey (Questionnaire 1), to assess if there is a change in their motivational level, as well as a second survey (Questionnaire 2) that aims to assess the learning materials used and to gather participants' feedback information on the implementation of these materials for future improvement.

Students were invited to volunteer to take part in an audio-recorded one-on-one interview with the researcher. This interview took 20 minutes and was arranged at a time convenient to the participant in weeks 11 and 12; only one student participant volunteered, she was Cat, one of the six profiled students in this study (see section 3.4.2.). The reason behind this low rate of volunteers could be attributed to the profile of students, the majority working while studying, thus dedicating extra time after class to a non-academic activity could have been viewed as too demanding.

Teacher participants were invited in week 11 to conduct an audio-recorded interview with the researcher on their perceptions of the methodology implemented and to inform on possible improvements. Both teachers volunteered to be interviewed in week 11, and the interview was recorded in .mp3 format and stored at the University secure hard drive.

Phase Two:

The same process was repeated during Semester 2, with student participants being reduced to 12 since some of the students of the previous semester enrolled in different classes. There was a set of changes implemented in the instructional design and structure after analysing the students' and teachers' responses to the surveys and surveys, as well as the inferences learnt from the researcher's field notes and co-teaching. Students participated again in a collaborative project and worked in teams in weeks 1 to 3 of semester 2.

In week 5, student participants were invited to complete Questionnaire 2 again to assess the learning materials of this second project and to compare their answers on motivation from semester one. In Weeks 9 to 12, student participants were invited to volunteer to take part in an audio-recorded one-on-one interview with the researcher. This time the researcher had secured funds from the department to be able to compensate for the inconvenience and time that a total of five students were willing to be interviewed.

This interview took 20 minutes and was arranged at a time convenient to the participant. Teacher participants were similarly invited to take part in a 20 minutes' interview with the researcher.

3.5.5. Data Analysis

A. Surveys

Data collected via the two paper questionnaire formats was cleaned and coded, ready for analysis. Quantitative data analysis was completed using Microsoft Excel, commensurate with the aims of the study, and the small size of the sample group, the analysis centred on the collation of detailed descriptive statistics to describe the occurrence patterns of motivation criteria across the sample of student participants. The criteria used to design the questionnaires served as central themes to categorize the responses. The analysis of the open-ended qualitative questions began with the entire dataset when the researcher read it to build familiarity. The researcher identified vital themes emerging in the responses to each question, and she coded the responses. These categories were then clustered together, as appropriate, into wider groups to highlight the emerging overarching themes (Creswell, 2012).

Finally, responses falling within each of these wider groups were looked at as a whole to ensure homogeneity and consistency in the relationships between the categories included within each. Analysis after this was primarily quantitative in nature and focused on a comparison of the number of responses in each category given by respondents in different subgroups.

B. Interviews

There were two phases where structured individual interviews took place and were audio-recorded. In phase one, the interview with the one student who agreed lasted 20 minutes, and one hour for each of the two teachers. In phase two all the interviews lasted one hour each, two teachers and five students participated in this occasion. In total, ten interviews were carried out and analysed for this study.

The interview transcriptions were completed by the researcher and checked by an Australian native speaker. The researcher also translated from Spanish into English all the interview conversations done by one Spanish-speaking teacher and one student.

In the first instance, the student and teacher datasets were analysed separately. The analysis started with the researcher reading these datasets several times to build familiarity. The data was first coded according to four predetermined categories (motivation, digital technologies, teamwork, and authenticity).

See below a more detailed account of the four key themes and sub-themes:

1. Motivation

(1) positive emotionality, (2) Sense of achievement, (3) Focus, and (4) Self-regulation.

2. Impact of using digital technologies

1. Social media
2. Project management tool
3. Learning Management System
4. Mobile Phone
5. Online content creation
6. Overuse of digital technology

3. Teamwork

4. Authenticity

These main categories were a result of a previous literature review and analysis of the teacher and students' responses to the surveys. The interview questions were designed to cover the main themes used for the surveys and to expand on some open qualitative responses found in the surveys. Some of the open comments in the surveys commented on several challenges that students had experienced working in teams for example, or it

showed their ambivalent relationship with technology with some students perceiving it as a burden and others as a useful tool. The interview was considered an optimal data collection tool to clarify and expand on these topics.

By reading the surveys' open answers from students and also as part of conversations during the interviews with students and teacher participants, some new units of meaning were identified, analysed, and then coded into categories. Once the new units of meaning were categorized, the categories started to emerge as themes, that is, recurring patterns that appear in data. The strategy of constant comparison among themes (Gibbs, 2007) occurring in the interviews from teachers and students in phases one and two, and also comparing them with the responses in the surveys from students helped to check within and between different cases.

The new themes found included reported improvement of willingness to speak, several different issues about navigating teamwork successfully, anxiety attributed to participants' inability to see the project's alignment with grammar goals, levels of negative emotionality to change, lack of time to develop the project and from the teachers' account of their need for more training. The themes of the two datasets from teachers and students were then compared and re-analysed together.

3.5.6. Ethics and Trustworthiness

Trustworthiness was initially suggested by Lincoln and Guba (1985) and emphasized the ethic of respect for truth. This quality has been addressed through the debriefing of findings and the analysis carried out with a university supervisory team, two supervisors, as well as through methods including observations and researcher field notes, student-written reflective logs or microblogs, surveys and semi-guided interviews.

Before beginning this case study, a human ethics review proposal was approved by the Social and Behavioural Research Ethics Committee (SBREC) at the research institution (see appendix A). Under SBREC guidelines, the researcher obtained informed consent for the two case studies' participants while also obtaining permission from the class as well as the teacher for classroom observations (see appendix B).

The researcher identified some ethical concerns in the design of the research methodology:

1. Confidentiality and anonymity: Data collected was stored in a secured server of the University and participants' real names were not disclosed in this thesis. However, the thesis supervisor was also one of the teacher participants and there could be a concern from students about her reading their responses to surveys and interviews in the thesis and identifying who they were. In the explanatory session about the study, this was explained to students, and they were assured their data would not impact their grades or the perception towards them from any teacher participant.

2. Monetary compensation: In Phase Two of the study, the researcher decided to compensate participants with some money (25 AUD) in exchange for their time to take a 1-hour interview, since in Phase One only one student volunteered, and the researcher needed more data to triangulate results. This compensation could have affected their attitude and responses, it may have made them feel that they needed to please the researcher to some extent as they were paid. However, the researcher began each interview emphasizing that she needed honest responses and that their criticism was highly valued and very relevant for the study.

3. Teachers' professional challenges and well-being: The two teacher participants showed concern about using a novel approach to them and this could have negatively impacted them emotionally, making them more stressed and anxious. The researcher tried to minimise this negative effect by leading two training sessions with them and by creating two teacher manuals for them in both projects.

4. Concerns and challenges for participants: Student participants may feel anxious about working with a new teaching approach, that may not match their preconceived ideas on what second language teaching should be. The researcher talked about the effectiveness of PBL in the introduction session and explained why she chose this teaching approach for this course.

5. Researcher's presence: Since the researcher was in class most of the time either observing or facilitating herself some of the sessions, this could have influenced the responses of the student participants, as they may have felt conflicted to give negative criticism as they knew her and had established a relationship. The researcher commented before surveys or interviews were done that she was looking for honest responses and that she wanted to learn from mistakes made too.

To enhance credibility, the present study used the triangulation of multiple methods and data sources and prolonged observation. The use of mixed methods not only enables an in-depth understanding of the phenomenon but also helps to establish the trustworthiness of data.

Chapter Four: Online survey for worldwide educators: Results and discussion

4.1. Introduction

Chapter four reports on the analysis and discussion of study one, the first of the two complementary studies presented in this thesis. The core goal of study one, an online survey for educators of L2, was to explore the impressions of education practitioners on the central questions around the use of PBL in the context of L2 teaching and learning to draw first inferences on the data collected and analysed. This exploratory study was meant to collect initial data to connect, reassess, and test ideas drawn from the literature by performing expert online surveys to L2 Higher Education teachers. The conclusions and implications inferred would serve to improve the design of the learning materials for the subsequent class implementation, that is, study two. The main questions posed were the following:

- 1. What are the challenges and benefits that educators can encounter in the implementation of a Project Based Learning approach to teaching and learning in the context of SLA in Higher Education?*
- 2. How can these challenges be addressed?*
- 3. What is the impact of technology when used together with PBL instruction on students of an L2/FL?*

The significance of these questions and their answers lies in the potential to reveal best educational practices that can be replicated by educators and instructional designers and to discuss the challenges so as they can be foreseen and scaffolded with previously planned remedial strategies.

This chapter includes five sections; the first one interprets the data that relates to the benefits and challenges of using PBL in the L2 class, the second section unveils the recommendations from teachers to overcome the challenges, the third section reflects on the role of technology and its impact on students' motivation when used together with

PBL the fourth section aims at offering a summary of the content the chapter to crystallize the main ideas that can imply future instructional design.

4.2. What are the challenges and benefits that educators can encounter in the implementation of a Project Based Learning approach to teaching and learning in the context of SLA in Higher Education?

4.2.1. Benefits

Enjoyment from teachers

In group one, G1, the cohort of teachers with experience in PBL, when asked: “Did you enjoy working with this methodology?” All respondents (n=17) answered positively, reporting on their enjoyment as teachers using PBL instruction, confirming the claims in the literature about this being one of the reported benefits of PBL.

In a question on choosing different advantages of PBL, 64.71% of G1 participants chose that they enjoyed using PBL instruction too.

Similarly, when G1 was asked: “Would you recommend adopting a PBL approach to other teachers of foreign languages?” All respondents (n=17) answered that they would recommend PBL to other teachers, confirming the responses in the previous question where they report on their enjoyment of using this methodology and their positive perception of its use in their classes.

In group two, G2, the cohort of teachers with no experience with PBL, when asked: “Do you think you would enjoy teaching with PBL in your class?” The clear majority (73.68%) of participants (n=19) showed their positive perception of how enjoyable it would be even before having used it themselves, and only 26.32% responded not to be sure about the answer.

Motivation and engagement

In G1, when given a chance to choose as many options as they want in the question: “What advantages do you see in PBL?” A clear majority of 82.35% reported that students are engaged, and 70.59% reported on their motivation when in a class with PBL instruction, ranking first and second-best scores in the eight possible given choices (see table 5

below). Additionally, more than half of the respondents reported that the use of PBL impacted making the syllabus more engaging. The positive responses on the perception of PBL helping teachers to cover the syllabus are fewer than the responses on motivation and engagement. 9 out of 17 respondents considers PBL fosters this aspect of teaching/learning, though this can be identified as one of the challenges of PBL, the need for more time to cover the curriculum (see the following category of challenges for reference on this topic) and the imposed assessment methods of an institution or the country that do not align with the assessment methods of PBL.

Table 8

First 3 responses out of 8 ranked by the number of respondents.

	Ranking of responses out of 8 options	Percentage	Responses
1	Students are engaged	82.35%	14
2	Students are very motivated	70.59%	12
3	By using PBL in my teaching I can cover the syllabus in a more engaging way	52.94%	9

In question 16 for G1, when asked: “Do you think the use of PBL in your class fostered your students’ motivation?”. The majority of teacher participants, 14 out of 17, responded affirmatively (see table 9 below), which aligns with the responses to the other questions mentioned above.

Table 9

Responses to question 16.

Answer	Responses	
Question 16		
Yes	82.35%	14
No	11.76%	2
I am not sure	5.88%	1
	Answered	17

In G2, when asked in question 24: “Do you think the extensive use of PBL in your class would foster your students’ motivation?”. The overall perception teachers have of the potential impact of PBL instruction is positive, a 68.42%, where the remaining 31.58% reports not to be sure and none of them said it would impact negatively on motivation. In the open comments of this question, one respondent testimonies these results by stating that they “tried using project based learning approach at all levels except higher education. Furthermore, I could see that my students loved it and were more motivated because the classroom became more fun to them.”

Feasibility of implementation

Participants in G1 were asked if they were still using PBL instruction; the majority, 13 out of 17, were still using PBL instruction, indicating a positive perception of the methodology and its feasibility for implementation. In the open comments for this question, four respondents reported not to be still using it, but one was not teaching at that moment, and another one was using it in a mixed way, adapting it to the curriculum of the institution, so only three participant teachers out of 17 were not using it. The main reasons given to discontinuing its use are the time challenge and the lack of institutional and peer support, which the researcher will develop further in the following category of “Challenges.”

Authenticity

When given the chance to provide open comments on other advantages of PBL not mentioned in the multiple-choice of question 11 for G1 where they could choose among motivation, engagement, teamwork skills, and learning efficiency, two respondents out of 17 stressed the capacity of PBL instruction to facilitate authentic tasks (see comments in table 10 below).

Table 10

Relevant open comments on authenticity in question 11.

	Open comments	Sub-category
1	I simulate real-life experience	Authenticity
2	Authentic tasks	Authenticity

In G2 (see question 23) about the potential effects they think teamwork would have on their students, one respondent mentions that “I think people get more motivated where they are doing something that will be used for something in the real world”, which is, in fact, more related to the concept of authenticity.

Collaboration/ teamwork skills

In G1, when given a chance to choose as many options as they want in question 11: “What advantages do you see in PBL?” Most of the respondents (64.71%) chose “Students like working in teams” as they seem to consider it is enjoyable for students, though it is a slightly lower percentage to the engagement (82.35%) and motivation (70.59%) responses. In question 15, they are asked, “Have you encountered any difficulty in implementing a PBL approach in your language class?” and only 3 out of 17 (17.65%) mentioned that students are reluctant to undertake collaborative projects.

When given the optional opportunity to provide open comments on other advantages of PBL that were not mentioned in the multiple-choice question, they could choose among motivation, engagement, teamwork skills, and learning efficiency. One respondent out of 17 commented on how PBL instruction promotes collaborative and critical thinking skills that they consider essential life skills (see comments in table 11 below).

Table 11

Selected open comments from question 11.

	Open comments	Sub-category
1	I believe in collaborative learning and knowledge sharing. Learning through projects makes learning something (a language, or any other thing) meaningful. They not only learn the object of study (language, in this case) but also many other things, like working together, sharing roles, giving opinions, listening to others, respecting their classmates, besides anything proper to the project itself, like cooking a certain recipe if the project was related to making some dish or	Collaboration skills

	learning about the history of a country to be able to make a promotional touristic leaflet.	
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The area of team working skills can be both considered a benefit and a challenge from the inferences made from the results, and hence its pitfalls will be further explored in the following section.

4.2.2. Challenges

Question 12 provides an overview of the perceptions of the challenges of PBL instruction by teachers with experience using it, that is, G1. When asked: “What disadvantages do you see in PBL?” The responses were varied, and the following section will elaborate more on the subcategories below that had a significant number of responses (see figure 12 for reference). The percentage of responses for the six pre-identified challenges of PBL is quite similar, except for the option about the classroom space, probably indicating that different internal and external factors materialize in different challenges for every teacher.

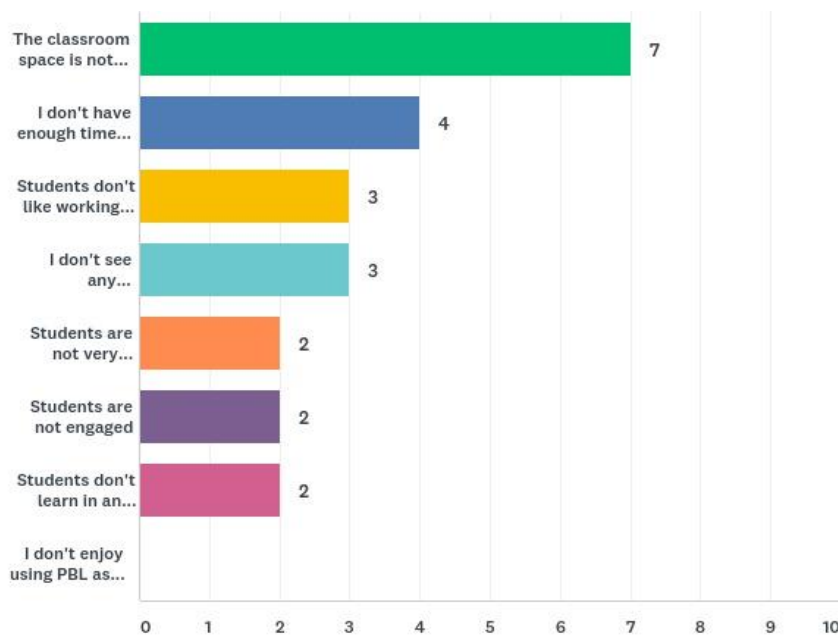


Figure 12: Number of respondents for each option in question 12: What disadvantages do you see in PBL?

Table 12

Legend of options from the chart displaying responses to question 12.

Legend of options in question 12	
1	The classroom space is not suitable for team working
2	I don't have enough time allocated to cover the syllabus using a PBL approach
3	Students don't like working in teams
4	I don't see any disadvantage
5	Students are not very motivated
6	Students are not engaged
7	Students don't learn in an efficient way
8	Other (please specify)
9	I don't enjoy using PBL as an instructor

In the case of G2, teachers without experience in PBL instruction, question 22: “What obstacles do you foresee if you would want to implement PBL in your classes?” aimed at identifying those initial challenges that prevent teachers from using PBL in their classes (see table 13 below).

Table 13

Ranking of responses to question 22.

Ranking of responses in question 22	Percentage	Responses
Lack of training in PBL implementation	78.95%	15
Lack of time to implement collaborative projects and cover the topic syllabus	73.68%	14
Lack of institutional/departmental support	36.84%	7
The classroom space wouldn't be suitable for team working	31.58%	6

Students would be reluctant to undertake collaborative projects because they don't like working in teams	21.05%	4
I find it challenging to facilitate teamwork	15.79%	3
Other (please specify)		3
My peers wouldn't support my decision to use this approach	5.26%	1
I would never use PBL in my classes	0	0

Suitability of Space

Interestingly, the option in question 12 (see figure 12 above) with the highest frequency (7/17) for G1 was “The classroom space is not suitable for team working.” The researcher did not find this theme, though, as a significant issue reported in the literature. This claim is probably based on the fact that most educational institutions have their learning spaces arranged for individual tasks, as aligned with a lecture type of instruction.

In question 15, when asked: Have you encountered any difficulty in implementing a PBL approach in your language class? A considerable number of respondents of G1 (47.06%) reported on the lack of adequate learning spaces for PBL instruction as well.

Nevertheless, the perception of teachers in G2 was of less of an issue, 31.58% of them having answered in question 22 that “The classroom space would not be suitable for team working,” as opposed to the reports in G1 as seen above showing that in reality, it is a more challenging issue.

Lack of external support:

The lack of institutional support is the major issue reported (9 out of 17) very closely followed by the lack of training to teachers on PBL instruction, lack of adequate learning spaces (as mentioned in Question 12), and the lack of time to implement PBL.

Table 14

Ranking of responses related to the lack of external support in question 15.

	Ranking of responses question 15	Percentage	Responses
1	Lack of institutional/departmental support	52.94%	9
2	Lack of training in PBL implementation	47.06%	8
3	My peers wouldn't support my decision to use this approach	17.65%	3

In question 10 for G1, when asked why they were not using PBL anymore, 2 respondents stated that their main reason was a lack of external support, either from their institution or peers.

Table 15

Open comments on question 10.

	Open comments question 10	Sub-categories
1	My institution does not understand it.	Lack of institutional support
2	Sort of still using it. Having to find a way to do pbl w/ textbook because I must coordinate with two other teaching colleagues who do not use pbl	Lack of peer support/curriculum integration

In G2, with teachers who did not have experience with PBL instruction, the researcher asked them in question 21: "Would you be willing to use Project Based Learning (PBL) in your classes if you had more support and training?" Because the literature reported this area as a challenge for most PBL educators. The aim was to understand if it could also be a reason to prevent some teachers from deciding to implement PBL instruction in their classes despite its other reported benefits. Most of the answers, 13 out of 19, showed that this is a significant issue and if resolved could encourage most of them to use PBL instruction (see table 16 for reference).

Table 16

Responses to question 21.

Answer question 21	Responses	
Yes	68.42%	13
No	0.00%	0
I am not sure	31.58%	6
	Answered	19

Participants from the G2 report, again, a serious concern in question 22 about the potential lack of training available for them to enable them to efficiently implement PBL, having 78.95% of respondents reporting on this issue, which contrasts with a much lower percentage in G1, 47.06%. This issue could be since G1 is already experienced in the use of PBL instruction and hence that they have overcome that obstacle already.

The lack of institutional support in G2 follows with 36.84% of participants claiming that it would be a challenge for them, contrasts with an even higher percentage reported by G1, a 52.94%. This concern can be interpreted as G2 perceiving more institutional support than it is available for them.

Lack of time

In question 15 for G1, 47.06% of respondents reported that the lack of time to cover the syllabus is a challenge for them when implementing PBL. In question 12 (see figure 12 in the preceding section) 4 out of 17 participants reported on “I don't have enough time allocated to cover the syllabus using a PBL approach.”

In the open comments of question 10 of G1, one participant explained one of the reasons for this issue, stating that “due to lack of funding, the courses have become too short to be using PBL.”

Contrastingly, in G2, the teachers with no experience perceive the future lack of enough time as one of the major issues for not being able to use PBL instruction. A clear majority of 73.68% of respondents report on this issue as opposed to 47.06% of G1.

Collaboration / Teamwork skills

In question 13 for G1: “What are the students’ attitudes and perceptions towards working in teams?” Most of the respondents identify as a challenge the lack of students’ skills to choose tasks and team roles, that is, the logistics of organizing their cooperation, which aligns with the responses about the general challenges of collaboration with a lower percentage but still high, or the low number of responses to the opposite statement (Students feel comfortable to choose tasks and adopt team roles), only 2 out of 17.

Therefore, organizing team working is considered a significant challenge for PBL instruction by teachers. At the same time, almost an equal number of respondents report on the students’ enjoyment when collaborating with peers and general enjoyment. These first three reports could be interpreted initially as a contradiction, however, the researcher considers that it refers to the idea that working efficiently in a team is not a skill that we are born with. We need time to be trained in it, which is challenging in the first stages but also rewarding when resulting in a beneficial and enjoyable experience (see figure 13 below).

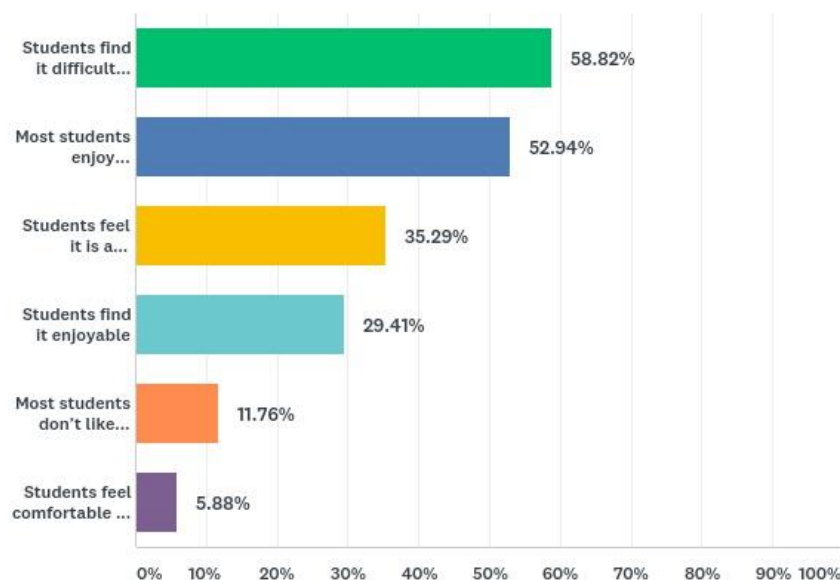


Figure 13: Ranking of responses to question 13.

Table 17*Ranking of responses to question 13.*

Ranking of responses	Percentage	Responses
Students find it difficult to choose tasks and team roles	58.82%	10
Most students enjoy collaborating with peers	52.94%	9
Students feel it is a difficult challenge to carry out collaborative projects	35.29%	6
Students find it enjoyable	29.41%	5
Students feel comfortable choosing tasks and adopt chosen team roles	11.76%	2
Most students don't like working in teams, they prefer to work individually	5.88%	1
Other (please specify)		2

Relatedly, one respondent's open comment in question 13 of G1 concurs with the idea of challenge and benefit being tied together as part of the process of learning a new skill, "I think some students have an initial negative reaction to working with projects, but as classes continue, most of them begin to like it " (see table 18 below). Additionally, 2 other participants comment on how the results of team working have been uneven in their experience.

Table 18*Open comments of questions 13 and 20.*

	Open comments	Sub-categories
1	I think some students have an initial negative reaction to working with projects, but as classes continue, most of them begin to really like it. I'd say, from my experience, that only a few students in each group would still dislike working with projects by the time it ends. (Question 13)	Teamwork as a skill needs time

2	It really depends on the person and the group dynamic. At times it works brilliantly, at times some groups fail miserably. (Question 13)	Teamwork results are unpredictable
3	Group work can be both positive and negative. While most students enjoy it there is always one group who don't know what to do with a member who is not contributing enough. (Question 20)	Teamwork results are unpredictable

In G2, in general, the perception of working in teams and collaborative tasks seems a minor challenge to them, with only 21.05% reporting on the difficulty of performing collaborative tasks for students and a 15.79% commenting on how it is challenging to them to facilitate teamwork (see table 19 below).

Table 19

Related responses from question 22.

Related responses in question 22	Percentage	Responses
Students would be reluctant to undertake collaborative projects because they don't like working in teams	21.05%	4
I find it challenging to facilitate teamwork	15.79%	3

If we look at both the perspectives of G1 and G2, it is interesting to note relevant differences in their perceptions of teamwork in their classes (see table 17 below). For example, the perception of the inexperienced group, G2, is much more optimistic in their expectation of acceptance and enjoyment from students, having 73.68% of respondents reporting that students would find it enjoyable, as opposed to a 29.41% of G1. Similarly, G2 reports a low perception of how difficult this challenge would be for students, with only 35.29% in comparison with the almost double percentage of G2, 68.42%. Remarkably, both G1 (52.94%) and G2 (57.89%) have very similar percentages when referring to the level of enjoyment of students collaborating with peers.

The teachers of G2 state a significant concern in the abilities of their students to organize their team roles and tasks (47.37%) close to the percentage of G1 (58.82%), indicating a shared concern. The perception of G1 of some students not enjoying teamwork is already low, just 21.05% but it is even lower in G2, a 5.88%, which is likely to indicate that after some years of experience using PBL the teachers have faced more students of this type, though it is still not identified as a prominent issue. Finally, a confirming second option to report on the capacity of students to assign roles confirms the former very similar perceptions of G1(11.76%) and G2 (15.79%), being identified by both as a significant challenge.

Table 20

Comparison of responses of G1 and G2 to the sub-category of teamwork.

Responses of G2 question 23	Percentage	Responses of G1 question 13	Percentage
Students would find it enjoyable	73.68%	Students find it enjoyable	29.41%
Students would find it is a big challenge to carry out collaborative projects	68.42%	Students feel it is a difficult challenge to carry out collaborative projects	35.29%
Most students would enjoy collaborating with peers	57.89%	Most students enjoy collaborating with peers	52.94%
Students would have problems with assigning tasks and roles in the team	47.37%	Students find it challenging to choose tasks and team roles	58.82%
Most students wouldn't like working in teams as	21.05%	Most students don't like working in teams,	5.88%

they prefer to work individually		they prefer to work individually	
Students would be able to assign tasks and roles in the team without problems	15.79%	Students feel comfortable choosing tasks and adopt chosen team roles	11.76%

A respondent of G2 in the open comments of question 23, when asked: “What effect do you think working in teams would have on your students?”; mentions how they believe teamwork is not for everyone, and “Most students would approach this positively; they would appreciate help assigning roles. There are also some (an increasing number, however) who prefer to work alone and who are not committed to working in groups, which could derail the process for the other group members.”

Of relevance is one open comment from question 22 of G2, which reports on a possible cause for the issues with facilitating teamwork among students, and that is anxiety and mental health issues. They state that “More and more students have mental health issues around anxiety and not wanting to work in groups and needing time away from classes and study - this would be a difficulty.”

Resistance to change the methodology from students and teachers

The researcher did not identify the resistance to change from teachers and students as a significant sub-category to be included in the options and specific questions initially in the online survey, even if it appears marginally in the literature. Interestingly, this topic arose in the open comments from 2 respondents in G1 and four respondents in G2 when given a chance to provide their own opinions freely (see table 21 below).

Table 21*Open comments of questions 12 and 20.*

	Open comments G1	Sub-categories
1	<p>“It depends very much on this student (teamwork) and the academic culture (both local and of the student's country where international students are concerned.) Student expectations can affect the success of this method which needs a huge mind shift in many more traditional academic cultures.” (Q12)</p>	Resistance to change of methodology
2	<p>“[...] my head of department had the most conservative approach to language teaching. I had to use a very bad manual, made up of grammatical rules and fill-in-the-gap exercises. It was really frustrating. [...] Some of my Korean students wrote on the end-of-the-term class evaluation questionnaires I used to administer that they preferred "open the book on page X"-style classes. They said it was much easier. I totally get it, they come from a culture where learning is equal to memorising. I got actually surprised that my classes were successful despite their learning culture. To me, that means that well-prepared classes with PBL are definitely efficient. “ (Q20)</p>	Resistance to change of methodology
	Open comments G2	
3	<p>“In an advanced level most of students ask for a grammar oriented methodology.” (Q23)</p>	Resistance to change of methodology
4	<p>“Some of them would be negative, as they believe that they are losing their time.” (Q23)</p>	Resistance to change of methodology

5	“I don't think any of the effects I've ticked are a good reason not to try it. Anything that is well planned and has well thought out learning outcomes can work well, even if there is initial student resistance.” (Q23)	Resistance to change of methodology
6	“Some of them would be negative, as they believe that they are losing their time.” (Q23)	Resistance to change of methodology

In conclusion, the researcher infers from the comments that despite the resistance to change, PBL provides good results if it is well planned and all stakeholders in the educational community invest time during an adaptation period. As respondent 2 mentions referring to their Korean students, “they come from a culture where learning is equal to memorizing. I got actually surprised that my classes were successful despite their learning culture. To me, that means that well-prepared classes with PBL are definitely efficient.” Alternatively, respondent 5 states “Anything that is well planned and has well thought out learning outcomes can work well, even if there is initial student resistance.”

Lack of enough L2/FL skills

The challenge of the lack of enough proficiency in a second or foreign language to be able to develop projects efficiently was not previously identified in the literature by the researcher. This issue was mentioned interestingly only by some respondents (n=3) in G2, hence the ones with a lack of experience in PBL instruction. This challenge may indicate that it responds to a preconception on what the language skills needed by students to succeed in PBL instruction are that it does not correspond with a real issue later as it was not reported by G1 (see table 22 below).

Table 22

Open comments from G2 on the student's need to have higher language proficiency.

Challenges only appearing in G2: open comments		
Students lack enough skills and CI	L2 “In German I teach the very intensive beginners' level and I can't see having the time to implement PBL, but also the students' language skills will not be at a high enough level (I think)” (Q22) “It would be very challenging to come up with a real world problem to work on that really incorporates language input that is comprehensible at the lower levels which is what research has shown is necessary for language acquisition.” (Q24) “I am struggling to think of something that would work well with beginners, but I am open to suggestions.” (Q24)	3

Difficulty to align PBL instruction with existing curriculum

Similarly, to the former challenge, this one has not been identified by the researcher as a recurrent topic reported in the literature and it is only mentioned by the respondents in G2. Three participants comment on the potential challenge of aligning their existing curriculum with PBL instruction, which can respond to their lack of training and experience in the area or to a lack of high-quality examples and models for PBL in FL/L2. (see table 23 below)

Table 23

Open comments from question 24 in G2 on the difficulty to align PBL instruction with existing curriculum.

Open comments G2, question 24	
“It would be very challenging to come up with a real world problem to work on that really incorporates language input that is comprehensible at the lower levels which is what research has shown is necessary for language acquisition.” “I have done PD on PBL before as I am interested in the concept, but I had trouble imagining how to apply this to language classes.” “I think it's a matter of having a good idea that will really help with students' learning. I am struggling to think of something that would work well with beginners [...]”	3

4.3. How can these challenges be addressed?

In question 19 for G1, participants were asked: “What recommendations would you give a teacher who is new to PBL to implement this approach in the language classroom?”

The question is framed for respondents to give recommendations to other teachers, reporting on both the challenges they identify or face already and what they propose to solve them.

It seems that teachers face a variety of different challenges (see table 21 and 22 below) hence the recommendations go in different directions; however, the three first suggestions, commented by three respondents each, refer to the need for training and peer support for teachers as well as the need to scaffold PBL for students appropriately, all of them relate because they refer to the need to invest time and effort for both teachers and students to understand PBL and give time to be able to do it properly. Relatedly, in question 23 of G2, one responded agreed with this opinion by stating, “students need training and support before they can collaborate very well in their projects.”

Six more suggestions were commented on by two respondents each; hence they rank second place equally, showing a wide range of opinions on this matter and divided views on how to address the challenges. These are: organizing virtual exchanges, dedicate time and importance to the end product, invest time to design a well-round PBL experience and time too to develop PBL projects in class, be able to navigate negative feedback in the initial stage of the project because teachers must understand students need time to process a new methodology and finally be creative/adventurous and try it.

The last three comments were mentioned by just one respondent each, referring to the use of PBL instruction to cater to differentiated learning, have an open mind to be able to succeed when changing the teacher’s methodology, and show the purpose of doing PBL to students, relating it to life skills.

Table 24

Ranking of sub-categories of open comments to question 19 for G1.

Open comments in question 19			
	Sub-categories (12)	Responses (19)	Percentage
1	Training of teachers	3	15.78%
2	Peer support for teachers	3	15.78%
3	Scaffold PBL for students	3	15.78%
4	Virtual Exchanges	1	10.52%
5	End product in mind	2	10.52%
6	Invest time in design	2	10.52%
7	Devote time to develop PBL in class	2	10.52%
8	Navigate negative feedback	2	10.52%
9	Experiment	2	10.52%
10	Use PBL for differentiated learning	1	5.26%

11	Be open to change teaching methodology	1	5.26%
12	Show the purpose to students	1	5.26%

Table 25

Open comments to question 19 for G1.

	Open comments for question 19	Theme
1	To visit the etwinning site to find European partners to work in a motivational way and demolish frontiers, not only physical.	Connectedness
2	Prepare a very good final activity	End product in mind
3	A lot of documentation and previous information	Invest time in design, research
4	Training, initiative and creativity	Training, creativity
5	After the first weeks, the students being used to the traditional approach, relax and realize that this is another way of learning that is effective and more dynamic, even if it involves more work on behalf of the teacher when creating the sessions for the class.	Scaffold for students, Time
6	Define very well the final task that students should develop and sequence the sessions in an adequate way.	End product in mind, design
7	Start early in the course/program. Find some easy achievable steps towards the project to be accomplished first.	Scaffold for students, Time
8	Teachers should encourage students to share their ideas with others and teachers should be flexible when working with many students that have different perspectives or skills. In addition to this, teachers should understand students'	Use PBL to cater for differentiated learning

	circumstances what skills they are interested in and need to train. Therefore, this might be easier for teachers when applying PBL in the class.	
9	To start using a project another colleague has used and they can get support about.	Peer support
10	Be open minded for possible negative feedback from teachers and students entrenched in other methods	Navigate negative feedback
11	Consult with experienced colleagues, negotiate with students and experiment.	Peer support
12	Try it. Foreign language teaching must adapt to new pedagogies if it is to remain relevant in college curriculum. This is especially so for US fl departments.	Experiment
13	To be patient and try not to give in to students' demands of less work	Time, navigate negative feedback
	I think that working with PBL requires a lot of reading into the subject, discussing with classmates and, most of all, sharing experiences. So I'd suggest that this teacher try to find a group of other teachers who use/are willing to use PBL and promote regular meetings for discussing bibliography and class experiences.	Peer support, training
14	To be trained about PBL	Training
15	to feel free to change his way of teaching, in Greece PBL is implemented following other teaching methods	Openness
16	Make sure all the instructions are clear and easy to follow. Give them some examples for projects you have done in the past to explain the dynamic and the degree of flexibility. Make sure they understand about responsibility. Sell it to them as a life skill.	Scaffold for students, reinforce purpose as a life skill

17	try it!	Experiment
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4.4. What is the impact of technology when used together with PBL instruction on students of an L2/FL?

In question 14, the researcher asked teacher participants: “Have you used any kind of technology to implement a PBL approach in your language class?” and they had to choose as many options as they liked. This question’s goal is twofold, on the one hand, to see if there is a correlation in use of PBL instruction and technology as the literature suggests and on the other hand, to account for the most common tools used in this scenario, to decide on their use in the future learning materials to be designed for the case study (see figure 14 below).

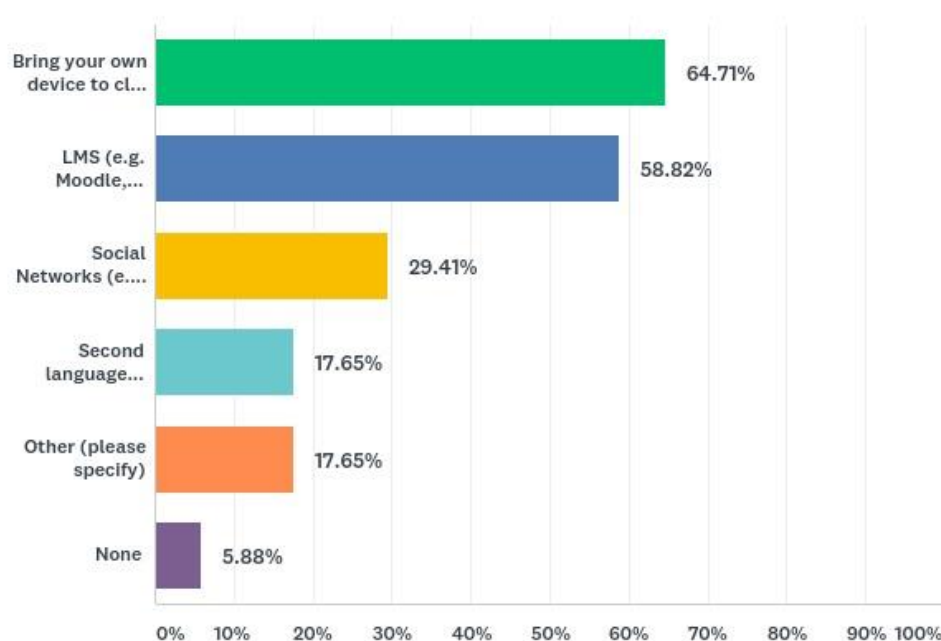


Figure 14: Ranking of responses to question 14.

Table 26

Ranking of responses to question 14.

	Ranking of responses in question 14	Percentage	Responses
1	Bring your own device to class (i.e. students’ tablets, laptops or smartphones)	64.71%	11

2	LMS (e.g. Moodle, Blackboard)	58.82%	10
3	Social Networks (e.g. Facebook, Twitter)	29.41%	5
4	Second language learning apps (e.g. Duolingo)	17.65%	3
5	Other (please specify)	17.65%	3
6	None	5.88%	1
7	Project work facilitation software (e.g. Slack, Asana, Trello)	0.00%	0

Table 27

Open comments to question 14.

	Open comments question 14	Sub-categories
1	eTwinning	Tools
2	Video camera, audio recorders	Tools
3	Google docs, Wigio, other platforms	Tools

The use of technology reported by most respondents is the one used for the logistics of study, their own devices, and the use of Learning Management Systems (LMS). Interestingly, the use of social media follows, showing a discreet but growing field in the area of L2. Using L2 learning apps is very common in the informal language sphere but still not so familiar with informal learning contexts, and hence this is shown in the low percentage of respondents reporting on their use. Among the other technology used, one respondent mentions hardware, like video cameras and audio recorders, and the other two respondents, mention the language exchange platform in Europe eTwinning, Google docs, and Wigio.

Effect of technology on students' motivation

In question 17, participants were asked: "If you used technology together with PBL, do you think it fostered your students' motivation?". Of the 17 respondents, only one answered that they had not used technology, and only 2 answered negatively, reporting their perception of technology not impacting an increase in motivation. Therefore, the

vast majority, 14 out of 17, answered yes to this question, indicating their positive perception of the impact of the use of technology and PBL on their students' motivation (see table 28 below).

Table 28

Answers to question 17.

Answers question 17	Responses	
Yes	82.35%	14
No	11.76%	2
I didn't use technology	5.88%	1
	Answered	17

4.5. Conclusions and implications

This section contains a summary of the major findings of the study organized by research questions.

4.5.1. Major Findings

1. What are the benefits and challenges that educators can encounter in the implementation of a Project Based Learning approach to teaching and learning in the context of SLA in Higher Education?

The analysis of the data unveils a wide array of benefits and challenges as perceived by educators who are both experienced and novices in the use of PBL instruction. There are five significant benefits identified in the data: Enjoyment from teachers, motivation, and engagement from students, the feasibility of implementation, authenticity, collaboration/team working skills. The main findings from each sub-category will be briefly explained in the following paragraphs.

Enjoyment from teachers

All teacher participants from both groups one and two reported to feel enjoyment and that they would either recommend PBL or would try it if they are not using it at the moment. Even if the same educators also talked about some of the challenges that the

implementation of PBL poses, it is remarkable to see how unanimous their response was about the enjoyment they feel about using PBL instruction and how they think it is worth using this teaching methodology.

Motivation and engagement from students

Most respondents, 82.35%, reported that students are engaged, and 70.59% perceived an increased students' motivation. Research shows that 'group flow', can foster a more intense emotional effect than when experienced alone (Muir, 2016, p. 68). Working in intense projects has been connected to the appearance of DMC (see section 2.1.4.). One of the elements that differ the most when working in a PBL context as a student is shifting from a teacher to a student-centric environment. Students gain self-direction that usually results in an increased sense of agency (Mohan & Lee, 2006) and this can be engaging and empowering. Stoller (2006, p. 25) in his comparative study on the use of PBL in the area for L2 states that one of the most common benefits found in research is the "Intensity of motivation, involvement, engagement, participation, enjoyment, creativity."

Feasibility of implementation

The vast majority of participants who had prior experience in PBL instruction before reported that they had continued to use it in class. Only three participants out of 17 had stopped and some of the reasons given were the lack of institutional and peer support. This shows that PBL is possible and feasible in Higher Education, but it needs to be nourished and supported by the institution, colleagues, and leadership.

Authenticity

Three participants commented about the value of authenticity in the open questions. They indicated that PBL instruction can bring more authenticity to the L2 class. Using authentic materials to simulate authentic situations is common practice in Communicative Language Teaching (CLT) and it is regarded as motivational for students (Peacock, 1997).

This is related to what Stoller (2006) identified as one of the 8 most commonly cited benefits attributed to Project Work in Second and Foreign Language, that is, the authenticity this brings into the classroom.

Additionally, seven challenges stem from the data: collaboration/team working skills, the suitability of space, lack of external support, lack of time, resistance to change, lack of enough L2/FL skills, difficulty in aligning PBL instruction with existing curriculum. The main findings from each sub-category will be briefly explained in the following paragraphs.

Collaboration/team working skills

As mentioned above, teamwork skills are an area that has proven to be both empowering and challenging. Experienced teachers of G2 report on the high level of challenge for students to successfully work in teams and on how that impacts negatively on their level of enjoyment, while novice teachers in G1, not having implemented PBL yet, have more positive perceptions on how much students would enjoy it. However, it is noteworthy that both teachers in G1 and G2 have a very similar perception of the insufficient abilities of their students when organizing their collaborative works, concretely distributing roles and tasks in the team. Respondents report on an overall need to train students in these abilities to be able to profit from the benefits of PBL instruction fully.

Suitability of space

The high relevance of this sub-category for teachers came as a surprise to the researcher, who marginally found a reference to this as the central issue in research but included it because of informally occurring conversations with other teachers and when reading articles in the popular press in the areas of PBL. A high number of participants of G1 (47.06%) reported on the lack of adequate learning spaces for PBL instruction, showing that even though they continue using PBL instruction, they may not be able to access appropriate learning spaces to fully explore its potential due to their institution design as lecture-type learning spaces.

Lack of external support

Educators in G1 and G2 agreed on the fact that the lack of institutional support and training are the issues that have the most negative impact on them when trying to implement PBL in their classes. The lack of institutional support is the major issue for experienced teachers with 52.94% reporting on it and a still significant 36.84% of novice

teachers of G2, which would probably prevent some of them from deciding to embark on implementing PBL in their classes.

This issue is closely followed by the claim identified in the data by both groups of teachers on the insufficient provision of training for them. This is reported by 47.06% of teachers in G1 and an overwhelming 78.95% of teachers in G2, which could show one of the reasons why they have not been able to implement PBL yet despite their interest and beliefs in its positive impact on students.

Lack of time

The lack of time to implement PBL seems a relevant issue for teachers in G1, with a 47.06% reporting in this issue, but even more negatively impactful for the teachers of G2 with a clear majority of them, 73.68%, perceiving this as a potentially significant issue.

In the open comments of question 10 of G1, one participant explained one of the reasons for this issue, stating that “due to lack of funding, the courses have become too short to be using PBL.”

Contrastingly, in G2, the teachers with no experience perceive the future lack of enough time as one of the critical issues for not being able to use PBL instruction. A clear majority of 73.68% of respondents report on this issue as opposed to 47.06% of G1.

Resistance to change

Teacher participants in both G1 and G2 report that resistance to change can be an issue. It is a prevalent human behaviour to feel uncertainty when facing novelty, and new teaching methodologies are no exception. This resistance to being willing to try a new teaching methodology occurs equally among teachers and students alike, being a significant issue nowadays when trying to implement educational reforms, whatever the new methodology is. There is also a lack of understanding of the purpose of PBL since some students, teachers, or parents do not relate this methodology as the “proper” way of learning, despite this belief being widely refuted in the literature since the beginning of the 20th century.

Lack of enough L2/FL skills

The qualitative data from G2, the novice teachers interested in PBL, raises the concern of students with low levels of proficiency in the L2/FL not being provided with enough comprehensible input (CI) to be able to learn efficiently while in PBL instruction. However, this is not a challenge reported by the teachers in G1, with years of experience implementing PBL in their classes. This disparity in opinions may correspond to erroneous preconceptions of the real language skills students need to succeed in learning an FL/L2 through PBL instruction.

Difficulty in aligning PBL instruction with existing curriculum

Participants in the inexperienced group of educators, G2, show their concern about not being able to align their existing curriculum with the contents and learning goals of PBL instruction. However, this is not reported by the experience PBL doers of G1. This concern may respond to their current lack of training and of valid high-quality models to learn from.

2. How can these challenges be addressed?

The range of recommendations from the group of experienced teachers is very varied, offering 12 different types of suggestions, that could indicate the different nature of their challenges.

Overall, the main recommendations revolve around teacher training, peer support, scaffolding for students, a call to devote time and invest the effort to be able to achieve a successful PBL experience and finally an invitation to be bold and daring to be able to experience this new methodology.

3. What is the impact of technology when used together with PBL instruction on students of an L2/FL?

The use of technology reported by participants in G1 responds to the logistics of study, their own devices, and the use of Learning Management Systems (LMS). Relatedly, most of the teachers in G1, 82.35%, agreed that technology combined with PBL had a powerful motivational effect on students.

4.5.2. Implications for Instructional Design

Based on the results of this exploratory study, the researcher identified several implications for action for instructional design that will be further elaborated on in the following paragraphs.

Use of technology: The study, as well as the literature, evidence the positive impact of the use of technology in students' motivation, hence it is advisable to include technological tools that will foster PBL key features such as creation, collaboration, and open dissemination.

Nevertheless, the study also shows a low level of use of social networks together with PBL instruction, just 29.41%, which contrasts with their more widespread use in everyday life and the informal foreign language learning arena (see section 2.3.3. for reference), which indicates a clear potential to engage students inside and outside the classrooms. More concretely, social media and online collaboration tools, are reported to positively impact L2 learners' motivation (Miller, Hafner, Ng, & Fun, 2012; Simpson, 2011; Wong et al., 2006; Yoshida, 2014; Zhou, 2012). The responses of participants in this study also confirm what research tells us about how digital technologies are mainly used for the logistics of study, with a focus on using a Learning Management Systems (LMS) for that purpose (Conole, 2013; Thomas & Reinders, 2010).

1. Suitability of space

The study shows that spaces available for the sample of teachers are mainly inadequate for team working activities. It is advisable to use spaces where tables and chairs are movable to facilitate different grouping possibilities, where students can orally interact with each other while keeping eye contact to promote the team's communication, bonding, and feasibility of collaboration activities.

2. Training for teachers

Teachers who are new to PBL instruction need sustained training to transition from a beginner level to a mastery level. In the words of Tom Markham, a global expert in PBL:

The process begins with training, but competency in complex tasks results from self-directed performance continuously augmented by job experience, peer support, and additional training targeted to the specific needs of the job or individual. (Markham, 2013)

In other words, a once-off workshop will not be enough to build enabling competency and skills in a teacher to be able to bring PBL to life, it “introduces the craft, but teachers become competent only through a supportive ecosystem.” (Markham, 2018, para. 2)

Consequently, research suggests that it is not recommendable to embark on the use of PBL instruction unless there is a system that enables success, such as a collaborative culture and an active school supportive atmosphere (David, 2008).

3. Training for students

The data collected from this study shows that teachers believe that in PBL students struggle to organize their teamwork. Complex and high-quality collaboration does not necessarily come naturally to students, it is a skill we must learn together with essential interpersonal skills (Markham, 2013). Students would benefit from doing team building bonding activities, the modeling use of productive communication protocols, like the nonviolent communication one, and have tools to scaffold the assigning of roles and tasks, like a team contract and task organization templates. The role of teachers as facilitators of successful team working experiences a significant shift from the traditional role of the lecturer; they must learn about conflict resolution, encourage student’s self-direction, and be able to monitor them rather than direct them so as they can acquire the skill to collaborate efficiently.

4. Lack of time

The absence of enough time allocated for a topic to cover the curriculum is usually out of control for both teachers and students since the educational institutions assign time loads for different subjects and are decided by their leaders or government representatives. Nevertheless, the use of a clear and static structure for project activities that also serves as a protocol that is entirely recognizable by all the community of users (Hernández Mercedes, 2008), can potentially provide more clarity and save time. There is a need to

have more sharing communities of practice with curated, high-quality PBL units in SLA, which are now very scarce and disperse. Being part of such a community would have the potential to optimize a significant amount of time spent by teachers designing their learning materials.

5. Resistance to change: This situation is practically unavoidable when exposing students and teachers to a relevant change of any sort, and the impact is even more harmful if it was not a personal choice but an imposition. Therefore, there must be consultation and negotiation on the terms of the methodology adoption and transition with all the participants involved, namely students, teachers, parents, and educational leaders. In the initial stages, it is advisable to remind students and teachers of the purpose and improvements expected from this change regularly. Understanding the purpose of every single activity and teaching strategy can make a difference in shifting the participants' sense of fear, skepticism, or pessimism into curiosity and enthusiasm.

6. Lack of enough L2/FL skills: this is not proven to be a major issue according to the researcher's review of the literature or the results of this study since only teachers with no experience in PBL commented on their concern about the lack of enough language skills from their students to be able to complete a project successfully.

7. Difficulty in aligning PBL instruction with the existing curriculum: This issue is to be expected from novice PBL doers since they are starting from scratch with a new methodology, feeling vulnerable and lost. Teachers would need time and training to be able to establish adequate connections between the curriculum and the goals of projects. In the experience of the researcher, this ability is more challenging when trying to develop it individually, and it needs extensive coaching, high-quality samples, and peer interaction to establish connections in the same area of knowledge but especially cross-curricular.

4.5.3. Summary

PBL instruction involves that students experience a prolonged process of inquiry and sustained collaboration for them to be able to answer a question or a problem. This study reinforces the accounts in the literature on the benefits of PBL instruction in the

motivation and engagement of students. However, the data collected also reveals that there are several obstacles that teachers will have to face. The main obstacles identified are lack of training, scarce institutional or peer support, lack of appropriate physical spaces, not enough allocation of time, negative emotional response to a change in methodology, and the need to acquire mastery in teamwork facilitation for teachers and collaboration skills for students, not being usually extensively taught in formal educational systems.

The researcher will use the inferences learnt from the analysis of the data of this study to implement good practices in PBL instructional design in the creation of the learning materials for the two implementations of the case study of this thesis. The two implementations will be done in classes of Spanish as an L2 language with Tertiary education students at an Australian university. The following chapter four, devoted to the instructional design, will elaborate on the creation process and justification of the decision-making based on the lessons learnt from the review of the literature and the compelling findings of this study.

Chapter Five: Instructional Design

5.1. Context

The research site of the implementation was set in a class of year two students of Spanish for general purposes at an Australian university. These students came from different disciplines and studied Spanish as part of their majors or as an optative topic related to their interests. The Spanish language level of these students was approximately a B1 of the Common European Framework of Reference for Languages (CEFRL) (see section 3.2.1. for reference). The allocated time for Spanish instruction at the Higher Education institution where the case study took place was three hours a week in two sessions, being the first session for two hours (100 minutes allowing time in between classes) and the second one hour (50 minutes).

There were two different implementation phases, one in semester one and the other in semester two. A project and its learning materials were designed for semester one, following the theories on PBL and motivation explained in more detail in Chapter Two of this thesis. After it was implemented, and I received feedback from both students and teachers in the form of questionnaires, semi-structured interviews, and naturally occurring conversations, I made the necessary changes in the design of the second project to be implemented in semester two, aiming at catering for the newly identified needs of the participants, using the data collection tools mentioned above.

The duration of the class projects was determined mainly by the predetermined allocation of time in the curriculum of the institution. The first project lasted four weeks (with three weeks of explicit project instruction and the fourth week for students' presentation), while the second project was longer, within a period of seven weeks, with also 3 weeks of teamwork allocation of time in class.

5.2. Instructional Design Model

Designing a customized PBL instructional model for L2 instruction was essential to implement the two projects that comprise this case study. As mentioned previously, (see chapter 2, section 2.2.), PBL can be an umbrella term for many different methodological practices, and incomplete PBL interpretations can create confusion and reluctance among teachers to embark on the sometimes challenging adventure of learning how to 'PBL' their classes.

The inspiration for the customized PBL unit design was the clarity in the structure of WebQuests, "an inquiry-oriented lesson format in which most or all the information that learners work with comes from the web" (Dodge, n.d.). Bernie Dodge and Tom March conceived WebQuests in 1995 as an online learning activity framework to be implemented in a face-to-face class environment that fosters higher order thinking skills. In this context, the teacher curates high-quality resources, and students work in teams to solve a problem (Castro Huercano, 2011).

WebQuests, offer the advantage of being learning activities that have a very defined structure, with concrete sections and steps to follow. Teachers benefit from them when doing instructional design because of their simplicity, and students can work using a scaffolded way to learn. WebQuests also cater to different learners' needs and digital literacy levels, providing curated resources and a step-by-step guide to developing a short or long-term project.

Dodge (1997) establishes the initial structure of 6 critical components for the WebQuest:

1. Introduction: presents the learning unit and engages students
2. Task: describes the final product that students have to produce
3. Process: it is a step by step guide to complete the task
4. Resources: are the online resources to complete the task
5. Evaluation: assesses the outcomes of the learning activity
6. Conclusion: it is a summary of the activity and encourages reflection among students.

WebQuests align with PBL in different ways, since they also stem from social constructivist theories. They can be short and long-term WebQuests. (Dodge, 1997). The short ones are meant to be completed in one to three classes, aiming at developing knowledge acquisition and integration, while the long ones focus on extending and refining knowledge. Long WebQuests share with PBL units, not only the extended duration but also that their focus on higher-order thinking skills

After completing a more extended term WebQuest, a learner would have analyzed a body of knowledge deeply, transformed it in some way, and demonstrated an understanding of the material by creating something that others can respond to, online or off. (Dodge, 1997)

Among the three non-critical attributes that Dodge (1997) mentions, working in groups and the possibility of doing interdisciplinary learning units also resonates with the very nature of PBL instruction. WebQuests, like PBL, increase motivation, foster critical thinking skills and cooperative learning (March, 1998). Their focus on the use of a curated set of resources relates to the idea of scaffolding, based on the learners' Zone of Proximal Development (Fiedler, 2002), also a key component in PBL.

Since WebQuests were created in 1995, just before the revolution of Web 2.0., its structure does not reflect the possibilities of the integration of social media into technology-mediated learning activities. Using social media to share learning outcomes provides a deeper level of meaningfulness and authenticity to learners, and it is an essential component that is missing in WebQuests.

In this area, some have dared to make the WebQuest evolve in different ways, such as CLILQuest from Fernández Fontecha (2010), mixing Content and language integrated learning (CLIL) and the use of 2.0 applications integrated into the same template and the concept of CLIL, learning a second language through another content area, or the initiative of Aduviri Velasco (2009) to fuse a WebQuest and a Blog.

The researcher also took inspiration from several guidelines for PBL implementation, such as the one suggested by Stix and Frank (2007), with 9 steps to follow: 1. Setting the stage with real-life samples, 2. students take the role of project designers, 3. Students discuss and accumulate the background information, 4. Teachers and students negotiate the criteria for evaluating the projects, 5. Students accumulate the materials necessary for the project, 6. Students create their projects, 7. Students prepare to present their projects, 8. Students present their projects and finally 9. Students reflect on the process and evaluate the projects.

The features the researcher found useful from this framework were the leveraged learning path for students to create a project and the opportunities for negotiating the project terms between teachers and students. Nevertheless, the researcher identifies gaps in the fields of how/who/when to assess students, reflection, and product sharing is limited to the class.

In the model for Project Based Learning proposed in Edutopia, *How Does Project-Based Learning Work?* (2007, October 19), there are six steps: 1. Start with the essential question, 2. Design a plan for the project, 3. Create a schedule, 4. Monitor the students and the progress of the project, 5. Assess the outcome, 6. Evaluate the experience.

In this model, there is more focus on scaffolding for students and a more guided approach for teachers to facilitate it. The researcher estimates that these features can benefit the learning journey to students since it can pave the way when embarking on the many tasks involved in cooperatively creating a project with other students, for a long time, what can be challenging and more challenging to organize.

Finally, the researcher obtained inspiration from the clarity and simplicity of Ben Schneiderman's (2003) framework for designing student-centered technology-integration projects. The Collect-Relate-Create-Donate (CRCD) framework is a very straight-forward guide to design a technology-mediated learning activity, emphasizing research, cooperation, and sharing.

The model consists of four parts: Collect, Relate, Create, and Donate.

1. Collect: knowledge; students research about the proposed topic.
2. Relate: with one another, they cooperate.
3. Create: something that shows their level of understanding of the topic.
4. Donate: the students' work so as it contributes to general knowledge.

Though the inquiry, assessment, and reflection features are not the cornerstones of this model, the focus on creating something that can be shared, especially online in this case, can be very motivating for students given its authentic nature and public visibility.

The model that the researcher proposes includes features from what Zhao (2012) calls the Mixed Model of PBL, as opposed to the Academic model, stressing content and teacher guidance, or the Entrepreneurial Model of PBL, with an emphasis on the student self-regulation and product-oriented learning. In the Mixed Model learning artifacts are very relevant and are expected to be of high quality, sometimes to be used outside of the school by real consumers, but at the same time the alignment with the standard curriculum learning goals, not constraining the project, is highly valued. Students have varying degrees of freedom within the prescribed project; they may engage in peer review or evaluation of projects, but the evaluation is mostly at teacher activity, and focus is less on transmitting knowledge and more about learning real-world skills.

After a critical analysis of the major models that relate to this study, I created a new instructional design model to facilitate clear, evidence-based and high-quality creation of learning materials in tune with social constructivism and to serve as a future reference for educators and instructional designers. The following table summarizes for clarity the selection of the different components from the design frameworks mentioned above to create a new one called the 'Learning Egg' which I will elaborate on in the following paragraphs.

Table 29

Interrelation of the different frameworks chose as inspiration for the ‘Learning Egg’.

Learning Egg (2016)	WebQuest Dodge (1995)	CRCD Schneiderman, (2003)	Stix and Frank (2007)	Edutopia (2007)
THINK	Introduction	Collect	Setting the stage	Start with the Essential Question
	Task		discuss and accumulate the background information	
CREATE	Process	Relate	Students take the role of project designers	Create a Schedule
	Resources	Create	Students accumulate the materials necessary for the project	Design a Plan for the Project
			Students create their projects	
Students prepare to present their projects				
ASSESS	Evaluation	N/A	Teacher and students negotiate the	Monitor the Students and

			criteria for evaluating the projects	the Progress of the Project
	Conclusion		Students present their projects	Assess the Outcome
			Students reflect on the process and evaluate the projects	Evaluate the Experience
SHARE	N/A	Donate	N/A	N/A

The 'Learning Egg' is a non-linear instructional design model that is composed of four elements (see figure 15 below): Think-Create-Assess-Share. It aims to provide a simple yet effective structure both for student-centered, and more concretely PBL design, as well as to facilitate the inclusion of the design principles for PBL explained in section 2.2.2. of this thesis.

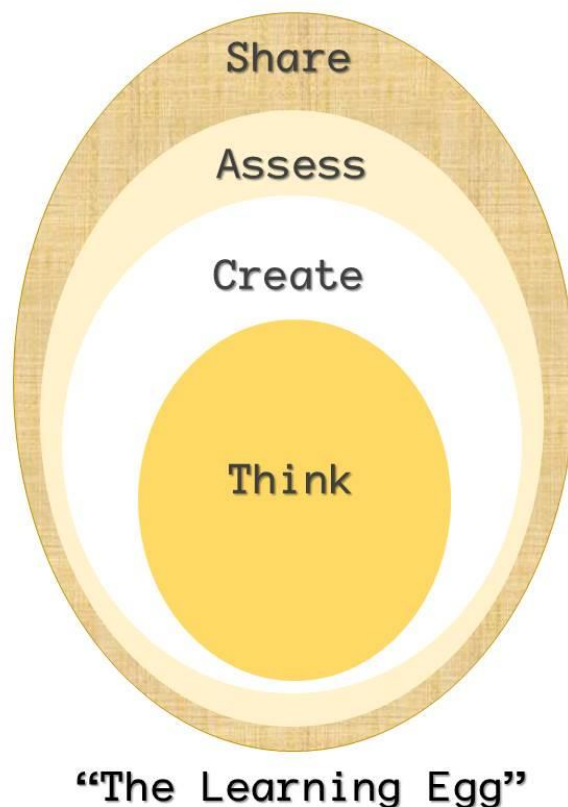


Figure 15: The 'Learning Egg' model.

In the 'Learning Egg' model, the four components are embedded in each other, so they all interrelate and can occur at different times and simultaneously. They belong to a healthy ecosystem that fosters student learning, allowing some flexibility in the sequence, occurrence, and form of these components is desirable to adapt to different students, learning communities, and individual learning styles and pace.

There is an intrinsic connection between the 'Learning Egg', PBL, the methodology proposed as motivational in Chapter 2 of this thesis, and their benefits on SLA. As explained in section 2.2.5, PBL impacts positively on SLA and motivation. Stoller (2006) summarizes the 8 most prominent benefits evidenced by literature for learners of an L2, and the following table represents an overview of the interrelation of the 'Learning Egg', PBL, and the main benefits for L2 reported by Stoller (2006). In the following section, the researcher will elaborate on how the 'Learning Egg', PBL and SLA materialize into the instructional design of the learning experience.

Table 30*The interaction among Learning Egg, PBL, and SLA.*

Learning Egg	PBL	SLA
Think	<ul style="list-style-type: none"> -Launch of project/Entry event -Driving question -Structured collaboration -Scaffolding -Content and skills -Authenticity 	<ul style="list-style-type: none"> -The authenticity of the experience of language -Enhanced language skills -Improved confidence
Create	<ul style="list-style-type: none"> -Student Voice -Structured collaboration -Scaffolding -Content and skills -Authenticity 	<ul style="list-style-type: none"> -The authenticity of the experience of language -Enhanced language skills -Improved confidence
Assess	<ul style="list-style-type: none"> -Reflection -Feedback -Multi-faceted assessment 	<ul style="list-style-type: none"> -Improved confidence -Metacognition on how students learn an L2 better.
Share	<ul style="list-style-type: none"> -Learning artifacts -Authenticity 	<ul style="list-style-type: none"> - The authenticity of the experience of language -Improved confidence

5.2.1. Think

This element is the spark of the project, the kernel from which all will emerge later on. A driving question is presented, related to an authentic issue, usually a real problem to be solved.

1. Launching the project: Teachers introduce each project with an entry event in which students are given some information about a real problem in society to be solved and then the teacher poses the driving question or they decide it together to guide the whole project. This stage serves several purposes: to hook students and get them engaged in the content, to provide a model of what the teachers expect, and to introduce the concepts

and skills they need to know to be able to complete the project. During this session, there is typically a brainstorming of ideas on how to answer the question and need-to-knows to be learnt. Teams are organized and the assessment rubric is presented so as students know what the criteria/standards to be assessed are and also to guide them in the completion of the project.

2. Research: Teachers can facilitate workshops to go over concepts and build up skills depending on students' needs and also have students run workshops for each other to reinforce their learning and build collaboration. Workshops could be websites, videos, articles, the help of external mentors (peers, people from the community, the teacher), or virtually anything that helps students achieve their learning goals. Students can also research individually to find the resources that fit their needs.

3. Plan: Teachers and students together establish a plan on what tasks need to be done, who will be in charge of doing them, and when they need to be done. A class project calendar should be designed as well as a team calendar with the specific tasks every team member has to perform.

4. L2 Focus:

From the start of the project, explicit vocabulary and grammar need to be taught as reinforcement to the one they already know to enable students to perform the project tasks in an appropriate way conducive to meeting the minimum assessment requirements and also to prevent anxiety and frustration when students' language levels are lower than the average of the class. In the entry event, when outlining the need-to-knows, one can be the vocabulary and grammar they already know related to the topic and what they think they need to learn during the project to construct new knowledge stemming from previous knowledge.

Additionally, during the project, there will be sessions to focus on specific training of vocabulary and grammar structures related to the topic, as well as sessions focussing on specific language skills like presentation skills or writing techniques if the final product requires to write in a particular genre they need to learn and practice.

As the new vocabulary that they are going to encounter in their individual and team quests is impossible to account fully by the teacher, because the input they are accessing would be mainly freely chosen by them and not provided by the teacher (though some can be); the researcher suggests that an initial essential vocabulary list is provided as the minimum new vocabulary to be learnt and showcased in their product. This list can be used for vocabulary review in class regularly and as a guideline for teachers to account for the type and quantity of vocabulary, they have been exposed to.

5.2.2. Create

Once the project is launched, it is up to the students to work together and figure out what their final product is going to be.

1. Monitoring and Scaffolding: Students and teachers work together to implement the plan collaboratively agreed in the former phase. Teachers monitor students' progress regularly towards completing the milestones decided in the project plan in several ways. They can have informal conversations in class, individual, or group meetings, they can implement supervision documents like contracts, revise the task completion documents and engage in discussions on how to reschedule or arrange means to acquire the knowledge or skills they need to complete the project. Depending on what they find they may decide to do more scaffolding activities like giving them different resources addressing other skills' levels. For scaffolding, teachers identify students' individual needs and provide opportunities for the acquisition of the knowledge and skills necessary to complete the project satisfactorily. Teachers can act as a mentor themselves with individual or group sessions with students, provide learning materials that cater for different learning styles and levels, as well as propose peer mentoring, class discussion on arising issues to solve them among some of the possible techniques (see section 2.2.2., subsection 5 for reference).

2. Structured student collaboration: This is the stage in which collaboration among students is the most intense; they need to work together towards the same goal, answering the driving question by creating a learning artifact. They have formerly created an achievable plan to do so, they have divided the tasks taking into account either different roles or skills and talents of the team members established a timeline, and

decided on norms that would facilitate an optimal collaboration for the project. For a more in-depth look at collaborative learning (CL) see section 2.2.2., subsection 4.

3. Student Voice and product creation: Students produce something that answers the driving question and can help target users in different ways. They can be given a concrete product, or ideally, they would be able to choose the topic to work on or/and the type of product they believe is necessary to answer the driving question in the most effective way, and also they make decisions on how they are going to structure their work.

4. L2 Focus: During the creation of the learning artifact, students use the vocabulary and grammar structures learnt explicitly or implicitly in the course of the project learning activities. The teacher can include a minimum set of grammar structures and vocabulary in the product guidelines so as students endeavor to do so and hence practice at least those minimum language standards.

5.2.3. Assess

Throughout the learning process of the project, teachers and students give and receive feedback and make adjustments accordingly.

1. Rubric: The rubric is designed by teachers to define all the desired learning outcomes for a project, including which learning standards students are expected to master and how performance will be measured for each outcome. The rubric sets the standard for the project and is presented at the start to students, who have it as a guideline for what they are expected to achieve.

2. Formative assessments: Students would need to check their progress in content knowledge and skills throughout the project by doing formative assessments to guide them in the areas to reinforce and also provide confidence in their abilities. Some types of formative assessment can be vocabulary and grammar self-corrected texts,

3. Reflection:

Students should reflect on their learning during the whole process and be aware of their progress and metacognitive skills, to make their learning visible and hence understand how they learn best, not only to improve their learning strategies but to identify gaps in their knowledge and skills before the final assessment, to be able to get support. One way of doing it is by keeping self-reflection journals that can be shared with others or not (see section 2.2.2., point 6 for reference).

4. Feedback: Both students and teachers participate in a peer review protocol called Critical Friends. Before teachers launch a project, they often have a session with colleagues for feedback. Similarly, before their final presentations, students often run Critical Friends one or more times, to give each other feedback in the form of 'I like...', 'I wonder...' and 'I suggest' statements, constructive language structures given to them as a guide, as the first step for improvement.

5. Summative Assessment: Throughout the project, there can be opportunities to set formative and formative small tasks that anticipate the culmination of the project, in which a final learning artifact is presented as a result of the learning process. At the end of the project, students will showcase their 'learning journey' in an oral presentation, together with their final product.

The oral language and presentation skills will be assessed, together with the product.

6. L2 Focus: Specific linguistic goals can be introduced in all the elements of assessment, feedback, and reflecting as guiding instructions to foster L2 acquisition. There can be guidelines in the learning journals, for instance, to include specific grammar structures learnt previously or to include the new vocabulary learnt during that week. Formative assessments will aim at improving and reinforcing L2 structures and vocabulary, and there will be specific items in the rubric and product guidelines that are purely linguistic goals.

5.2.4. Share

1. Student Conferences: Once the product is finished it will be shared with the class and guests from outside the class as an authentic audience.

2. Public sharing: The product will be shared on the Net in any form that is agreed by the team and teacher. It can be in the form of a blog, website, online magazine, Wikipedia article, multimedia map, social media entry, and many more possibilities.

The optimal integration of all the components can potentially lead to the “hatching” of a high-quality learning artifact and the acquisition of varied cross-curricular content and skills.

Finally, technology was included in the design of both projects since literature suggests it is a potent motivational factor alone and in combination with PBL (Abbass, 2008; Miller, Hafner, Ng, & Fun, 2012; Simpson, 2011; Wong et al., 2006; Yoshida, 2014; Zhou, 2012) and this was also evidenced in the responses of the exploratory study (see chapter 3 for reference), where the teachers with experience in PBL reported in their vast majority (14 out of 17) that when technology was used together with PBL it fostered their students’ motivation.

The following section goes into more depth into the materialization of this instructional model into two concrete projects.

5.3. Sequence of the projects

This section will discuss how the ‘Learning Egg’ model was used to design two projects to be implemented during two semesters with students of Spanish as an L2 in Australia.

5.3.1. Project One

In the first project, it was decided to devote the first session of 100 minutes to work on the project since the core of the project needed more time for its development as well as the teamwork. The profile of the students, many having part-time jobs apart from their

university studies, indicated that they did not have much time outside the class to work on the project; hence this time in class was precious in terms of making decisions and integrating their findings, documents, and opinions. The second session of 50 minutes was devoted to learning the necessary language skills and vocabulary in Spanish to be able to complete the project, I named these sessions ‘Language Bootcamp’, being an intensive class session focused on developing the students’ core L2 knowledge and communicative skills that they would need to be able to complete the project. A calendar was designed so as students could have a clear idea of the learning events and be able to plan accordingly (see table 31 for reference).

Table 31

Sample calendar from Project one in the case study.

WEEK	DAY 1 (100 mins)	DAY 2 (50 mins)
1	<p>Mo 2nd May / Tu 3rd May</p> <p>Entry Event: and Driving Question for Inquiry and create NTK list. Review directions for individual and culminating group projects, rubrics, and final student conferences.</p> <p>Workshop 1: Analyzing Artifacts: samples of guides in different formats.</p> <p>Team making</p> <p>Workshop 2: Team roles. Provide an information sheet about team roles and the contract (FLO and printouts). Set up Slack accounts. Create a work plan for the team project. Create a team and individual to-do list. To be finalized and signed in the next teamwork session.</p>	<p>Wed 4th May</p> <p>Language Bootcamp 1 Content: Subjuntivo III (Sustantivas):Reacción</p>
2	<p>Mo 9th May / Tu 10th May</p> <p>Contract: Students hand in contract filled in and signed: 2 copies, one copy for the teacher, another for them.</p>	<p>Wed 11th May</p> <p>Language Bootcamp 2 Content: Pronombres (OD / OI) e Imperativo</p>

	<p>Workshop 3: Tech workshop: students learn in teams about how to create their learning artifacts: List of guided resources, free search, teacher or/and peers tutorials.</p> <p>Individual daily learning log: Slack forum.</p>	
3	<p>Mo 16th May / Tu 17th May</p> <p>Team Work</p> <p>Critical Friends: peer review form.</p> <p>Individual daily learning log: Slack forum.</p>	<p>Wed 18th May</p> <p>Language Bootcamp 3</p> <p>Content: Subjuntivo III. (Sustantivas): Negación</p>
4	<p>Mo 23rd May / Tu 24th May</p> <p>Day 1: Student Conferences</p>	.

The vocabulary and grammar structures taken from the institution’s curriculum were aligned with the guidelines for the products or learning artifacts in a meaningful way, and consequently, they were reflected in the language assessment criteria to be included in the project rubric (see point 3 of this section for reference).

Since the PBL methodology was new to both participant teachers and students, the researcher designed teacher and student guides to foster the understanding of PBL and its features, a glossary of specific terms, the sequence of learning activities, and the types of formative and summative assessment in the project, including the project calendar and the rubric.

My Project Kit



Guide for Students

Figure 16: Cover for the guide for students on the first PBL project.

Index

A. What is Project Based Learning?	2
B. Some Hints	2
C. You are Going to Microblog!	4
D. Optional Online Activities	6
E. Bring Your Own Device	6
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Figure 17: Index of contents of Guide for students of first PBL Project

This decision was also a response to the needs expressed by around half (8 out of 17) of the educators with previous experience in PBL from the exploratory study (see chapter 3 for reference). They report that one of the challenges of implementing PBL in their classes is the lack of training in this approach. Furthermore, the researcher organized two

training sessions with the teachers to be able to facilitate an introduction to PBL and answer their questions.

The teachers' guide had a project overview, which also indicated potential needs and scaffolding that could be provided. As Ward and Lee (2002) claim, not having prepared materials ready for the implementation phase of the project can create significant obstacles. Hence, the creation of a project overview was considered a preeminent tool for teachers to be able to easily connect the project goals, national standards, students' potential needs, timeline, and assessment (see table 29 for reference). Since projects are complex and embed many different components, it can be instrumental to have a summary to be able to see them in context.

Table 32

Overview of Project 1 from the Teacher's Guide.

Project 1 Spanish		
	Content Standards	<ul style="list-style-type: none"> -Media vocabulary: el cine y la televisión, la gente en los medios, los medios, la prensa, las redes sociales. -Commands: Imperative verb tense -Subjunctive in noun clauses: Requests, Advice, Wishes, Reactions, Doubts, Judgements, Negating other views -Object pronouns -Possessive adjectives and pronouns -Demonstrative adjectives and pronouns
	Driving Question	How do we create an easy to access guide for Spanish speaking international students arriving to Adelaide?
	Products and artifacts	<ul style="list-style-type: none"> Teams (3 to 4) -Travel leaflet in ISUU or Joomag -Guide Podcast -Story Map Guide: Adelaide and Flinders -Video guide in YouTube

		-Other proposed by students
	Audience	Spanish speaking international students in Adelaide
	Project Calendar	General project calendar
	Academic scaffolding	-Workshops will be given on need-to-knows by teachers, peers or experts, also using other resources like web articles, videos, podcasts. -Group academic discussions (teacher facilitated) concerning research and content. -Graphic organizers and research tools advice.
	Track of progress	-Group contract -Daily journals in Slack forum to reflect about where they are and where they should be in the project. -Group calendar with team events. -Teacher regularly checks on what tasks are ticked in the task management software and produce new ones if necessary.
	Differentiated instruction	-Check two to three times per week with each targeted student (students who may experiment difficulty) for level of understanding/comprehension. -Have multi-level resources specialized in task management and research skills.
	Reflection	-Class discussion -Individual learning journals -Formative critical friends feedback on presentation and product.
	Assessment	-Individual learning journals, -Student conference -Peer review on conferences- by student individual comments.

There was also a section focusing on scaffolding since this is a vital feature for any student-centred learning activity inspired by social constructivism. Scaffolding is used to cater to different student needs and levels of competence. In the teacher guide for the first project, the researcher thought of the potential challenges and differences in content

and skill knowledge of the students and designed a guide on how to scaffold that learning, though the researcher was aware that new needs could arise during the implementation process, she thought it was relevant to have these tools and resources in place in the planning stage (see the monitoring and scaffolding sections of project one, 4.3.1., and two, 4.3.2., below for reference).

Furthermore, the space allocated for the classes was a concern since it was a very narrow classroom with the tables distributed in an oblong shape, with no room to move them around. This distribution can facilitate a whole group forum and discussion but not necessarily a comfortable interaction among 3 to 4 people for teamwork activities. The lack of appropriate space is a problem reported in the exploratory study (see chapter 3 for reference) where almost half of the participants (7 out of 17) of the group of educators with experience using PBL instruction, report on the challenge of the spaces they have available as not always appropriate for teamwork. For this reason, the researcher proposed to the teachers and students to use a different space at the University, an open hub that is designed for students to do group study or work sessions. Eventually, out of two groups, only one of them agreed to go to the hub since the first group said it would be unfair to use that space regularly as it was destined for students to study or meet.

In the following paragraphs, the sequence and type of activities developed according to the instructional model designed, as explained in section 4.2. are briefly described.

1. Think:

1.1. Launching the project:

To introduce the project, there is the first session, a so-called entry event, designed to hook and engage students in the content, to facilitate a model of what is expected of them, 'show and tell' and to introduce essential vocabulary related to the targeted content to foster the connection with pre-existing knowledge. In the case of L2 teaching/learning, activating pre-existing vocabulary is critical to help students be able to understand input and produce linguistic output related to the project's topic.

The teacher leads a discussion on an existing problem to be solved, in this case, is the real lack of appropriate online resources for new foreign incoming students arriving at Adelaide. International students cannot find much information about how to settle in, driving rules, things to do adequate to their ages and budget, and other related areas relevant to them. The teacher presented this issue by showing the few, and incomplete online guides of Adelaide available online and also invited three guest speakers from the Hispanic community of Adelaide who talked about what challenges they faced when they arrived in Adelaide and what knowledge would have helped them that they did not have back then. The reason to invite guest speakers was to make students make the connection between real life and the linguistic knowledge used in this context, as well as to engage them and trigger their feelings of empathy, in a face-to-face situation with people involved in this problem in their community, increasing their will to solve the issue in question.

The driving question was: How do we create an easy to access guide for Spanish-speaking international students arriving in Adelaide?

Consequently, the participant students aim to provide a feasible solution to this issue by designing an online guide for them in different formats of their choice. Additionally, the project goals were discussed for a better understanding and the possibility of modifications after their feedback. The online guide was one of the resources provided by the international office of Flinders University so as it could be easily accessible to Spanish speaking incoming international students, which made the project more meaningful for the students.

1.2. Research:

Students research about the needs of young students in Adelaide by looking at their own experiences and of people they know, they also look at models of online guides in different formats (blogs, travel forums, social media on the topic, etc...) to decide on the topics they are going to elaborate on, such as driving rules, public transportation, best places to eat or have a drink, festivals, beaches among others, as well as the format they are interested in producing.

1.3. Plan:

In Study One, a high percentage of educators with experience implementing PBL (10 out of 17) reported that students find it challenging to choose tasks and team roles. For that reason, after students choose the key topics and format of the online guides they want to develop, scaffolding was facilitated to set up an achievable plan considering the project calendar's timeline. They assign tasks to team members and decide on due dates for goals and subgoals that are reflected in a contract signed by them. The contract establishes a commitment and a set of guidelines on what to do if a team member fails to comply with their tasks. The use of the contract serves two purposes; firstly, it establishes the willingness of the team members to commit to a task, and secondly a policy of support and problem-solving actions, giving them the chance to achieve their task even if they are delayed before deciding on expelling that member so as they have to do the whole project of 3 to 4 people on their own.

1.4. L2 Focus:

Students have 2 hours of formal language training during the week that are called "Language Bootcamps" in which grammar is taught with a focus on form and later on these structures are reinforced in the criteria set for the product guidelines, where the use of the subjunctive in Spanish is requested, modelled and promoted. Hence, there is a clear relationship between the language functional and formal goals and the development of the project. One of the uses of the subjunctive in Spanish is to give recommendations, hence the online guide for international students is asked to be written using the subjunctive to give recommendations to them, authentically using the target language.

2. Create:

2.1. Monitoring and scaffolding:

In the planning stage of project one, the researcher designed a guide for teachers in which it was included the potential scaffolding needs the researcher could foresee that teachers would need to have in place for students once the project had begun. The account for need-to-knows and scaffolding materials was not meant to be comprehensive but rather an initial starting point for the future students' needs that would spontaneously arise as the project progressed (see table 33 for reference).

Table 33

Scaffolding needs and materials included in the teacher's guide of Project one.

TECH NEED-TO-KNOWS	SCAFFOLDING MATERIALS
Communicate and exchange documents with Slack	Teacher tutorial, video tutorial, peers tutorial
Make a team and individual to-do list in a Spreadsheet	Teacher tutorial, video tutorial, peers tutorial
Tag an online map with Story Map Journal (just 1 team)	Video tutorials, websites, teacher tutorial
Edit a video and upload it to YouTube (just one team)	Video tutorials, websites, peers tutorial
SPANISH LANGUAGE NEED-TO-KNOWS	SCAFFOLDING MATERIALS
<p>-Media vocabulary: el cine y la televisión, la gente en los medios, los medios, la prensa, las redes sociales.</p> <p>-Commands: Imperative verb tense</p> <p>-Subjunctive in noun clauses: Requests, Advice, Wishes, Reactions, Doubts, Judgements, Negating other views</p> <p>-Object pronouns</p> <p>-Possessive adjectives and pronouns</p> <p>-Demonstrative adjectives and pronouns</p>	<p>-Language Bootcamps: 3 hours</p> <p>-Semi-guided practice: microblogging and conference. Students will receive recommendations on the language structures and vocabulary learnt in their language productions.</p> <p>-Quizlet for key terms, new vocabulary: there will be one list for the class and they will collaboratively add terms every week. It will also be useful for the teacher to know what new vocabulary they are learning.</p>
OTHER NEED-TO-KNOWS	SCAFFOLDING MATERIALS
-Building background knowledge	Share Entry Event and Driving Question for Inquiry and create NTK list. Review directions for individual and group culminating projects, and rubrics

	and details about the exhibition and audience
-Analyzing artifacts: about another city/university guides. Learn the features of the genre (Tourist guide) to be able to produce one.	-Sample online guides in different formats: videos, websites, podcasts, articles... -Online directories where they can find more samples.
-Work collaboratively, organize work	-Slack app organization help. Google docs tutorials, daily microblogging in Slack as a log of what they have done

Also, some so-called “workshops” documents were prepared to cater to learning needs students may have during the project. As Cope and Kalantzis (2013, in Beckett and Slater, 2020.) note, nowadays learners need to be equipped for a fast-changing world with digital literacies. These workshops propose sources to do video tutorials or internet resources, in general, where to learn a basic skill, usually related to using digital tools they may choose to use for the project (see figure 18 below).

WORKSHOP 4

¿Cómo hacemos la guía online??

Video Guía:

<https://www.youtube.com/watch?v=dFVl69dDjzc>

<https://www.youtube.com/watch?v=a97VW9RJ6WA>

<https://www.youtube.com/watch?v=4ZRcQcCbe84>

<https://www.youtube.com/watch?v=48i5x1ve4b0>

Herramientas:

<https://www.youtube.com/>

¿Cómo?:

-Subir un video a YouTube:

<https://support.google.com/youtube/answer/57407?hl=es>

<https://www.youtube.com/watch?v=6LzG9YMqLiA>

<https://www.youtube.com/watch?v=rrhoTt98ExQ>

<https://www.youtube.com/watch?v=BIXP9CKRlqI>

-Editar videos:

<https://www.youtube.com/watch?v=6vWNleGORsk>

<http://www.kizoa.es/>

<https://www.youtube.com/watch?v=Kzb2YSaQYJ4>

Podcast:

<https://www.podomatic.com/episodes/353>

<https://www.podomatic.com/episodes/880454>

Tools:

www.podomatic.com

<http://www.educatorstechnology.com/2012/12/teachers-guide-on-use-of-podcasting-in.html>

¿Cómo?:

<http://www.radioenlace.org/podomatic/>

<http://es.slideshare.net/fabiolasusefh/tutorial-podomatic-27315457>

https://www.youtube.com/watch?v=K-mZ1P9b9_I

Mapa Multimedia:

<https://s3.amazonaws.com/uploads.knightlab.com/storvmapis/b98c94fc38f76d4e739cb91c0e6a8748/adeaide/index.html>

<https://storvmap.knightlab.com/examples/arvas-journey/>

Tools:

<https://storvmap.knightlab.com/>

¿Cómo?:

<http://www.viajoporeuropa.com/2015/06/arma-tu-mapa-de-viaje-con-storv-map-is.html>

<https://www.youtube.com/watch?v=T-C64J07IMg>

Figure 18: Curated resources on digital tools and tutorials on how to use them for project one.

2.2. Structured student collaboration: Since the collaboration skill among students had been identified by both literature and by more than half of the participant teachers with previous experience in PBL of the exploratory study (see chapter 3 for reference) as one of the main challenges as well as potentially beneficial practices if done appropriately, two ‘workshops’ on team collaboration and understanding and assigning team roles were designed and implemented at the beginning of the project. Furthermore, the researcher implemented the use of a team collaboration app, ‘Slack,’ as an integral part of the project tools. The teams were created in the app, and they could communicate within the team, with the teachers and other students, apart from sharing documents.

2.3. Student voice and product creation: Initially, students were presented with a ‘workshop’ with a wide variety of online formats for travel guides, namely podcasts, video guides, online magazines, blogs, multimedia maps, and Facebook pages among others. They were encouraged to research other formats and models of online travel guides as well that they would like to produce, and the teacher showcased some of them in the class as an introduction. After students did the research, they had a better understanding of the nature and types of online travel guides and could make an informed decision as a team on which one they wanted to elaborate.

WORKSHOP 1

“GUIDES ONLINE”

Mira estos tipos diferentes de guías de viajes online para tener una idea de qué tipo te gustaría hacer para tu proyecto. Responde a las preguntas abajo y mándaselo a tu profesora a través de FLO.

Video Guía:

<https://www.youtube.com/watch?v=gFV169dDjzc>

<https://www.youtube.com/watch?v=a97VW9FJ6WA>

<https://www.youtube.com/watch?v=4ZRcnQCbe84>

<https://www.youtube.com/watch?v=48i5x1ve4b0>

Tools:

<https://www.youtube.com/>

Podcast:

<https://www.podomatic.com/episodes/253>

<https://www.podomatic.com/episodes/880454>

Tools:

<http://www.educatorstechnology.com/2012/12/teachers-guide-on-use-of-podcasting-in.html>

Mapa Multimedia:

<https://s3.amazonaws.com/uploads.knightlab.com/storvmaps/b98c94fc38f76d4a739cb91c0e6a8748/adelaide/index.html>

<https://storvmap.knightlab.com/examples/arvas-journey/>

Tools:

<https://storvmap.knightlab.com/>

Revista de Viajes Online:

https://issuu.com/travelsens/docs/oceania_v16

<https://issuu.com/asiermarquescliveti/docs/trotamundos>

Tools:

<https://issuu.com/>

<https://www.joomaa.com/>

Blog de viajes:

<http://www.losviajeros.com/Blogs.php?e=8720>

<http://viajesconmochila.blogspot.com.au/2013/04/adelaide-datos-utiles.html>

Tools:

<http://www.losviajeros.com/>

<https://es.wordpress.org/>

<http://thenextweb.com/businessapps/2015/05/11/the-18-best-blogging-and-publishing-platforms-on-the-internet-today/#aref>

Other

<https://www.facebook.com/espanolesen.adelaide>

<http://www.theguardian.com/travel/2009/sep/26/websites-blogs-city-breaks>

Preguntas:

1. ¿Qué formato de guía online te gusta más? ¿Por qué? What format of online guide do you prefer? Why?

2. ¿Hay otros formatos de guía de viajes en la Red que no se mencionan aquí? Are there other formats of travel guides in the Net that are not mentioned here?

Figure 19: Curated resources on travel guides for inspiration on the end product of project one.

2.4. L2 focus: The project was done in two sessions each week, as mandated by the institution schedule—the first being of two consecutive hours and the second of one hour. The first session, as mentioned before, was devoted to teamwork and the facilitation of the necessary workshops, whereas the second session of one hour was used for explicit grammar and vocabulary teaching using different methods. There were initial grammar activities to practice and repeat the structures, explanations from the teacher and brief readings, role plays, and oral communicative activities to reinforce the acquisition of these grammar structures and vocabulary.

3. Assess:

3.1. Rubric: The researcher designed a new assessment rubric to guide students on what they were expected to produce, as well as what type of language output they had to showcase in the product and during the oral presentation. See table 31 below for reference.

Table 34

Assessment rubric from project 1

	MASTER	COMPETENT	NOT YET COMPLETED
Language	Spanish linguistic competence		
Comprehensibility (Pronunciation and pacing)	<ul style="list-style-type: none"> Clarity of expression. Occasional errors do not impede comprehensibility. 	<ul style="list-style-type: none"> Generally understandable, with some errors that may impede comprehensibility. 	<ul style="list-style-type: none"> Frequent or significant errors that impede comprehensibility.
Vocabulary	<ul style="list-style-type: none"> Varied and appropriate according to context. Idiomatic use. 	<ul style="list-style-type: none"> Generally varied and appropriate according to context. Some idiomatic use. 	<ul style="list-style-type: none"> Limited in variety and appropriateness according to context. No idiomatic use.
Grammar, Syntax	<ul style="list-style-type: none"> Varied use of subjunctive and imperative mood in context. Accuracy and variety of grammar structures. 	<ul style="list-style-type: none"> Some use of subjunctive and imperative mood in context. Competence in the use of a variety of grammar structures with few errors. 	<ul style="list-style-type: none"> Little use or no use of subjunctive and imperative mood in context. Low grammatical competence.
Point scale	75.....85	50.....74	0.....49
Content	Presentation competence		
	<ul style="list-style-type: none"> Clear structure. Provides in depth content. Fully supports and justifies information. 	<ul style="list-style-type: none"> Generally clear structure. Provides detailed content. Generally supports and justifies information. Facilitates audience's understanding 	<ul style="list-style-type: none"> Not structured or poorly structured Content provided is not detailed or is not suitable to context. Limited or no supported justification of information.

	<ul style="list-style-type: none"> Facilitates audience's understanding and engages audience's appreciation of the topic. 			
Interaction	<ul style="list-style-type: none"> Flexibility in answering questions in relation to content presented to new contexts or application to other contexts. 	<ul style="list-style-type: none"> Answers questions in relation to content presented. 	<ul style="list-style-type: none"> Limited ability to answer questions or no answers are provided in relation to content presented. 	
Point scale	75.....85	50.....74	0.....49	
Product	-Answers the driving question -Meets the needs of the end-users. -Addresses the quality standards sampled in the models provided in workshop 1. -Has attractive graphics, design and layout. -Can be easily accessed online. - Bonus points: 015 points			
TOTAL	____/100			

The rubric assessed three different interacting elements, linguistic competence in the Spanish language, presentation competence, and the final product they produced. Both the linguistic and the presentation competence together were an 85% of the final grade while the product was 15% of the final grade, and it was called “bonus points”. The rationale behind this division was to minimize the negative impact on students’ anxiety levels when facing an entirely new methodology and task, by using language assessment criteria that they had used before in their Spanish course and hence were able to understand them and also be more aware of their level of competence.

The researcher divided the rubric into three different levels: Master, competent, and not yet completed. The reason behind this simple threefold classification was to give students a clearer picture of their level of skills’ competence rather than only a numerical or alphabetic classification subdivided into many categories and associated with competition rather than with skills’ acquisition and the concept of learning path of a process as ongoing and not limited by a single project’s timeframe. That is why a student with not enough skills for this project’s completion would obtain a ‘not yet completed’ grade, which means it can be improved and completed in a later stage, as opposed to a failure.

3.2. Formative assessments:

Students had a continuous formative assessment during the whole project in which the educator observed and facilitated students’ learning by answering their questions and revising in every class the work was completed and their abilities to navigate task management (how a team distributes tasks and if they meet deadlines), to be able to tackle the learning challenges before the final presentation.

3.3. Reflection:

As a compulsory element of the project, students wrote learning journals weekly, defined as microblogging, describing their learning experiences and challenges using the app Slack. These learning journals were part of a forum where students can respond to each other, and the teacher can both identify weak/strength points in the overall development of the project or/and individual challenges that could be addressed during the project rather than at the end when there is no room for improvement.

The output required was the following:

- 250 words a week (their own posts)
- Two meaningful comments to other posts (of a minimum length of one line) a week
- Use of grammar structures and vocabulary learnt in context.

The reason to request a specific minimum of words was to regulate the student's production to avoid excessively short posts and giving a model for what was expected. Additionally, to encourage their practice of a more considerable amount of L2, even if their level of language proficiency and former output in class is considered not a challenge at all. Additionally, to motivate interaction in the Slack forum and not just monologues, one of the requirements was to answer other students' posts. Finally, enhancing the acquisition of grammar and vocabulary was emphasized by making them think about how to use them in the context of the microblogging practice.

This practice was done only during the first project because the researcher and participant teachers reported that students tended to just describe the learning activities they had carried out, rather than reflecting on the learning value their engagement could have provided. The microblog was written in Spanish, the students' L2, and that factor could have possibly influenced the relative lack of depth and reflection that could be observed from their productions.

Additionally, the researcher observed as commented by students in class that they were feeling anxious. This anxiety was attributed by the students to the learning curve involved in being part of a new methodology, using new digital tools, and working in teams as opposed to individually. The researcher concluded that this and the other new items should have been introduced more progressively and students would have needed more guidance, mentorship, and time. For all these reasons, the data collected from the microblogs was not considered relevant to be included in this thesis, as they were exclusively mere descriptions without the depth of personal reflection.

As an example, one of the students' posts is illustrated below. In this post, the student describes how they worked with their team and what tasks they did in detail but without the depth of reflection.

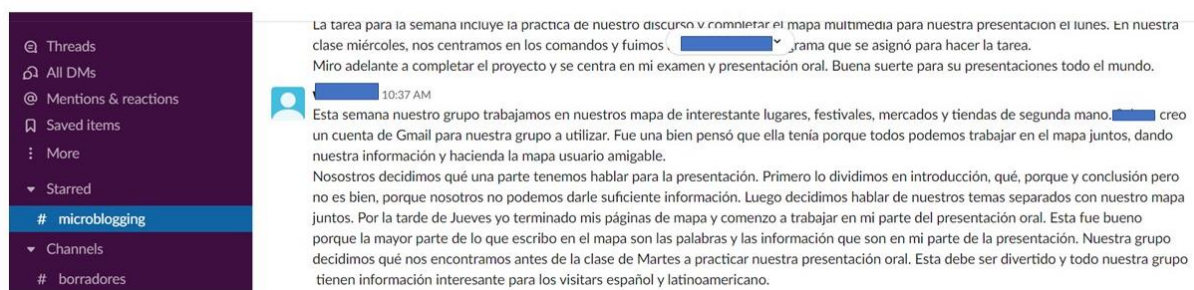


Figure 20: Screenshot from the microblogging channel in the app Slack for project one in the first semester.

However, one very positive aspect of using the microblogs was to introduce students to regular written production in Spanish, even if brief, just a maximum of 250 words, it was effective in getting them to produce meaningful output every week.

3.4. Feedback:

1. Critical Friends protocol: Student peers from different teams commented on their presentations in a formative way one week before they present. This honest, two-way feedback and ongoing adjustments help projects to continually improve. Both students and teachers participate in a peer review protocol called Critical Friends. Before teachers launch a project, they often have a session with colleagues for feedback, especially on the academic rigor of the project. Similarly, before their final presentations, students often run Critical Friends to give each other feedback in the form of "I like..." and "I wonder..." statements and suggest next steps for improvement.

2. Presentation peer review form: Students filled out a form during the oral presentation of their peers, and they will get it later on with all their constructive feedback so as students can reflect and improve other projects in the future.

3. Teacher's ongoing feedback: Teachers will spontaneously give constructive feedback, especially positive feedback, to students when they ask for guidance or when teachers identify a challenge or need for improvement in teams or individuals.

3.5. Summative Assessment:

The product or learning artifact was assessed at the end of the project. The assessment criteria considered were how it answers the driving question if it meets the needs of the end-users if it addresses the quality standards sampled in the models provided in the workshop showcased at the beginning of the project showing a wide variety of appropriate models for an online guide if it has attractive graphics, design, and layout and finally if it can be accessed online.

3.6. L2 Focus: The use of language was assessed in a summative way, especially in the oral presentation, seen together with the product, as a result of a learning process where they have had formative opportunities to prepare. The three main language areas assessed were: 1. Comprehensibility (pronunciation and pacing), 2. Vocabulary and 3. Grammar and syntax.

The intention of focussing on these three areas rather than in the writing or reading skills was to promote oral fluency in students who show in general lack of confidence and ability in this area, as well as to promote the maximum exposure to the naturally contextualized use of grammar structures, to help a student to both internalize them and make relevant connections between theory and practice.

4. Share:

4.1. Student Conferences: Teams of students were allocated 15 minutes to present their product orally and explain how it answers the driving question. They showcase the online product on the screen while an audience of their student peers and potentially other guests attend their conference, provide written feedback, and also make questions in the end for further clarification or suggestions.

4.2. Public sharing:

Students could choose among some proposed formats for an online guide and also suggest other formats that the teacher will revise previous approval. Once they had produced their online guide, they made it publicly accessible so as it contributes to

knowledge and helps future incoming Spanish-speaking international students in Adelaide.

5.3.2. Project Two

After the implementation and feedback collected from student and teacher participants, the researcher designed project two making the necessary changes to cater to the new needs identified. This approach is part of the design cycle process in which project one was a prototype with a hypothesis to be tested and analysis of preliminary results as an indicator for future improvement.

There was feedback from student and teacher participants in Project one who commented on some central areas that needed improvement:

1. Students asked for more integration of explicit grammar explanations in every session. In project one, there was a separate one-hour session for L2 instruction and a two-hour session for project work. Consequently, the researcher decided to change the structure of the language classes by including a focus on form language instruction components in both the one-hour and the two hours sessions.

Some of the comments that express this sentiment in the open answers of Questionnaire 2 are:

“I really like the video tutorials on the VHL website that go over grammar rules.”

“Choose a task that a bit harder to work on that will require extensive amount of vocab and grammar.”

“I mostly like only written work like textbooks and grammar activities.”

2. Students and teachers felt the time to complete Project one was not enough, and they felt rushed.

Ona, one of the teacher participants commented in interview one that:

“If we could have more time that would be great. For a project to really work, 3 weeks being the first project was not enough, we would probably need 5 weeks. I am not really sure, I can't say.”

The same teacher also commented in interview one that the time constraints were more concerning to her because she did not know if students learnt enough grammar during the project:

“My issue with time and making sure that specially the grammar side of the topic is introduced and practiced and revised, I felt limited because I had less time to do that.”

In Project One, the duration was set to three weeks. In Project two the researcher could expand it to six weeks, though three were dedicated to PBL instruction and the other three were lecturing where they had more time to complete their projects at home rather than in class. The researcher was constrained by the timeline and requirements of the overall curriculum of the institution that was not structured into the PBL methodology.

3. Some students wanted to see a clearer reflection of individual accountability in the assessment of the project.

In Project two there were multiple summative and formative assessment components happening every week to have a solid structure of subgoals that could lead students through the process of creating their final product and doing their final oral presentation, while also allowing more individual accountability and learning moments, combine with cooperative learning (see the Assess section below for reference).

Due to the topic requirements within the curriculum of the educational institution, the total assessment weight of this project was only 25%, while the rest of the marks were complemented by traditional written and oral tests.

4. Teachers perceived that students showed a lack of confidence and skill when involved in oral production, and a significant number of them were reluctant to engage in conversations in Spanish.

In Project One, the primary oral component was the final presentation and the interaction in class, which was also meant to be the first step into PBL, hence trying to minimize challenges for students being faced with a new methodology. In Project Two, the researcher moved the learning design a step forward into the interaction with individuals outside the class to increase both the authenticity factor, sense of community, meaningfulness and finally, their oral skills set of abilities and strategies.

5. Teachers commented on the lack of direction of many of the learning journals from students.

The learning journals done in the “microblogging” format in the app Slack in Project one was done as a free reflection of the learning and challenges encountered by students every week of the project. In the first interview, teacher participant Cara states that students need “more semi-guided instructions in general and especially in the microblogging”

The results were more in tune with descriptive rather than reflective texts, indicating a lack of skills from students in this area. Hence in Project two, the reflection was done with guiding questions every week, to scaffold the reflection and metacognitive skills of students.

6. Learning space.

In Project one, there were two different classes, and when the change of space was proposed to facilitate teamwork they reacted differently. In the first group, with a very reduced number of students (n=3), they accepted the idea as they reported it as a refreshing change and were able to work efficiently as a team in small group rooms. In the second group, with a more significant number of students (n=15), most of the students agreed but one student refused, and after a whole-class discussion, they decided to stay in the same class. In Project Two, the two classes mixed in one space and it was decided not to propose the change of space because there were no reports from student or teacher participants on the space being inappropriate.

The researcher created another guide for Project Two, to serve as reference and orientation as a response to both teachers and students who reported on the lack of training in PBL as a challenge in the exploratory study (see chapter 3 for reference) to facilitate training and guidance.

A significant modification to the design was to make the project guide solely in the Spanish language since the level of language proficiency of students was considered sufficient, and the challenge of learning a new methodology was lessened by the fact that this was the second time they were doing it in the same year since they did project one just two months before project two.

For this purpose, the researcher designed a guide for the project in two different formats, a Word document they could easily download and print from their LMS Moodle platform and a website to serve both as a point for guidance and reference for the whole project and a place to collate and make accessible their final products, see the link for reference. To see the website designed using this model click here:
<http://carocastro2000.wixsite.com/historiasdevida>

The website's design is inspired in one of WebQuest, where there is a clear structure on what steps to follow, though this one includes the formerly mentioned improvements explained in section 4.2. of this chapter.

Most importantly, this design of online activity usually includes a curated set of resources. The selection of curated resources can be very beneficial for students as a starting point to access high quality and trustworthy resources, to get them started thinking about the issue, and to cater for students whose information literacy skills are not yet developed and need models to understand what a quality resource is, and hence teachers make sure everyone has access to a minimum set of resources.

In the following paragraphs, there is an explanation of the sequence and type of activities developed according to the instructional model designed, as explained in section 4.2. with the changes in the design explained above as a result of a design cycle process.

1. Think:

1.1. Launching of the project:

The first session of the project was used to present the main topic of the project, that is, racism. Racism is a current and controversial issue in Australia, which can also tap into the student's personal beliefs and experiences, as well as raise their awareness of the subjacent reasons that cause racism. The conversations with real native speakers around the world will provide a source of authentic input and their interactions with them fosters authentic output on the students' behalf.

The website is introduced and on the first page, there is a video, a real piece of news from Australia about racism, that instills reflection and discussion. Students discuss the sources of racism in Australia to raise awareness of what intercultural competence is and reflect on the consequences of the lack of understanding of other cultures are. After discussing and recording their proposals on the whiteboard, a connection is made between the lack of understanding of different cultures and possible solutions, which is one of them getting to know people from other cultures. Consequently, the teacher presents the driving question: How can we bring Australians closer to the Hispanic world so that there is mutual understanding?

One approach to achieve this is to talk with people from Spanish-speaking countries so that students can learn about other points of view, customs, and social trends. After being exposed to their personal stories and experiences, students will write a digital story about the topics they have learnt from these other cultures individually, and in teams, they will reflect on the similarities and differences between their own cultures and the Hispanic culture. Finally, these collections of stories will be published online.

The primary learning goals for students during this project are that they will be able to write a digital story in the format that they have chosen, using a clear structure, vocabulary related to the theme, and a style that is interesting for the reader. Students will be able to have a fluent conversation about personal stories and culture in Spanish.

1.2. Research:

Students first research a cultural topic of their choice of a specific country in the Hispanic world by reading articles, blogs, and websites online.

The teacher gives the students a list of four culture topics (together with some online resources) and a fifth that is free for them to propose a new one. They need to choose one topic and one country of the Hispanic world they want to research individually:

1. Customs and traditions: research on how the different festivities and traditions are celebrated in each country.

2. Urban tribes: research on what different styles of life or social trends are in each country, for example, in Australia, there is a lot of talk about hipsters and bogans, is that the same in other Spanish-speaking countries? Other social trends?
3. History and politics of the country: investigate how the history and politics of each country influence people.
4. Social standards: The way people greet, what to do in certain social contexts like giving a present, attending a lunch or dinner, etc...
5. Any other ideas?

Once they have researched these topics, they decide based on their motivation on which one they want to pursue further. This possibility allows students to choose the topics they enjoy the most and also the country of the Hispanic world they are more interested in exploring.

1.3. Plan:

After choosing their culture topic and country, students plan their research revolving around answering the driving question and also paying attention to the sub-goals marked in the calendar where two individual learning artifacts (online chat recordings and a digital story) and one significant collaborative learning artifact (a digital story collection book with a collaborative reflection) are expected to be produced. To help with scaffolding their planning needs, again tapping on the identified issue of the students struggling to choose tasks and roles, as shown in more than half of the responses of educators from the exploratory study (see chapter 3 for reference). There is a calendar, assessment rubric for the different products, and a step-by-step guide in their LMS and on the project's website (see figures 21 and 22 below).



Figure 21: Snapshot of the project's website "Historias de vida", "Assess" tab.



Figure 22: Snapshot of the project's website "Historias de Vida", showing a part of the step-by-step guide from the "Create" tab.

1.4. L2 Focus:

As explained in the introduction section to project 2, the researcher made some changes in the organization of learning activities, especially the one focusing on L2 acquisition. In project One, there were two sessions a week, being the first session of one hour and the second session of two hours; the two hours session was used for teamwork and workshop activities, whereas the one-hour session was used for specific training in grammar and vocabulary. As a response to students' feedback on this structure, who claimed that they would see it more beneficial for their language learning to have integrated L2 explicit training in every session; changes were made in the structure. In the one-hour session, a twenty minutes L2 focus was integrated and in the two hours session, a 50 minutes L2 focus was included. In these L2 training sessions, students read texts, watched videos in Spanish for the inductive acquisition of vocabulary and grammar, did role-plays, and pair work speaking activities for oral output practice.

2. Create:

2.1. Monitoring and scaffolding:

In the planning stage of project two, a set of need-to-knows were identified and scaffolding and monitoring measures were put in place before the implementation phase.

Need-to-know	Scaffolding
Spanish language content: The uses of por vs. para Use of Subjunctive with Adjective clauses Reflexive verbs Culture of the Hispanic World Vocabulary to talk about culture and costumes	Explicit language classes in every class session with communicative language activities.
Use different tech tools for the creation and publication online of a digital story	Online tutorials with links to the following tools: -Voki: create your avatar very easily and use your voice or the text to voice option.

	<ul style="list-style-type: none"> -VoiceThread: Online presentations with your voice with the ability to be commented on by others online. - Story Map: Using a multimedia map you can add images, text, and videos to tell a story. -Powtoon -Moovly -Other examples of digital storytelling online. -Using a blog creations freeware: like Tumblr, Wix, or Blogger
Understand and write in the genre of a short story in Spanish	Workshop on how to write a digital story in which they have to do a shorter practice and present it to the class using Voki.

2.2. Structured student collaboration: In this project, they are not as novice PBL doers as before, and they have worked in teams for one semester already. As they requested more individual accountability measures in the former project to avoid some students not being committed and also to cater to different learning needs and styles, individual work was also part of the project process and assessment. Teams work in two different phases in which every team member has to become an expert about a specific cultural topic of a country individually first through research using online resources and also through 2 online interviews with locals of the Hispanic country. After they have become experts, they come together in a team and work on the production of the final collaborative artifact, which is a compilation of digital stories with a collective reflection on the differences between their culture and the target culture.

2.3. Student voice and product creation:

Once all the “experts” come together, they must divide the tasks and assign roles, organize the due dates for submission and decide on the format they are going to choose for the final product. Firstly, the online chats are recorded by the student individually and need

to be of a minimum length of 30 minutes each using either the social network for language exchanges called Italki, or a face-to-face conversation in Adelaide with a member of the Hispanic community, for which a regular local Spanish meetup and a Facebook page of Spanish people living in Adelaide are recommended.

Then, after the research has been done and the data has been collected in the shape of notes, students write the digital story about the topic they have chosen. They can learn how to do it by using the resources in the project's guide, a "workshop" on digital storytelling in the Spanish language with proposals on possible digital formats and the tools to create and publish them online. They are provided with a downloadable written Word document, the workshop, but they are also provided with a complimentary resource in English, a video that synthesizes the main features of a digital story. The rationale behind this is to cater to students with different levels of proficiency in Spanish and different learning styles, allowing for different formats of resources, audio-visual, and written learning materials (see figure 23 below).



Tarea 3. Escribe

Escribe un relato digital hablando de lo que has aprendido sobre la cultura hispana. La historia debe estar colgada en internet y ser accesible. La extensión mínima es de 500 palabras. La puedes hacer de manera individual o en equipo, pero el mínimo de palabras por persona es 500 siempre.

Los relatos digitales o digital storytelling son el arte de contar historias con la ayuda de herramientas digitales como el video, los medios interactivos, el audio, las redes sociales, story maps y otros muchos recursos que usan las nuevas tecnologías.

VIDEO

TALLER

Estos son los 3 principales tipos:

1. Narrativas personales. Pueden ser desde historias de experiencias vitales propias hasta relatos creativos ficticios. Para que funcionen bien deben tener un comienzo que enganche, un nudo y un desenlace con una conclusión.
2. Historias que analizan eventos históricos. Narran y examinan los hitos que han marcado la historia. Para ilustrarlas se pueden utilizar materiales de archivo, como audios, imágenes, videos, titulares de antiguos diarios.
3. Historias informativas o instructivas. Sirven para exponer y desarrollar distintos temas o contenidos, o incluso para explicar procesos.

Proceso:

1. Dibujar y planificar el guion. Una vez escrita la historia, hay que pensar cómo se va a ilustrar. ¿Qué imágenes o recursos van a dar forma a la historia digital? ¿Cómo se conjugarán? ¿Qué se quiere mostrar?
2. Crear o seleccionar los recursos. Ha llegado el momento de producir la historia. Durante esta fase debes grabar la voz en off, seleccionar la música, y elegir o crear las imágenes, videos, estadísticas, mapas, ilustraciones y demás recursos que apoyarán la historia.
3. Montarlo todo. Con la historia escrita y todos los recursos preparados, ya puedes empezar a crear.
4. Compartir. Tanto en clase como en la Red.

Ejemplos:

http://digitalstorytelling.coe.uh.edu/example_stories.cfm?categoryid=9

<http://huff.to/29PNssM>

<http://mashable.com/2012/01/31/digital-storytelling/#c5WQP3Q46uqQ>

<https://sites.google.com/site/willkimbley/google-maps>

Herramientas para crear historias digitales:

<https://elearningindustry.com/18-free-digital-storytelling-tools-for-teachers-and-students>

<http://www.storyboardthat.com/>

<http://www.scoop.it/v/herramientas-web-para-contar-historias-storytelling>

Figure 23: Fragment of the project's website where the writing task is showcased.

2.4. L2 focus:

As explained in the previous section, in Project Two, there are explicit grammar and vocabulary instructions integrated into every session throughout the project. Furthermore, the project's guide is in Spanish, as opposed to the guide in Project one that was in English, to expose them to more meaningful input in the target language. In the step-by-step guide, there are opportunities for exposure to Spanish with authentic oral and written texts which are needed for students to complete the tasks. As an example, the first creation task, which is to record two chats with native speakers of Spanish about a cultural topic related to their country of origin, there is an introductory video in Spanish with subtitles about how to learn an L2 using online exchanges. Additionally, as a

“workshop” to learn how to record calls on Skype, a written article of a website and an explanatory video from YouTube are provided in the Spanish language.

3. Assess:

3.1. Rubric: The researcher designed two assessment rubrics to guide students during the project, so as they are aware of what they are expected to produce, with an emphasis on the use of the L2 in context. The first rubric (see table 32) is aimed at assessing both the individual and the team digital story, whereas the second rubric informs the assessment of the oral presentation (see table 33)

Table 35

Assessment rubric for the digital stories in project 2.

	MASTER	COMPETENT	INCOMPLETE
Content 20%	- Content is always comprehensive, accurate, and persuasive. Major points are stated clearly and are well supported. Research is thorough and addresses all project goals. Content of the writing is clear and elaborate.	- Content is often comprehensive, accurate, and persuasive. Major points are stated clearly and some of them are well supported. Research is adequate in some areas and addresses the project goals to some extent. Content is clear.	- Content is incomplete. - Major points are not clear and are not well supported. Research is inadequate or does not address project goals. Content is not directly related.
Organization and Structure 20%	- Structure of the paragraph is clear and easy to follow.	- Structure of the paragraph is generally easy to follow. - Paragraph transitions need improvement.	- Unclear paragraph organization.
Grammar 20%	- Correct use of grammar, punctuation, and spelling. - Accurate and varied grammar structure.	- Text contains few grammatical, punctuation, and spelling errors. - Generally accurate grammar and some variety of structures.	- Text contains numerous grammatical, punctuation, and spelling errors. - Lack of grammatical accuracy.

<p>Vocabulary 20%</p>	<p>-Use of vocabulary is sophisticated, includes an extensive variety of words, and conforms to the appropriate register and genre.</p>	<p>-Use of a variety of vocabulary that has been practiced and memorized through the lesson(s). Vocabulary generally conforms to the appropriate register and genre.</p>	<p>-Use of a limited vocabulary that has been practiced and memorized through the project and does not conform to the appropriate register and genre.</p>
<p>Product 20%</p>	<p>-Answers to the driving question are provided attractively and persuasively. -Images and multimedia elements create a distinct atmosphere or tone that matches different parts of the story. It can be easily accessed online.</p>	<p>-Answers to the driving question are provided attractively. -Images and multimedia elements create an atmosphere or tone that matches some parts of the story. It can be easily accessed online.</p>	<p>-Answers to the driving question are not provided. -The multimedia elements display a limited ability to engage and need more work.</p>

Table 36

Assessment rubric for the oral presentation in project 2.

	MASTER	COMPETENT	INCOMPLETE
Language 50%	Spanish linguistic competence		
Comprehensibility (Pronunciation and pacing)	<ul style="list-style-type: none"> Clarity of expression. Occasional errors do not impede comprehensibility. 	<ul style="list-style-type: none"> Generally understandable, with some errors that may impede comprehensibility. 	<ul style="list-style-type: none"> Frequent or significant errors that impede comprehensibility.
Vocabulary	<ul style="list-style-type: none"> Varied and appropriate according to context. Idiomatic use. 	<ul style="list-style-type: none"> Generally varied and appropriate according to context. Some idiomatic use. 	<ul style="list-style-type: none"> Limited in variety and appropriateness according to context. No idiomatic use.
Grammar, Syntax	<ul style="list-style-type: none"> Varied use of subjunctive mood and imperative tense in context. Accuracy and variety of grammar structures. 	<ul style="list-style-type: none"> Some use of subjunctive mood and imperative tense in context. Competence in the use of a variety of grammar structures with few errors. 	<ul style="list-style-type: none"> Little use or no use of subjunctive mood and imperative tense in context. Low grammatical competence.
	Presentation competence		
Content 25%	<ul style="list-style-type: none"> Clear structure. Provides in-depth content. Fully supports and justifies information. Facilitates the audience's understanding and engages the audience's appreciation of the topic. 	<ul style="list-style-type: none"> Generally clear structure. Provides detailed content. Generally, supports and justifies information. 	<ul style="list-style-type: none"> Not structured or poorly structured Content provided is not detailed or is not suitable to the context. Limited or no support and justification of information.

Interaction 25%	<ul style="list-style-type: none"> Flexibility in answering questions about the content presented, to new contexts, or application to other contexts. 	<ul style="list-style-type: none"> Answers questions about the content presented. 	<ul style="list-style-type: none"> Limited ability to answer or no answer is provided about the content presented.
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For both rubrics, the researcher kept the threefold level structure because it fosters clarity and competence view as opposed to a grade-oriented view, making the learning experience a process and not a goal in itself. The terminology of the third column was changed from “Not yet complete” to “Incomplete”, to keep the meaning but be able to condense it in one word for clarity.

In Project One, there was only one assessment rubric that covered both the oral presentation and the product. The initial decision to have just one rubric and not elaborate more on the assessment criteria of the product was to serve as an introduction to the structure of rubrics, PBL, and product creation, all of them entirely novel to the student participants, to pave the way towards more specific guiding criteria for the product and content of the project. Consequently, in Project two, students were more familiarized with the structure of PBL and rubrics, and the relevance of the quality of the product also connected to language competence was clearer to participants of the study.

The rubric for the oral presentation in Project two (see table 33 for reference) includes the same elements as the rubric in Project one excluding the product criteria, as explained in the former paragraph. Those are criteria adapted from the curriculum of the institution, revolving around the concepts of language use, content, and interaction which refer to the use of the oral skill in this case.

The rubric for the product in Project two (see table 32 for reference) is made up of five criteria, from which four of them are related to the writing skills of the student in Spanish. These five criteria are content, organization and structure, grammar, and vocabulary. These criteria were adapted from the ones of the institution for written compositions, and the students were familiarized with them and could optimally use them as a reference for their writing. The fifth component is related to the format of the product, included in the rubric to set quality standards in areas of design, accessibility and promote their critical thinking skills by using a criterion that values how the product answers the driving question in a meaningful way.

3.2. Formative assessments:

Formative assessment will be done through teachers' observation and guidance of students throughout the learning process and also supervision of task management skills and completion as well as team conflict resolution and intervention.

3.3. Reflection:

Similar to Project one, a learning journal is integrated into the learning experience as a valuable tool for the students to understand their learning process, including the benefits and challenges. In Project Two, the learning journal has weekly guiding questions since teachers commented that the learning journals produced by students were more descriptive than reflective, identifying a need for guided reflection.

3.4. Feedback:

1. Critical Friends protocol: This element is established in this project as part of the summative assessment because it is considered an integral and compulsory practice for the success of the learning experience. Students need to complete it to obtain 2% of the grade, but most importantly, it is inherently necessary for them to understand how to receive and give constructive feedback to help each other improve their learning artifacts and overall learning strategies that they can learn from each other through feedback.

2. Presentation peer review form: Students will fill out a form during the oral presentation of their peers, and they will get it later on with all their constructive feedback so as students can reflect and improve other projects in the future.

3. Teacher's ongoing feedback: Teachers will spontaneously give constructive feedback, especially positive feedback, to students when they ask for guidance or when teachers identify a challenge or need for improvement in teams or individuals.

3.5. Summative Assessment:

In Project two, summative assessments are spread throughout the seven weeks in small tasks, or sub-goals, to facilitate the feasible realization of the complex macro task for students, as a sort of goal setting calendar structured in smaller chunks (see table 37 for reference).

Table 37

Assessment elements and calendar in Project two.

Goals	The proportion of total marks	Deadline for submission*
Entry event (Driving question, see models)	0	Week 1
Two Online Exchange Chats (30-minute each)	4%	Weeks 2 and 3
One Digital Story (500 words)	4%	Week 3
One Team Project (900 to 1000-word Reflective Compilation of Digital Stories)	4%	Week 5
One Online Peer-Review Feedback on Project (150 words)	2%	Week 6
In-Class Oral Presentation (Approx. 450 words)	9%	Week 7

The first sub-goal is to record two chats of 30 minutes with native speakers of Spanish from the country the students have previously chosen. Initially, they prepare a minimum set of ten questions together and do role plays in class to get ready for the experience. They can contact them through Italki, a social network for language exchange, or through other means proposed by students and approved by the teachers, such as a face-to-face meet-up and friends. The goal of this activity is twofold, first to collect data on the culture topic situation they have chosen, and second to be exposed to a situation in which they have to use Spanish in an authentic and meaningful way, to try to help them overcome

their low level of self-esteem when it comes to oral production, as noticed in the comments and observations from teachers in Project one.

Once they have collected the data from their language exchanges and have also researched by reading articles or books on the culture topic, they write a story about the topic they have chosen using that information.

At this point, students are the 'experts on the topic they have researched and come together with their teams to share what they have learnt to reflect on the similarities and differences of their culture and the one they have investigated. They produce a joint reflection on this as a team and compile the individual stories in a digital storybook. Then they will receive and provide constructive feedback on the product and finally, they will publish it online. To showcase their learning process and reflection, they do an oral presentation and also facilitate the development and practice of oral skills.

3.6. L2 Focus:

In Project Two, there is a strong focus on integrating both the students' oral and written skills, with a component of positive interdependence, since the development of the written texts depends to a great extent on the completion and quality of the oral component. In both the assessment rubrics for the product and the oral presentation, the language components still represent the majority of the grade weight. In the oral presentation rubric, the language criteria represent 50% of the total grade, while the other 50% revolves around the content and interaction. For the assessment of the product, 80% of the criteria are related to language skills applied to write texts.

4. Share:

4.1. Student Conferences: Teams of students are allocated 15 minutes to present their product orally and explain how it answers the driving question. They showcase the online product on the screen while an audience of their student peers and potentially other guests attend their conference, provide written feedback, and also make questions in the end for further clarification or suggestions.

4.2. Public sharing:

Students are allowed to choose among some proposed formats for a digital storybook and also to suggest other formats that the teacher will revise previous approval. Once they have produced their product, they make it publicly accessible so as it contributes to knowledge and helps to bridge the cultural gap between Australia and the Hispanic world.

Chapter Six: Class implementation: Analysis and Discussion

This chapter presents the analysis and discussion of the second of the two complementary studies from this research. Study Two shows a class implementation of the PBL learning materials designed by the researcher concretely for this study after the conclusions drawn from Study One, an online survey done to educators of foreign and second languages in Higher Education around the world. One of the core goals of this study is to test the impact on the motivation of students of a foreign language in a setting of an Australian University when being exposed to PBL instruction. Additionally, another aim is to ascertain the benefits for both students and teachers in general and finally to both identify challenges and propose potential tools and strategies to optimize the design and implementation of PBL instruction in a structured program of a foreign language in a higher education institution in Australia.

The data analysed in this chapter comes from various datasets that were compiled during two separate semesters for three weeks each and a total of six weeks of class instruction. The data collected from the surveys is both quantitative (Likert-scale questions) and qualitative (open-ended questions), and the data collected from the interviews and the field notes is qualitative. The participants in the study can be separated into two main groups, students and teachers. The key goal for collecting data from both perspectives was to be able to triangulate for the conclusions and to establish the differences and similarities between these groups, where key points of difference are emphasized where necessary.

In the following sections quantitative and qualitative data are presented together grouped by the main themes of prevalence in PBL research literature and the naturally occurring themes during the study's data collection process: (1) Motivation, (2) Impact of using digital technologies, (3) Teamwork, (4) Willingness to communicate and oral skills, (5) Authenticity, (6) Key implementation challenges and a final (7) Summary. It must be noted that the focus data analysis for this study is given to qualitative data, being the surveys a valid but not determinant starting point to design the interviews and to offer a more reliable triangulation.

6.1. Motivation

One of the fundamental aims of this study is to test the impact of PBL instruction on the levels of motivation to learn Spanish of the student participants. Taken that motivation is a very complex construct, the researcher created the Motivation System for Education (MOSE) model to make it more accessible for its application to instructional design. The MOSE model is primarily based on the theory of Direct Motivational Currents by Dörnyei and colleagues (2014); see section 2.1.2. and 2.1.3. for reference.

The MOSE model explains that students show signs of high motivation levels when they feel and display (1) positive emotionality, (2) Sense of achievement, (3) Focus, and (4) Self-regulation.

Student participants (n=6) were asked to rate 16 questions in survey one, before the two projects, and 23 questions in surveys two and three after the first and second projects, since those surveys included concrete questions about the projects' use of technology and their experience working in teams. The surveys used a 6 point Likert scale related to the main themes of the study. In the following sections, the researcher will explore the category of motivation and their four identified categories presented in the MOSE, as mentioned above. The researcher will comment on the different perspectives from the study participants and herself throughout two semesters obtained from the multiple datasets.

Positive emotionality

The construct of positive emotionality refers to a sense of joy, satisfaction, and well-being, where "individuals experience a unique sense of connectedness between activity and identity" (Muir, 2016, p. 54); see sections 2.1.2. and 2.1.3. for reference. In the three surveys, this construct was investigated using four items or questions in a longitudinal way during two semesters. Table 35 below shows the evolution of the students' perceptions of positive emotionality within the two semesters using a bundle of five items that refer to the concept of enjoyment. Survey one was collected before the PBL class intervention; survey two was collected after the first project in semester one and survey three after the second project in semester two.

Table 38

Student participants' responses to statements related to the category "Positive emotionality" in surveys one, two, and three

Category: Positive emotionality. Total responses: 6								
Questionnaire items (5)	Surveys	Frequency of students' responses in a 6 points Likert-scale						Mean
		1. Strongly disagree	2. Disagree	3. No opinion	4. Somewhat Agree	5. Agree	6. Strongly Agree	
1 I really enjoy learning Spanish.	S1						6	6
	S2						6	6
	S3						6	6
2 This topic/project bores me.	S1	2	4					1.6
	S2	1	3		2			2.5
	S3	2	2		2			2.3
3 I enjoy this Spanish class.	S1					1	5	5.8
	S2				4	1	1	4.5
	S3				2	2	2	5
4 Many times this topic/project feels like a real struggle to keep going.	S1	5	1					1.1
	S2			1	2	2	1	4.5
	S3				2	2	2	4.3
5 I would do this topic/project again even if it were not required.	S1		1	1			4	4.8
	S2		1	1	2	1	1	4
	S3	1			3	1	1	4

The first item ('I really enjoy learning Spanish') shows no difference in the student answers in the three surveys; they all strongly agree with this statement, showing that their overall motivation to learn Spanish was high initially and did not change after the PBL implementation. In item two ('This topic bores me') the six student participants disagreed with the statement before the project implementation, whereas after the two project implementations two out of the six students chose the option "somewhat agree", indicating that there was a tendency towards less enjoyment from student participants.

Similarly, in item three ('I enjoy this Spanish class'), in the first survey, all of the students agree, five of them opting for the maximum degree of agreement, showing a strong consensus, while this situation changes considerably during the two following semesters as shown in surveys two and three, where the opinions are entirely distributed and from a mean of 5.8 it drops to 4.5. in survey two and somewhat increases in survey three to a mean of 5.

This may have been caused by an initial negative reaction to change, in the first interview with teacher participant Ona, after the implementation of the first project she expresses that she was surprised by the negative response of some students in the class and infers that is due to reluctance to change and being very busy in the personal lives:

What was difficult was the initial response from the students. There was an initial negative reaction including the why do we have to do this. (Why?) They like routines, also they are in their second year (...) and things are done differently from last year and you have to explain why you are doing them differently. The expectation is that you are going to do the same format for everything. (...) If there is a change it takes some time to accept. And then it is the issue that most students they are...because they are so busy...because they have had some previous experience working in teams, and it hasn't always been positive, also they worry that they won't work well together that it will take longer to do things, some would pull more weight than others, won't be able to meet outside the class. (...) (Ona, TI1)

¹ References to open comments in surveys or interview extracts are presented in the following way: For open comments to surveys, e.g. Iris, OCS2, being "OC" open comments and "S2" survey two. In the case of interview extracts, e.g. Hans, SI1, "S" is for student, "I" for interview and "1" for the first one or e.g. Cara, TI2, would refer to "T" teacher, "I" interview, "2" number two.

The most reliable indicator of the factor that most influenced the “shift” in students from utterly positive to mildly positive is item four (‘Many times this topic feels like a real struggle to keep going’). This item evolved from a students’ consensus on the disagreement items of the Likert scale to five students agreeing and one not sure in survey two and all of the participants agreeing in survey three. Therefore, the results indicate that there was a complete shift from the students’ perceptions, showing that the change in methodology became a challenge for them as opposed to the methodology they were used to before. The researcher wonders if this has to do with the undervalued prominence of studying foreign languages in Australia, the fact that most students were overwhelmed working part-time while studying or a long history of lecture-type methodologies during their schooling years in second languages and others. The multiplicity of factors operating on the students’ potential motivations to shift in their opinion makes it very challenging to conclude on an exact cause.

The researcher observed personally multiple instances of students being tired or sleepy because they had night shifts at work. Two of them had young kids and casual jobs. Most of them had some sort of part-time jobs and commented to the teachers and researcher that they struggled to do any of the activities at home since they did not have time. In one team, one student disappeared from the project and the class and the researcher talked to him personally. He was swamped with work and personal issues that left him no time to devote to study.

The last item (‘I would do this topic/project again even if it were not required. ’) was included to serve as support to the appearance of positive emotionality or not since the participants would not choose to be exposed to the same experience if they would not have enjoyed it. The results show a slightly higher acceptance before the project implementation if we look at the mean, 4.8. compared to the mean of 4 after both projects. Nevertheless, if we look at the number of students willing to repeat the topic or project, before the PBL implementation we have four students agreeing to the statement, one not being sure and the last one disagreeing. After the first project, we still have four students agreeing and this number increases to five after the second project, showing an increase in their positive emotionality.

The results in this area, positive emotionality, were unexpected since the review of the literature showed that working in projects and concretely using PBL instruction often increased the motivation of students. Relatedly, Muir (2016) proposes working in intense projects as one of the suggested methodologies to be able to infuse DMC in students, building on the works of Sawyer (2006) and Mohan & Lee (2006), see section 2.1.4. for reference.

The overall impression when reading the open comments of students in the surveys and the data collected in the interviews for the project in semester one reveals that working in teams was a significant challenge to most of them and this impacted negatively their emotions towards it. Iris mentions that “I liked working with my friends but I know other groups struggled with communicating + organisation.” and continues explaining one of the reasons “for a project to really work, 3 weeks being the first project was not enough, we would probably need 5 weeks.” (Iris, OCQ2). Another student, Sally, also elaborates on how unfair she perceives group work due to the perception that assessment is not balanced:

I just don't really like group work, a have a couple of reasons. The first being that my assessment should be of me alone, it was not such a big deal because everyone did very well. (...) I fundamentally oppose it, but it also goes the other way, in that in the oral presentation I didn't do very well. I felt bad because Iris (team member) is very good at talking, she was like flying along and I was like mumbling and just not doing very well, and then I felt bad because I thought I was gonna impact her. (Sally, SI2)

The factor of an adequate time allocation for the projects was unfortunately not a variable that could be changed by the researcher, since she was following the unit structure and time structure for the topic at the University. The concern of the lack of time was previously expressed during the project design phase by the researcher and the other two teacher participants as a potential hindrance for the success of the implementation, given that both the students and the teachers were not accustomed to PBL instruction and they would have needed more time to adapt and get trained, as they would later verbalize.

Cat, like other students, struggled to meet after class since many of them worked part-time and the level of commitment to the class was uneven, she elaborates that:

My team was pretty bad at communicating. Maybe we were just too different people. (referring to a team member who was doing high school and uni and not being very participative) She is flat out, she is on a scholarship for Spanish to just do one topic, it is pretty crazy for her...juggling High School and Uni. Everyone was doing sort of different degrees as well (...) it is a hard time of the year, the last 2 to 4 weeks in the semester, you might only see them in one class. (..) I don't get to get listened to. I am not much of a leader. (Cat, SI1)¹

According to the qualitative data collected, the limitation of time and the profile of students who found it challenging to meet after class to collaborate on the project tasks made it hard for them to expertly complete the tasks, which harmed their emotions and increased their levels of stress.

However, two students out of six did not show that negative emotionality towards group work for the first project; Shane explains that she “liked how everyone had a role each. I'd like to believe that made it a lot easier when it came to dividing the workload for the project in the end” (Shane, OCQ2), as well as Hans who does not mention any challenge when it comes to teamwork and emphasizes the meaningfulness the project had for him “I enjoyed the fact that we are helping Spanish background people to settle in Adelaide by providing information that may be helpful for them.” (Hans, OCQ2).

These two students were working in a team together and they showed signs of having a very positive perception of the whole learning experience from the start, not being as afraid of change as most of their colleagues. From the researcher's field notes, she observed that they were already more capable of collaborating than the rest of the cohort, and hence it did not entail a considerable challenge for them, and then they could profit from it more given their pre-existing collaboration skills. They both had a high level of Spanish and were immigrants to Australia; hence they came from different cultural backgrounds, which may have entailed them being exposed to more situations in which they had to adapt and be flexible when facing relevant changes in their lives.

From the perspective of the teachers, Ona describes the “emotional scenario” of uncertainty by both the class and the teacher participants at the beginning of the project in semester one:

Some students were not so positive about it. Most of them found the positive side of doing the project. My issue with time and making sure that especially the grammar side of the topic is introduced and practiced and revised, I felt limited because I had less time to do that. (Ona, T11)

Interestingly, after the second project, there was a predominant benefit emerging from the PBL instruction, the students' levels of confidence and oral skills, which consequently impacted their positive emotionality too. In semester two, Ona reflects on the whole experience and sees how even if many students struggled initially, some of them commented on the benefits they perceived from the experience:

That was really good and some of the students (...) said that despite being hard (...) it was really good and some of the students' anecdotal comments from them said that despite being hard (...) it was actually very good, and they certainly were able to see the benefits, it gave the confidence, which it is I think very important. (Ona, T12)

The perception of the teachers is similar to the one of the students after the second project, having had the experience of the first one already, and therefore more practice and less uncertainty, they started to show an increase in positive emotionality. Iris seemed to have reached one of her essential learning milestones when she comments that:

I thought the conversations (referring to online chats) pushed you out of your comfort zone, you don't usually go and have a conversation with someone and I thought that was really good, and really helpful and probably the most helpful thing that I have done, I guess so far, although it was nerve wrecking. (Iris, S12)

Hans taps on how the authentic side of the project motivated him since they used the online tool "Italki" to contact real native speakers of Spanish to research their lives and culture to create a digital story later on. Concerning the sense of authenticity, Shane also shows enjoyment about being able to talk to a real person as a form of research:

In general, I liked the project, because it gave me the motivation to research a bit more about the things, I talked to the people I interviewed, I went to the Internet and looked the festivities. And some things that weren't very clear in the interview I would call the man and ask him.... could you repeat this part? (Shane, S12).

Sense of achievement

When students feel they are achieving more than they expected when they are involved in a long-term motivation experience, DMC, and hence this relates to a sense of reward and positive emotionality (Muir, 2016).

Table 36 below shows the evolution of the students' perceptions of their sense of achievement within the two semesters. Survey one was collected before the PBL class intervention; survey two was collected after the first project in semester one and survey three after the second project in semester two.

Table 39

Student participants' responses to statements related to the category "Sense of achievement" in surveys one, two, and three.

Category: Sense of achievement. Total responses: 6									
		Frequency of students' responses in a 6 points Likert-scale							
Questionnaire items (2)	Surveys	1. Strongly disagree	2. Disagree	3. No opinion	4. Somewhat Agree	5. Agree	6. Strongly Agree	Mean	
1 With this topic/project I am able to work more productively than I usually can.	S1				2	2	2	5	
	S2		2	1	1	2		3.5	
	S3	1		1	2	1	1	3.8	
2 I feel this topic/project is helping me to achieve all I want and more.	S1				1	2	3	5.3	
	S2		1	2	2		1	3.6	
	S3			1	3	1	1	4.3	

The first item ('With this topic/project I am able to work more productively than I usually can.') shows how before the methodological shift in the class, they believed they were very productive, with the six participants agreeing at different levels with the statement. However, this perception clearly changes after the first project, where three of the six

participants begin to disagree with the statement, and after the second project, the perception slightly improves, and four out of six students continue to agree with the statement.

Similarly, the second item ('I feel this topic/project is helping me to achieve all I want and more.') has a similar evolution. In the first survey, before the PBL implementation, all six students agree at different levels, after the first project they have a drastic reduction of the sense of achievement, with one student disagreeing and two students not being certain and finally, after the second project, they regain similar values to their initial sense of achievement, having five students agree and only one is uncertain. This may be related to struggling with the learning curve of being in a completely new teaching approach, feeling anxiety, and not being able to see a very clear connection between the learning activities and the completion of their personal goals.

One teacher participant, Cara, who verbalized to the researcher her initial fears to be part of the projects and questioned its effectiveness reflects after the two semesters that she felt the students had improved their competence in Spanish even if sometimes they complained about the shift in methodology:

Even if the students have complained the results have been very good, the two times, I think that they have actually learnt even if they have complained (...) It is true that some have learnt more than others (...) some have enjoyed it more and they have been more involved. (Cara, T12)

Focus

When students are motivated, they enjoy investing considerable levels of time and effort to perform the learning tasks, and consequently, they experience focus for long periods.

Table 40 below shows the students' responses of the survey questions related to their ability to focus during class and the projects, considering two main indicators of focus as both their capacity to concentrate as well as the time they devoted to the subject or project. Survey one was collected before the PBL class intervention; survey two was collected after the first project in semester one and survey three after the second project in semester two. There are five survey items that the researcher assigned to the category of focus.

Table 40

Student participants' responses to statements related to the category "Focus" in surveys one, two, and three.

Category: Focus. Total responses: 6									
		Frequency of students' responses in a 6 points Likert-scale							
Questionnaire items (5)	Surveys	1. Strongly disagree	2. Disagree	3. No opinion	4. Somewhat Agree	5. Agree	6. Strongly Agree	Mean	
1	When I am in the Spanish class/doing the project I am usually distracted.	S1	3	1		1	1	2.3	
		S2	2	2		1	1	2.5	
		S3	1	4		1		2.1	
2	Spanish class/the project learning activities do not seem like hard work to me, I am usually caught up in the flow.	S1		1		1	2	2	4.6
		S2		1	2	1	2		3.6
		S3		1		3	2		4
3	When in the Spanish class/ doing the project, I am totally	S1		1			2	3	5
		S2				4	2		4.3
		S3		1	1	1	2	1	4.1

	absorbed in what I am doing.							
4	I spend lots of time studying Spanish/doing the project.	S1				2	4	5.6
		S2		1		3	1	4.1
		S3			1	3	1	4.3
5	I concentrate on doing this topic/project more than any other topic.	S1		1		1	4	5
		S2		3		1	1	3.5
		S3	1		1	2		2

The first item ('When I am in the Spanish class/doing the project I am usually distracted.') shows shallow values in the three semesters (2.3., 2.5. and 2.1), indicating that there is not a significant indication of students being significantly distracted in class. It is noticeable that during the second semester, after the implementation of the first project, there was a slight increase in distraction from 2.3. to 2.5. but it improves to 2.1. in the third semester, following the overall tendency on the data showing challenges for students after the shock of a shift in methodology in the first project, which generally improves after the second project where they are already used to PBL methodology once.

In the second item ('Spanish class/the project learning activities do not seem like hard work to me, I am usually caught up in the flow.') we can appreciate how students felt it was challenging, or a steep learning curve, to adapt to PBL instruction, they score 4.6. for this item before the PBL implementation and drop to 3.6. after the first project implementation, increasing to 4 after the second project implementation, showing an improvement.

The third item ('When in the Spanish class/ doing the project, I am totally absorbed in what I am doing.') shows a similar evolution to the two former ones. The values start at a very high 5 out of 6, showing high levels of concentration from students, moving to a drop to 4.3. in the second survey, and unlike the tendency of all of the survey categories, instead of increasing the value in survey three, it decreases slightly to 4.1. The difference is minor to be of significant statistical value, though.

Regarding the amount of time devoted to study or the project, item four ('I spend lots of time studying Spanish/doing the project.') shows very high indicators in survey one, the pre-project results, a 5.6 out of 6, hence they showed a large amount of certainty about it. However, after the first project, in survey two, the results show a lower value, 4.1., as it is the constant in the study, we can see a negative impact after the new shift in teaching methodology that is followed by a minor improvement, 4.3., after the second project.

The statement in item 5 ('I concentrate on doing this topic/project more than any other topic.') relates to the comparison of this class that uses PBL instruction to others, trying to identify any differences. As per the other survey items, the results before the shift were high, a value of 5, and they drop to 3.5. after the first project, to increase to 4 after the second project. This result may indicate that students are out of their comfort zone in comparison with their other subjects' methodology, more lecture-oriented.

The class observations of the teacher-researcher concur to some extent with the results of the quantitative surveys, she observed that students' focus was disrupted at times, concretely during the first project, when trying to communicate effectively, when making decisions in their teams, as well as when trying to understand the new "status quo", mostly the assessment questions. Students showed signs of concern often about how the projects could prepare them for the traditional tests they had to take at the end of every semester, involving some exercises like grammar fill-in the blanks exercises that they did not practice during the projects since the project focused on them applying their communicative competences rather than doing grammar exercises. The researcher observed instances of high concentration in class, concretely by some individuals who showed high interest in the cultural topics involved in both projects, but it was uneven and not present in all students. She observed some students struggling with change,

feeling anxiety, or fear of working in teams also impacted negatively their capacity to focus.

Self-regulation

Genuine engagement comes when an individual is self-regulated, self-determined, and autonomous (Ryan & Deci, 2000). Some of the main strategies that show self-regulation according to Zimmerman and Martinez-Pons (1986) are self-evaluation, organizing and transforming, goal setting and planning, seeking information, keeping records and monitoring, environmental structuring, self-consequences, rehearsing and memorizing, seeking peer assistance, seeking teacher assistance, seeking adult assistance, reviewing tests, reviewing notes, and reviewing texts.

In the following table, we can see students' responses to the survey questions related to their ability to self-regulate. Survey two was collected after the first project in semester one and survey three after the second project in semester two. There are six survey items that the researcher assigned to the category of focus. In this survey category, the researcher focussed on two main strategies that show self-regulation in students:

Variable 1: Goal-Setting: refers to the ability of students to set their own goals.

Variable 2: Voice and choice: relates to the capacity of students to make decisions.

Table 41

Student participants' responses to statements related to the category "Self-regulation" in surveys one, two, and three.

Category: Self-regulation. Total responses: 6									
		Frequency of students' responses in a 6 points Likert-scale							
Questionnaire items (6)	Surveys	1. Strongly disagree	2. Disagree	3. No opinion	4. Somewhat Agree	5. Agree	6. Strongly Agree	Mean	
Variable 1: Goal-setting									
1	S1					2	4	5.6	

	The aims and objectives of this topic/project are related to my own personal goals.	S2			1	3	1	1	4.3
		S3				4	1	1	4.5
2	The aims and objectives of this project were very clear.	S2	1			1	1	3	4.6
		S3		1		1	1	3	4.8
3	I regularly think about my goal for learning Spanish.	S1		1			1	4	5.1
		S2			1	1	3	1	4.6
		S3			1	1	3	1	4.6
4	I often see myself achieving my goal to learn Spanish.	S1					1	5	5.8
		S2				2	2	2	5
		S3				2	1	3	5.1
Variable 2: Voice and choice									
5	I feel that in this topic I can make decisions on how I want	S1				1	1	4	5.5
		S2			1	1	3	1	4.6
		S3		1	1		2	2	4.5

	to learn Spanish.								
6	I liked deciding on how to organize our project in a team, rather than the teacher telling us what to do all the time.	S2		1	2	1	1	1	3.8
		S3		3	1	1		1	3.1

In the first variable, goal setting, there are four survey items. The responses to item one ('The aims and objectives of this topic/project are related to my own personal goals.') reveal a high level of relatedness to the students' personal goals. The pre-project value in survey ones is very high, 5.6, it drops to 4.3. in survey two and increases to 4.5. in survey three. They drop in survey one from 5.6. to 4.3., which is a decrease but still positive because all of them somewhat agree with the statement, as it also happens in survey 3. The slight decrease in the results from the pre-project survey to the survey after the first project is a common denominator for all the study results.

The second item of the variable goal-setting, ('The aims and objectives of this project were very clear.'), refers exclusively to the perceptions of the students after the two projects. Five out of six students in both projects agree at different degrees on the clarity of the goals of the projects.

Relatedly, the results of the third item of the variable goal-setting, ('I regularly think about my goal for learning Spanish.') have very high values, 5.1. in the first survey referring to

pre-project classes and 4.6. in both surveys one and two after the two projects. Even if the values are slightly inferior to the first survey, in surveys two and three, none of the participants show disagreement, but one expresses not to be sure about the answer while in survey one there is one participant who disagrees. The results overall show a high level of involvement with goal-setting, which is one of the indicators of a motivated individual. In the same fashion, item four of the variable goal-setting, ('I often see myself achieving my goal to learn Spanish.') shows a similar tendency to the previous ones, survey one scores 5.8., while survey two 5 and survey three 5.1., still showing that the six participants agree with the statement. All students report being able to see their future selves achieving the goal, which is another clear indicator of their motivated behaviour.

The second variable is voice and choice and refers to the capacity of students to express their preferences and to have the ability to make confident choices about their learning path. The first item of this variable ('I feel that in this topic I can make decisions on how I want to learn Spanish.') interestingly shows very high values in the pre-project survey one, 5.5., even if the methodology is mainly teacher-centered and does not involve many options for students to make. The results of surveys two and three after the two projects are slightly lower, 4.6. and 4.5. Correlatively, but still, show a high level in their perception of being able to make choices. The difference may call the attention of the reader, though, take the former context where there was an influential teacher guidance component. This absence of perception on their increase of ability to make choices despite the actual reality could have been motivated by the fact that students felt this shift in methodology was not their choice, and even if the former methodology implied more teacher guidance and fewer student choices, they felt that type of learning was what they wanted and expected. This is expressed very clearly by Cat after the first project, she feels lost with the shift of methodology and prefers coming back to the former one because she is told what to do, even if she appreciates having the ability to choose the format of the product:

We decided to set up the Facebook page, so they did gave us the choice to make something. I would prefer to be told what to do, so I know exactly what I have to do and I am gonna do it. But that is just me, if something is too vague...I start...oh what do I do? That is personal study style, something that is vague, I never know if I am doing it correctly (...) if I got that structure, I go...yep...ticked.
(Cat, S11)

However, other students did not feel exactly like Cat about making more choices. Sally for example explains that what she liked the most about the second project was to choose her topic, “most: the ability to choose what we focused on.” (Sally, OCQ3). She elaborated in the interview that she enjoyed being able to choose something that was more relevant to her:

I liked that we could choose what we wanted. (...) Well obviously more relevant to my interest (...) if I was told to do like the food or something and I think some people do care about food that much (...) plus I am a vegetarian. (Sally, SI2)

The last item of the voice and choice variable, (‘I liked deciding on how to organize our project in a team, rather than the teacher telling us what to do all the time.’) can get a bit more controversial among students since this one refers to the ability to make decisions as a team, not individually. From the start of the first project, working in teams proved to be a huge challenge for both teachers and students alike. Students had an initial adverse reaction to the idea since they expressed that they had had former negative team working experiences at high school and university alike, which we will explore in the following section 6.3. As a result, the values of the responses for this item are quite lower than the other items in the same category and variable. In survey two, they score 3.8., the opinions are entirely divided, three students agree, two are indecisive, and one disagrees, while in survey three, with even an inferior value, 3.1., three students disagree, one is indecisive, and only two agree.

Overall, the reports of the students showed high levels of ability to set their own goals, feel the project goals were aligned with their own, and have some voice and choice, though for this last item the values of team decision making showed controversy and it entailed lack of enjoyment on their behalf.

6.2. Impact of using digital technologies

From the beginning of the conception of this thesis, one of the main goals was to test the effect of combining digital technologies with the implementation of PBL instruction, to ascertain if, as literature suggests, it enhances the motivational effect of the methodology in the case of second language learning.

In the following table, we can see students' responses to the survey questions related to their perceptions of the use of different digital tools during the two projects. Survey two was collected after the first project in semester one and survey three after the second project in semester two. There are five survey items and variables that the researcher assigned to the category of the impact of using digital technologies. The main five variables of this category respond to the actual tools used for the two projects: Variable 1: Social Media; Variable 2: Project Management tool; Variable 3: Learning Management System; Variable 4: Mobile Phone; Variable 5: Online Content Creation.

Table 42

Student participants' responses to statements related to the category "Impact of using digital technologies" in surveys one, two and three.

Category: Impact of using digital technologies. Total responses: 6									
		Frequency of students' responses in a 6 points Likert-Scale							
Questionnaire items (5)	Surveys	1. Strongly disagree	2. Disagree	3. No opinion	4. Somewhat Agree	5. Agree	6. Strongly Agree	Mean	
Variable 1. Social Media									
1	I enjoyed learning Spanish using social media (YouTube, Facebook, Twitter, Google apps)	S2				2	3	1	4.8
		S3		1		1	2	2	4.6
Variable 2. Project Management tool									

2	I found Slack very useful to navigate the activities.	S2	1	1	1	1	1	1	3.5
		S3	1	1	1	1	1	1	3.5
Variable 3. Learning Management System									
3	I would have preferred using just FLO to navigate the activities.	S2		2	2	1		1	3.3
		S3		2		2		2	4
Variable 4. Mobile Phone									
4	I liked using my mobile phone to learn Spanish.	S2	1	1		1	3		4.5
		S3		1		1	3	1	4.5
Variable 5. Online Content Creation									
5	I liked creating content online in Spanish	S2				2	3	1	4.8

language (a blog, participate in a chat, write a review, upload a video to YouTube, and so on).	S3				1	1	3	1	4.6
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Variable 1. Social Media

The statement of this item ('I enjoyed learning Spanish using social media (YouTube, Facebook, Twitter, Google apps') investigates the students' perceptions of the use of social media during the two projects. The two tools that they used the most were Facebook for the creation of pages and YouTube for research. The results in survey two show a high value for enjoyment, 4.8., with all students agreeing at different degrees, and in survey three the value decreases only slightly to 4.6 and only one student disagree with the statement. However, Iris mentions that she used Facebook to communicate as opposed to Slack in her team because she used to do that with them outside of the class before the project.

Slack was good as a quick means to communicate with teachers, however, I would not use it for anything else. All of my classmates have Facebook and we already use Facebook messenger to communicate through group messages." (Iris, OCQ3)

The rationale of the researcher behind not choosing Facebook messenger or a Facebook group as the primary communication means among teams was that despite what Iris commented, not all students were friends and wanted to share their Facebook private information, also because the teacher and researcher could have access to their communications to be able to test the waters and detect potential problems and communicate with students in a fast and seamless manner. In hindsight, the researcher could have offered different options to communicate effectively and have some common

channels for all while also giving them the choice of using the app they wanted for their private communications.

Variable 2. Project Management tool

The researcher chose a project management tool called “Slack,” initially not designed for education but to help teams to cooperate in projects in the work environment. With this app they had different channels; they could share and search documents and use it for journaling and asking questions to peers and the teachers.

The perceptions of the usefulness of this app from the students were quite divided, in the survey item (‘I found Slack very useful to navigate the activities.’) for surveys two and three, the values are 3.5. in both, having three students agreeing and three students disagreeing. Cat mentioned that “Slack was good, would have been better if all group members used it.” (Cat, OCQ2). In several other comments, she mentioned that she had had issues with communicating with team members, which despite the app did not improve since the causes did not originate from the medium but rather the attitude and accountability of some members, as well as her lack of skills to be assertive as she expressed herself to the researcher on several occasions.

However, as the surveys show, other students found it useful; Shane declares that “I found it useful using Slack on my phone and on my laptop because there are two devices that use the most when it comes to doing work and entertainment.” (Shane, OCQ2). The University had a Learning Management System, Moodle, but students did not use it usually on their mobile phones because the mobile interaction was not user-friendly, and the interface was quite uninviting for other uses rather than the logistics of their studies. Even if some students had mixed feelings about using Slack for communication, as it was another crucial change for them, it made them more connected to the topic and project since the push notifications in their mobile phones would alert them of shared and private messages.

Ona, one of the participant teachers, perceived that Slack facilitated group work, having the added advantage of being multiplatform to adapt for different student and teacher needs.

I think it (Slack) enjoyed and facilitated the group work. It was easy, according to what I heard. Most of them would prefer to use it on the mobile and some would use it in the computer. For some teacher like me I prefer to use it in the computer. (Ona, T11)

Variable 3. Learning Management System

In the item of this variable ('I would have preferred using just FLO to navigate the activities.) the opinions are quite divided. In survey Two, two students disagree, two agree and two are not sure. However, in survey three there is a shift in opinions and four participants agree at different levels while only two students disagree with the statement. Analyzing the differences in the project design and class observations, the researcher hypothesizes that during the second project, there was a more substantial component of digital technologies, and this could have overwhelmed some of the students.

Variable 4. Mobile Phone

When trying to ascertain the students' perception of their increased use of their mobile phones in class, as shown in the survey item ('I liked using my mobile phone to learn Spanish. '), most students showed enjoyment in their use of their mobile phones; in survey two, four students agree and two students disagree, in survey three there is a slight increase, and five students agree while only one disagrees. Both surveys score 4.5. over the 6-point scale, which is a high value.

Mobile assisted Language Learning (MALL), defined as the use of "mobile technologies in language learning, especially in situations where device portability offers specific advantages" (Kukulka-Hulme, 2013, p. 370), is a feature that has been reported to offer certain advantages on SLA, in this case, the researcher was interested in promoting, the agency (Pachler et al., 2010) and the autonomy (Holec, 1981) of students, that are essential skills when working in projects and in general desirable 21st. century skills that students need to practice.

Consequently, the researcher included a project management app that could be used easily with their smartphones and proposed other apps and activities, such as weekly journaling or team communication using their mobile phones.

Variable 5. Online Content Creation

The statement from the item of this variable ('I liked creating content online in Spanish language (a blog, participate in a chat, write a review, upload a video to YouTube and so on)') refers to the final learning artifacts of the two projects, to create an authentic product that answered the driving question and could be shared publicly online. Students could choose among different formats offered as examples and propose others themselves.

From the results of the two surveys, we can infer that the creation and sharing of online content was a motivational factor. In survey two, all of the participants stated that they liked creating online content, with a total score of 4.8. Similarly, in survey three, five of the participants agreed, and only one was not sure about the answer, with a total value of 4.6, not much different than the previous survey.

In the first project, one of the proposed tools, StoryMap JS, was especially well regarded by the students who used it. This tool is an online presentation tool that uses online maps together with slides on the screen as well as it can connect with other websites, insert images, and narrate the story or presentation. Cara stressed the benefits of the tool, saying that "The maps have worked very well, because of their visual component." (Cara, TI2). Ona mentioned that one of the students found it so useful that she used the tool for the oral exam.

One of the students who did the oral exams chose to use story map to do the oral exam because she found it easy and she enjoyed it. The Tumblr they had already used it so it was convenient. (Ona, TI1)

Hans also elaborated on its usefulness, "I used storymap in my presentation and that was very helpful as it didn't require much time to upload the content of the project." (Hans, SI2).

During the second project, students had to research Hispanic culture, history, or politics, one of the research methods set in the project involved interviewing native speakers from Spanish-speaking countries to learn about their experiences and perceptions. Teachers proposed Italki, a virtual platform for linguistic exchanges as one of the main ways to find native speakers of Spanish in Adelaide. Three students who had connections with family

or friends who were Spanish speaking chose to meet face to face, whereas for the rest, using the virtual platform meant an open window into the Hispanic world.

Some students like Hans, who was already outgoing and very sociable found this tool and learning activity beneficial to make connections straight away; he mentioned that "I really enjoyed the 2 online chats. It was awesome to talk to Spanish people and understand the culture outside of the classroom." (Hans, OCQ3). Hans continues to elaborate in the second interview how he did more interviews than the ones required because he found it useful:

There were a lot of things in the project that I thought were learning tools, for example I did not know about Italki and that has actually helped me to get to know other people. (...) That is why most of the students did 2 chats but I did 4 or 5 chats. (Hans, SI2)

Ona, one of the teachers, also observed his enthusiasm for this activity when she commented that "Hans is one of the students who said who is going to continue the chats. I think that speaks for itself." (Ona, TI2)

However, this was easier for Hans than for other students as a person who was bilingual in Arabic and English and a highflyer in Spanish, having clear advanced cross-cultural skills and being able to adapt to the target culture of Australia after moving from Egypt.

Most of the students in the class but two, Hans and Shane, were born in Australia and were raised in a strong monolingual culture. Australia can host this incredible contradiction; it is an evident melting pot of cultures and languages but there is not a deep exposure to them unless you belong to a specific minority cultural or linguistic group. Additionally, it is more uncommon in Australia to travel overseas, as often as in Europe for example, to places with different languages and cultures because it is very isolated geographically and we must take into count that English is already a "lingua franca" all around the world anyways. This results in students having minimal exposure to situations in which they had to express themselves in a language other than their native tongue and learn other cultural patterns of behavior and communication strategies firsthand.

This issue was a primary concern for the researcher, who detected this gap during the first project and how they struggled to interact orally in class. This concern was the seed of the idea of the second project, which focused on identifying solutions to the expressions of racism in society and more concretely to bridge the gap of Anglo and Hispanic cultures, as a mirror of their low level of abilities to communicate effectively in a second language and understand deeply Hispanic culture.

Australia is a very diverse country but has long struggled with racism, as it could be appreciated from its White Australia policy in the mid-20th century that forbid non-European migrants to settle in Australia, or the more recent examples of the empowerment of a political party such as One Nation that has as its central pillar its opposition to Asian migration. In this scenario, the researcher looked to confront the fears of the students to the other and to be able to communicate in real-life conversations in a second language. The initial reaction was surprise, anxiety, worry about their language abilities, or even fear of using a social network with strangers. Iris, describes her experience with the chats very vividly, elaborating on the process of feeling fear, overcoming it, and then seeing the benefits and setting a confidence landmark for her learning path:

I believe that the chats were an incredibly helpful experience for Spanish language learning. If not for this assignment I would not have had the confidence to approach Spanish speakers to talk with them in Spanish. This is partly due to my own insecurities with my speaking skills and partly due to the awkwardness of talking with a stranger. However, after speaking with the people that I did, I felt much more confident talking in Spanish and I believe that I have turned a corner with my speaking abilities. (Iris, OCQ3)

She continues to elaborate in the second interview about what this meant for her despite the anxiety; it made her feel and how her perception of the whole communication process improved after she had positive experiences:

I thought the conversations (referring to online chats) pushed you out of your comfort zone, you don't usually go and have a conversation with someone and I thought that was really good, and really helpful and probably the most helpful thing that I have done, I guess so far, although it was nerve wrecking. (Iris, SI2)

Sally concurs with Iris commenting that "Italki was scary at first but in hindsight very beneficial." (Sally, OCQ3). She also describes a before and after effect with many details, in which she realizes that it was hard for her to talk in class before and to be exposed to

authentic speaking situations forced her to not only speak but also to realize that it is ok to do so:

I liked Italki. In our class we don't really talk very much like our teachers try to make us talk but we just talk in English. Which is not very good and we should probably try harder to talk in Spanish, but talking in Spanish is really hard and everyone just reverse back to English. (When she talked to an exchange). On Italki it was good because they didn't really understand that much English so we had to talk in Spanish or the conversation was just going to be nonsense, so we were liked forced to talk. It was terrifying (laughs). (...) Before we began it was...oh my god...I don't even know how to talk in Spanish...but once you start doing it it's alright (Sally, SI2)

This activity generated a lot of controversies initially; the researcher had to have a few private talks with students who were reluctant or scared to explain the potential benefits of it. Some of these students came back to talk to her after the second project to express their gratitude for a beneficial experience that meant a before and after in their sense of confidence when speaking in Spanish in an authentic situation.

Variable 6. Overuse of digital technology

It is also noteworthy to mention that the extensive use of different digital tools during the two projects was overwhelming for some students. The so-called generation of “digital natives” is native to some tools and immigrants to others. The researcher gave for granted that the students would not experience a steep learning curve when using the project management tool or content creation tools online, nevertheless, some students expressed their concern about the time consumed to learn how to create a blog or any online product, because that is not Spanish language per se. Students struggled to see how topics can promote life skills as well as content at the same time, and some saw little value in acquiring these “extra skills.”

If they have to learn how to use a new tool, that is not Spanish, that is learning how to use a new tool. I have to accept that it is not about Spanish. It also depends on what students, these ones we are assuming that they are technologically savvy and they know how to use everything and it is almost intuitive and they are eager to learn new tools, but they are not!" "Slack seemed to be ok and there was nothing really to learn about Slack. (Ona, TI2)

6.3. Teamwork

Teamwork is a fundamental component of PBL since one of the main pillars of this methodology is the belief that knowledge stems from individuals who share their experiences and skills to make them grow together through positive and regular interactions. Potentially, when teamwork is executed effectively, it can allow “ordinary people to achieve extraordinary results” (Scarnati, 2001, p. 5), however, we are all also acquainted with negative teamwork experiences too, at school or work, that can result in just the opposite and set a negative preconceived idea for future collaborative experiences. The following results and analysis describe the types of teamwork experiences that occurred during two semesters while in a PBL approach for the first time for students and teachers at an Australian University.

In the following table, students’ responses are shown to the survey questions related to their perceptions of teamwork during the two projects. Survey two was collected after the first project in semester one and survey three after the second project in semester two. Three survey items report on the perceptions of students towards their collaborative experiences working in teams.

Table 43

Student participants' responses to statements related to the category "Teamwork" in surveys two and three.

Category: Teamwork. Total responses: 6									
		Frequency of students' responses in a 6 points Likert-scale							
Questionnaire items (3)	Surveys	1. Strongly disagree	2. Disagree	3. No opinion	4. Somewhat Agree	5. Agree	6. Strongly Agree	Mean	
1	I enjoyed collaborating with people while learning Spanish.	S2		1	1	2	1	1	4
		S3	1		1	1	2	1	4
2	I learnt better by working towards a common goal.	S2		2		2	1	1	3.8
		S3	1	1		2	1	1	3.6
3	I would have preferred to work individually.	S2		1	1	1		3	4.5
		S3		1	1		1	3	4.6

The answers to the first item ('I enjoyed collaborating with people while learning Spanish.') show that most of the students considered their teamwork experience enjoyable, having a value of 4 for both the first and second surveys. Similarly, in the second item statement ('I learnt better by working towards a common goal.'), referring

this time to having shared goals with their teams, the results are very similar to the former item, scoring 3.8. in both surveys one and two. The number of students agreeing is four and two disagree, which concurs with item one too.

Finally, the third item ('I would have preferred to work individually.') reveals some significant contradictions if we compare the results with the former two items. In survey Two, there is a total score of 4.5. and in survey three, there is little change, with a score of 4.6. In both surveys, four students agree and two disagree, showing that most probably the same students maintained their point of view. These results show mixed feelings about working in teams; for example, in items two and three of this category, there are similar values that indicate enjoyment and acceptance of working in teams by most participants.

The answer to these quantitative values cannot be interpreted clearly because they contradict each other and need clarification from the qualitative data. The comments collected from students and teachers can give us a clue on the meaning of these results.

The first reaction of the cohort when presented with the idea of working in teams was rejection as observed by the researcher from the day of the presentation of the project, they challenged the idea several times, and some complained about the extra amount of time they would need. The students commented to the researcher on several occasions that they had to do teamwork assignments for other subjects, though they did not enjoy them and found it very challenging. The researcher asked several teachers from different departments of the area of Humanities at the same University and they all concurred that it was complicated for them too to be able to facilitate and navigate successful teamwork activities and that often they had situations in which students did not get involved or had intense conflicts.

The oral reports of students and teachers alike do not align with some of the literature that defends that using PBL instructions produces high-performing teams and improve collaboration skills. However, there are also voices warning about the possibility of misbehaviour and disengagement when in a long-term teamwork experience (Hertzog, 2007; Hung, 2011)

This situation was depicted by several students like Audrey, who states “I thought the project was very interesting with an important topic chosen, the least I liked about it was the practice of working in a team because we have all had lots of practice in this” (Audrey, OCQ2). Interestingly, one would think that when she said “we all had lots of practice with it” she meant that she felt confident with her collaborative skills, but yet she expresses that that was the part that she liked the least. From a conversation with Audrey and other student participants, the researcher infers that she meant that she had to do it for other subjects, but she did not enjoy it.

Similarly, Sally expresses her wish to reduce collaborative work when she comments in the survey “mas= new vocabulary to learn. Menos=group work” (Sally, OCQ2), as well as Cat, who in several comments reiterates the challenges she expressed when communicating in her group, “No communication in our group.” (Cat, OCQ2).

Cat elaborates on her issues that relate to her frustration when not being able to be assertive in the team and be heard or the difficulties to meet outside the class with her team members:

My team was pretty bad at communicating. Maybe we were just too different people. [...] Everyone was doing sort of different degrees as well [...]it is a hard time of the year, the last 2 to 4 weeks in the semester. [...] You might only see them in one class. [...] I don't get to get listened to. I am not much of a leader. You know it wasn't all bad...but...you know I wish I could have benched my frustration and say...hey...we need to communicate, log in and check this. (Cat, SI1)

She adds these challenges during the first project to the same challenges in the second project. She has a strong negative perception of working in a team when she says:

I like projects, but I always get annoyed working with other people. For me this is my extent major, like it is kind of an important kind of topic to do well in, so when you are in a group if somebody is not pulling their weight and it brings down your grade...you end up doing more and the you don't kind of rehearse your speech enough because you are too busy putting the information in. (Cat, SI2)

While Cat explains that one of the reasons that she does not like working in a team is that when one person does not pull their weight that affects her performance, Sally elaborates on a similar sentiment explaining that she thinks her assessment should be the only individual because she does not think it is fair on her or the others, since they may affect negatively each other:

I just don't really like group work, a have a couple of reasons. The first being that my assessment should be of me alone, it was not such a big deal because everyone did very well. (...) I fundamentally oppose. But it also goes the other way, in that in the oral presentation I didn't do very well. I felt bad because *Iris* is very good at talking, she was like flying along and I was like mumbling and just not doing very well, and then I felt bad because I thought I was gonna impact her. (Sally, S12)

The previous negative experiences of teamwork that some communicated to the researcher, the teachers, and in their responses of to the interviews could have involved unwilling self-sabotage in their performance within their teams during the two projects since they firmly believed beforehand that there could not be benefits from collaborating in a team.

Fortunately, not all students felt that firmly against it. Shane always behaved in a very collaborative way, and she expressed her enjoyment and how she thought to have different roles in a team was beneficial:

I liked how everyone had a role each. I'd like to believe that made it a lot easier when it came to dividing the workload for the project in the end. I enjoyed researching about the Spanish/Hispanic communities, churches and festivals. (Shane, OCQ2)

Iris was very critical about teamwork in other instances since she was very concerned about a team activity impacting her grades negatively, however, she saw the benefits only because she was in a group of friends:

I liked seeing what other people came up with. I liked working with my friends but I know other groups struggled with communicating + organisation. (*Iris*, OCQ2)

One of the teacher participants, *Cara*, felt that the teamwork activities were productive though she associated it with not working on grammar, despite the students regularly using grammar to communicate orally and in written form:

I like the activities that are in groups and pairs, speaking and communicative activities more than the purely grammar activities, but unfortunately you have to study grammar. (*Cara*, T11)

It is a common belief from some L2 teachers that grammar needs to be taught in the form of explicit lectures and drill exercises, which is not going to be defended nor disputed in this thesis, and *Cara* had those beliefs that make her struggle to see how there are other

ways in which grammar was learnt during the two projects, like when the students read, write and talk extensively being continuously exposed to authentic input and produced linguistic output. This perception of not learning grammar also happened to the students, who were used to more explicit and intentional teaching of grammar from the University Spanish program and most probably from their Secondary Education years as well.

Ona, the other participant teacher, analyses very clearly what were the challenges with teamwork concretely for her. She mentioned three main problems with it. The first one is that students were not used to it, which some of them refute like Audrey, who said she had much experience with it “the least I liked about it was the practice of working in a team because we have all had lots of practice in this” (Audrey, OCQ2). Ona’s comment probably refers to the students’ ability to work effectively in teams as opposed to being put in a group, as they used to do in other subjects.

The second one was how much more time-consuming was to produce something in a group in comparison with doing it individually. The time factor was an issue because the academic program was designed to cover a series of contents in a certain amount of time taking into consideration a lecture type of class and when the researcher implemented the two projects no more extra time could be allocated for these projects hence students experienced some stress for the amount of work asked from them in a time that was insufficient for this collaborative methodology.

Her third remark was about the logistics of meeting after class, the researcher indeed observed this because some students had part-time jobs, and it was tough for them to devote any time out of the class.

There are issues when working in groups and the number one is not wanting to work in groups, because a) they are not used to it, b) it takes more time to produce something in a group and c) logistics as in how they get together or how do they decide what each one is doing and if people do it or don't do it and they are responsible for their part. (...) in their view it is just more work. (...) if it was truly collaborative, if each member contributes to one section or one task and then looks at the other section and gives feedback then you can gain something, and you produce a better product as well. But if that second part is not done it only means more time and more hassle. (Ona, TI2)

Ona concludes that facilitating teamwork in class is a complete struggle for her as a teacher and the students, mainly because of the pre-existing negative emotions they have from previous unsuccessful teamwork experiences.

It's a fight to propose a group work and (...) you have to go through emotions of explaining why, how, you spend time and they don't do it because they only put the parts together! (Ona, T12)

From the class observations and teacher meetings, the researcher observed that it was not only the preconceived ideas of the students but also the ones of the two teacher participants that posed a threat to the success of the PBL implementation. In various meetings and spontaneous conversations, they both expressed how concerned and scared they were about the shift in methodology and how it was going to affect their established traditional assessment, concretely the grammar section of the test. Grant and Hill (2006) explain that there are teachers who find the implementation of approaches like PBL very risky because it involves being able to be flexible in new situations and change their role in the class, as well as significant modifications in the class like student collaboration dynamics, noise levels or assessment methods.

Literature shows that there is a correlation between teachers' beliefs about how education should be and the way they implement PBL (Eyring, 1989; Tamim & Grant, 2013; Toolin, 2004). The case study of Toolin (2004) follows the implementation of a PBL methodology in the area of sciences at a high school and shows how the teachers who initially resist the shift in methodology to PBL can change their beliefs only if they receive enough support, resources, and training. However, in the study of Eyring (1989) in the context of an ESL class where PBL was implemented for the first time, the teacher decided to come back to her traditional classes since she did not feel the PBL implementation was resulting in learning gains and noticed that students were less engaged. In the case of this study, the teachers did not receive enough support or training, just two meetings of an hour, each with no exposure to examples or authentic models of other PBL experiences. There were also many time constraints dictated by the university in terms of how much time could be devoted to developing the projects, which was communicated by both teachers and students in their comments.

To sum up, the teamwork experiences of the students were very diverse and uneven, having both positive and negative outcomes. For many of the students, there was a solid

emotional block coming from past negative experiences, combined with the lack of time and availability to meet after class. With regards to the teacher participants, there was a lack of alignment in their belief system about education combined with a lack of support, time, and resources to enable them to make a transition into another methodological shift.

6.4. Willingness to communicate and oral skills

Several students commented to the researcher and other teacher participants that they felt they had gained confidence in speaking in Spanish, which was a personal learning goal they had previously. Some of the ways that the PBL instruction fostered confidence to speak was working with constant oral linguistic input and output and forcing them to produce orally for their research, more intensely in project two with the compulsory oral interviews with native speakers. These activities and the exposure to authentic conversations with native speakers instilled in them a higher sense of achievement and willingness to continue to communicate orally in authentic situations. Willingness to communicate (WTC) refers to how language learners use any chance to communicate in a second, or foreign, language (see section 2.2.5 for reference)

Cat explains after the second project that despite the difficulty she experienced initially she felt she had an added value of gaining confidence to speak because of the PBL experience, which relates to her sense of achievement when being able to talk in a second language as opposed to before the project:

I enjoyed being forced to communicate in Spanish, as difficult as it was to begin with to gather the confidence to speak to a stranger on Italki, it was very beneficial and opened me up to finding new ways to get speaking, which I feel is lacking in classes due to such limited contact hours. (Cat, OCQ3).

Iris elaborates on her experience and explains the effect of the second project online chat activities on her overall confidence to speak Spanish:

I believe that the chats were an incredibly helpful experience for Spanish language learning. If not for this assignment I would not have had the confidence to approach Spanish speakers to talk with them in Spanish. This is partly due to my own insecurities with my speaking skills and partly due

to the awkwardness of talking with a stranger. However, after speaking with the people that I did, I felt much more confident talking in Spanish and I believe that I have turned a corner with my speaking abilities. (Iris, OCQ3)

Iris is very prolific in this topic and also talks about it in the second interview, reinforcing the idea of the activity as a learning milestone for her communicative oral competencies:

I believe that the chats were an incredibly helpful experience for Spanish language learning. If not for this assignment I would not have had the confidence to approach Spanish speakers to talk with them in Spanish. (Iris, SI2)

She describes how even if the experience was initially “nerve-wrecking,” it led her to have the confidence to speak in Spanish, what seemingly could be interpreted as an epiphany or landmark in her learning path, and concretely with her confidence.

I thought the conversations (referring to online chats) pushed you out of your comfort zone, you don't usually go and have a conversation with someone and I thought that was really good, and really helpful and probably the most helpful thing that I have done, I guess so far, although it was nerve wrecking. (Iris, SI2)

These comments from Iris about her nervousness were similar to many others from the students while doing the second project that involved talking to native speakers of Spanish that they did not know. This activity provoked language anxiety in many of them, since learning an L2 is reported by literature as an activity that can make students nervous or anxious when put in situations out of their comfort zone (MacIntyre et al., 2002).

It is inferred from the words of Iris that the phase of language anxiety led to another phase of increased confidence to use the L2. With a related sentiment, Hans explains that he liked the second project and that he felt he got learning tools out of it:

I have to say I enjoyed the project about...if you are going to put it out of a hundred, I would say I enjoyed 95% per cent out of a hundred. I enjoyed the project quite a lot, because there were a lot of things in the project that I thought were learning tools, for example I did not know about Italki and that has actually helped me to get to know other people. (Hans, SI2).

This comment from Sally, relates to the ones of their peers above, she explains very clearly how the class scenario was before and how the chats' activity meant a turning point for the class confidence in their oral skills:

I liked Italki. In our class we don't really talk very much like our teachers try to make us talk but we just talk in English. Which is not very good, and we should probably try harder to talk in Spanish, but talking in Spanish is really hard and everyone just reverse back to English. (When she talked to an exchange). On Italki it was good because they didn't really understand that much English, so we had to talk in Spanish or the conversation was just going to be nonsense, so we were liked forced to talk. It was terrifying (laughs). (...) Before we began it was...oh my god...I don't even know how to talk in Spanish...but once you start doing it it's alright. (Sally, SI2)

One of the teachers, Ona, also reflected on the comments of the students and how she collected the general idea that they felt it involved major learning benefits:

It was really good and some of the students' anecdotal comments from them said that despite being hard (...) it was actually very good, and they certainly were able to see the benefits, it gave the confidence, which it is I think very important. (Ona, TI2)

Ona elaborates more on this idea and expresses that she thinks students should be more exposed to activities like this during the whole academic year:

I think they were given an excuse to do something they would never do otherwise, (...) like the chats, (...) that was really needed and that it should even be implemented throughout the whole semester (...) maybe once every month or a few weeks. (Ona, TI2)

Ona did not only express what she had been told but commented on her own observation of the class and how she perceived a change, she said "I could hear some of them participating more, elaborating more." (Ona, TI2)

6.5. Authenticity

Authenticity is one of the primary goals of most teachers of a foreign or second language, in the end, they want their students to face successfully authentic communication situations, and it is also vital in one of the most common teaching and learning methodologies in L2, the Communicative Language Teaching (CLT) method. In section 2.2.5 of this thesis, when talking about one of the significant benefits of using PBL instruction in L2, Stoller (2006) identifies authenticity as a fundamental one for learning an L2.

Some students commented on how they enjoyed being connected to authentic information and people. Cat mentions, "I enjoyed letting people know about Adelaide." (Cat, OCQ2). Shane contributes with a very detailed explanation about how it motivated her to learn about something that mattered to her and how talking to a real person who was one of her main sources of information encouraged her:

In general, I liked the project, because it gave me the motivation to research a bit more about the things I talked to the people I interviewed, I went to the Internet and looked the festivities. And some things that weren't very clear in the interview I would call the man and ask him....could you repeat this part? Because after a few weeks I wouldn't remember, and I asked him...please sir could you explain this? because I don't have enough information to put in my project. (...) And then he gave me more information. (Shane, SI2)

She continues explaining how through the project, she was able to widen her cultural perspectives; even if Shane was of Hispanic origin already, she did not investigate her homeland but rather other countries.

First of all, I enjoyed doing the project because it gave me a chance to interact with other people's culture, religion, beliefs but also, I got the chance to know about other Spanish speaking countries other than my own country. (Shane, SI2)

Ona, a teacher participant, reflects that for her, one of the significant benefits of the methodology is that students got exposed to authentic materials and also get to create something real for a real audience.

Certainly, the authentic side of it, this is a product, an item, (...) I think that was a positive impact in the students. It is not just an exercise that I complete I submit for the teacher, it is for the world. (...) The fact that it was real (...) was the strongest point. (...) Because it is a real product, it is not an exercise, they enjoy it. And in this case they also enjoy the fact that they were helping others or potentially helping others. (Ona, TI1)

Authenticity can have a very positive impact on language proficiency as mentioned at the beginning of this section, but we must also consider that the two projects were proposed from the standpoint to serve the community. The first project trying to solve the issue of the new incoming Spanish-speaking students not having enough information to settle and enjoy student life in Adelaide, and that is why the international office used the guides as resource material for those incoming students. In the second project, the issue was the high levels of racism in Australia, and the products were designed to use conversations, cultural awareness, and language learning as ways to connect people who fear the other.

In other words, the impact of the authenticity factor did not only positively impact the students' motivation and communication skills but also the Hispanic community that was involved.

6.6. Key implementation challenges and future implications

One of the vital contributions of this thesis is precisely the reflection on the main challenges faced in a Higher Education context in Australia, with a very concrete profile of students and linguistic context when using PBL instruction. This section can hopefully serve as a brief reflection guide for PBL practitioners to better understand, anticipate, and overcome the issues that the researcher and the teacher participants faced during the implementation.

6.6.1. Navigating teamwork successfully

For both students and teachers alike, teamwork was one of the biggest challenges of PBL instruction. As explained in section 6.3. of this chapter, most students had pre-existing negative perceptions of the experience of working in teams. As they were reluctant from the beginning, it was challenging for them to exploit all the potentiality of the collaborative experience, and for teachers, it was challenging to facilitate it as several issues arose, such as lack of communication, conflicts or uneven distribution of tasks or lack of engagement.

Lessons learnt and future implications

Teachers could facilitate several teambuilding activities before beginning PBL instruction to build and cement bonds among the students. For them to be truly meaningful and useful, these activities should come with a final reflection phase where team members reflect on what decisions they made and how they could do it differently. It is also crucial to make visible all the different contributions of the team members, making them more aware of their strengths and weaknesses.

Additionally, teachers could work on better team forming by pre-testing students on their soft skills, knowledge, and interests. In this way, teachers could form teams accounting for the complementary skills of students.

Finally, one aspect often forgotten about teamwork experiences in a class or even at work is to have an atmosphere where students feel safe. Teamwork involves an enormous amount of communication, and there is a need to be able to rely on each other to succeed. It is critical to use social and emotional techniques regularly in class to create this environment where students can build trust in each other and share safely without feeling threatened. Establishing positive and constructive communication protocols such as the Non-Violent Communication protocol developed by Marshall B. Rosenberg can help, as well as establishing rules together on what it means to have appropriate conduct.

6.6.2. Lack of training

In the case of this study, neither teachers nor students had a smooth transition into the pedagogical shift, they were not quite ready for it. Though in study one this need was one of the salient challenges reported by the Higher Education educators around the world, in reality, because of time constraints and lack of resources, the training possibilities were minimal. One of the teachers, Ona, reflects on how hard it was for her to make the change and that if these projects were to be done again she would propose more training and support:

For me it was a steep learning curve, I had no experience, it was a bit daunting. If I had had to do it on my own I am not sure if I had done it. On my own I think I would find it difficult to be motivated to do it, because it wouldn't be clear. (She thinks she would need) Training, practicing or something like that before you take it into the class, it doesn't have to be a 6 months training, it can be a couple of workshops. (Ona, T11)

Lessons learnt and future implications

Both students and teachers would have needed to experiment with shorter projects, with a low level of pressure and only formative assessment. They would have also benefited from more training and support not only in the PBL methodology but also in acquiring some of the soft skills needed to facilitate it effectively, such as collaboration and communication skills. Ona reflects on her own needs as a teacher and identifies training as a priority for the PBL implementation to succeed.

6.6.3. Linking the project with grammar goals

In the area of SLA, there is a controversy on the topic of teaching grammar explicitly or not. According to the Communicative Language Teaching method (CLT), one of the most spread when teaching a second or foreign language in the western world from the 1980s onwards, grammar should not be taught in explicit lectures but be introduced inductively first and learnt through authentic interaction. This method aligns perfectly with the core philosophy of PBL, which stems itself from a social constructivist approach, where learners are always encouraged to learn through interaction and to be exposed and create authentic communication utterances. However, the treatment of grammar in CLT has been widely questioned by researchers and by practicing teachers alike, who tend to adopt this method their students' needs and their ideas on L2 learning.

Even before starting the first project, the preconceived ideas on how grammar was learnt more efficiently by both teachers and students jeopardized the feasibility of the PBL implementation. Teachers were very experienced and believed in the effectiveness of teaching grammar explicitly in class for a significant part of every class and to have students fill drills in as well as be tested not only with communicative output products, like writing and speaking but also with fill in the blanks exercises covering specific grammar points.

In PBL, there are not many available curated examples on how to navigate this decision regarding grammar in the area of L2 teaching and learning while doing a project. Initially, the spirit of PBL promotes embedding learning through interactions, inquiry, and research, not explicit lecturing. However, this has significantly changed in the last ten years, having more and more examples of teachers and schools who use hybrid approaches to PBL, where there is also room for lecturing and other methodologies that can coexist together and benefit from each other.

The first project's design included many explicit links to the acquisition of linguistic competencies and concrete vocabulary. After the first project, it seemed evident for most of the students what were the gains in terms of grammar and writing skills, though they only had to do a final oral presentation; hence some perceived that oral skills were not

reinforced equally with the other communicative skills, which was stressed in the second project:

I think it was very good because I got to use the subjunctive in quite a lot of different projects so as I could understand it better but that does not improve my speaking. (and writing production?) That has improved. (I learnt) I wrote quite a bit. I guess that with the subjunctive and having to write about topics make you think of new vocabulary. (Cat. SI1)

Cara, one of the teachers, however, claimed that in the same first project she would have missed more grammar despite liking the activities proposed:

I like the activities that are in groups and pairs, speaking and communicative activities more than the purely grammar activities, but unfortunately you have to study grammar. (Cara, TI1)

Cara continues to elaborate on how she would have chosen to facilitate grammar knowledge, in a more deductive way, meaning explicit, even if she thought that the goals of the project did align with the use of the subjunctive:

I would include a more deductive grammar, more contextualized, more interesting activities. (...) I have liked the project, I think it was very well aligned (...) the subjunctive and the area of making suggestions. I think is good because they can use the subjunctive. (...) They should include some sentences to force them use the grammar. (Cara, TI1)

After the data collected from the first project, the findings revealed that several students and the two teachers believed there should have been as much focus on explicit grammar teaching as there was before the project. The two teachers and the researcher then decided that instead of devoting one separate hour out of three to grammar, they should do grammar in every session to reinforce it. The schedule of project two then changed its structure and there were 40 to 50 minutes of grammar lecturing in every session. Additionally, they all had online grammar exercises available from their textbook.

Nevertheless, these changes did not prevent the uncertainty of students towards their perception of learning grammar and being able to pass the tests, that as mentioned before, included grammar drills. The reason behind this reaction likely was that the topic of project Two, bridging the gap between Australian and Hispanic culture through storytelling and mutual understanding, did not have such a clear grammar goal as project one and the final test did contain a specific grammar section. Unfortunately, even if the

assessment of the project was formative and summative and involved all stakeholders, as it is recommended in PBL instruction theory, the researcher could not control the established formal tests that the Spanish department had, and students did not feel very prepared for their “traditional” test and felt stressed to be investing so much effort and time if that was not going to be a concrete test preparation.

Shane, Sally, and Cat also asked for more grammar exercises:

It would probably be having lots of grammar exercises to do so I could improve my grammar skills, doing lots of Spanish reading so I could improve my comprehension skills and also listening skills. (Shane, OCQ3)

I like textbook grammar exercises, conversation exercises and long answer written tasks like essays. (Sally, OCQ3)

I would like to incorporate more of the grammar and vocabulary that was related to our classes. So we would have an opportunity to practice new grammar we were learning in class. (Cat, OCQ3)

Using PBL instruction with traditional assessment, and only giving a 25% of the grades' weight to the projects, even if not the researcher's decision, clearly undermined the value that students put on learning about Spanish language and culture and replaced it with the anxiety of not being ready for a test:

They (the students) were like, when the grammar exam came, (...) they believed they did not dedicate enough time for that. (Cara, T12)

I heard from some students that there wasn't a need to work so much on the project in class, it could have been done in less time and they should have had more grammar. (Ona, T12)

Cara, one of the teachers, even if she made positive comments about the development of the project continued being very preoccupied about including more grammar and even proposed to reduce project work to one hour a week, which is a three weeks project, already a concise time, would have given them only three total hours to work in teams in class:

It may have been better to do one day 2 hours of grammar and the other day 1 hour of project work. (Cara, T12)

She continued, proposing to include more grammar:

They should do something individual for the project and that something should be related to grammar, that could give them a mark. (Cara, T12)

Lessons learnt and future implications

Conti (2015) warns about the risk in PBL of not being able to monitor and facilitate the learning of specific vocabulary and grammar structures related to common standards, hence proposes to provide tools for students to be able to practice their linguistic skills.

During the first project, there were plenty of sample sentences using the subjunctive, which was the grammar learning goal, as well as it was included as a requirement in the learning journal and the assessment criteria. However, the grammar points and vocabulary were much broader in the second project, students learnt different sets of vocabulary and grammar items, and despite that being a positive outcome, they had a close set of grammar points and vocabulary to learn for the standard test and it created them anxiety.

It is a requirement for a successful PBL implementation to have an alignment between its methodology and the assessment methods; they should be coherent and well connected. PBL projects are not a preparation for a test, they are a learning experience in itself and the assessment is done during the whole process in many different ways (learning journals, observation, feedback, learning artifacts, oral presentation, exhibition) and by different people (teacher, peers, self, external audience). This multi-faceted assessment system is more complete and more productive than doing a test at the end of a unit, it also allows the student to give proof of learning at different stages and for an extended period, as opposed to just one day which may not showcase the real learning outcomes.

PBL embeds content and skill knowledge within, Jennifer González defines this very clearly when she says that in PBL content is “baked inside of a long-term project” (González, 2016). There must be a focus on the process itself, not only the outcome, and students must have an ongoing holistic and multi-faceted assessment. Therefore, the details on what types of assessment will be used need to match the social constructivist approach that PBL is, and if not possible to do so it can be a deal-breaker before deciding whether to use PBL instruction or not.

6.6.4. Negative emotionality from students and teachers

What was difficult was the initial response from the students. There was an initial negative reaction including the why do we have to do this. They like routines, also they are in their second year (...) and things are done differently from last year and you have to explain why you are doing them differently. The expectation is that you are going to do the same format for everything. (...) If there is a change it takes some time to accept. (Ona, T11)

Ona illustrates perfectly how the students felt about the shift in methodology, they were afraid of facing a relevant change in the class methodology, and that created some anxiety. They were presented with the idea of the project one week, and it began just shortly after that, probably not having enough time to process the new information and to be more involved in the decision-making.

The researcher presented the methodology and explained it to the students before the beginning of the project with an oral presentation and the students were given a guide. She explained to them that the goal of the project was getting them closer to authentic language exposure and Hispanic culture, yet that was not enough, and they continued to show fear of change. The researcher realized that several of them had made major improvements in terms of confidence and oral fluency, however, they thought the use of grammar in their writing and oral productions was not real knowledge of grammar but rather the one that enables them to be able to complete exercises and tests about grammar.

Similarly, the belief system of teachers about what methodologies work and the fear to impact students negatively also played an essential role in the development of the PBL implementation. As the literature suggests, teacher resistance negatively impacts student success and the general effectiveness of PBL instruction (Beneke & Ostrosky, 2008; Hertzog, 2007). In the introductory meetings before the first project started both teachers, Cara and Ona, expressed their reservations about the effectiveness of a PBL approach to L2 teaching and learning. However, these fears were reduced through practice and experience, and most probably, should they have continued to implement PBL in class, their increasing level of proficiency in PBL facilitation would have impacted positively in the reduction of their level of anxiety.

Lessons learnt and future implications

Students would have needed to be reminded of their accomplishments at every sub-goal or small milestone to avoid this situation. For that same purpose, in the first project, an integral part of the learning activities, the students had to write a short learning journal every day and post it to the communication app, Slack. However, many of them were not ready to make meaningful connections between the authentic experiences they were having with the acquisition of linguistic competencies and grammar. Students did not seem very aware of their progress even if they were making it, hence working on reiterating sub-goals and recording their accomplishments in different ways could be useful to enhance their perception of learning outcomes and working on acquiring meta-cognition skills so as they are more aware on how they learn best and what strategies work for them.

It is documented by research that student achievement can be higher when using inquiry-based approaches if systems and policies align with project-based principles (Ravitz, 2010). That is why the success of the enactment of PBL relies on a whole shift from all the participants of the educational community, meaning not only the teachers but also the school and educational system (Barron, et al., 1998; Blumenfeld, et al., 1991; Geier, et al., 2008; Ravitz, 2010). The educational system of the department was not that flexible in that sense since the time allocated, and the researcher could not change standardized test dynamics.

6.6.5. Lack of time

The two projects were developed in periods of three weeks, each with a total of three hours each week. Both teachers and students expressed that this was insufficient time to complete the project to high-quality standards.

Ona reports on the comments of students who expressed how they felt they did not have enough time and how they felt stressed about the projects impacting negatively in their grades:

(...) there wasn't enough time to provide all the information they thought they could provide. (...) For them, those who are specially driven by marks, they want the grammar, they said they didn't have enough time. (...) They weren't sure if they were going to do well in the test...I think it is also because it was a very first project, so it needed more time...time to be explained, to practice (...) all that took a lot of time. (Ona, T11)

The profile of the students, most working part-time after class, made it difficult for them to meet, and even if the subject stated that some hours had to be devoted to working at home, this was not possible for some. As Ona mentions, this issue added up to negative teamworking experiences where some of them had to pull all the weight of the team, and that delayed the completion of their projects and were the pillars of some negative preconceived ideas about working in teams:

And then it is the issue that most students they are...because they are so busy...because they have had some previous experience working in teams, and it hasn't always been positive, also they worry that they won't work well together that it will take longer to do things, some would pull more weight than others, won't be able to meet outside the class. (...) (Ona, T11)

6.6.6. Adequacy of space

The implementation of the projects was carried out in a computer room with the tables arranged in a very narrow U shape. There was barely half a meter between the students' chairs and the line of computer desks and chairs behind them. Added to that, tables could not be moved so students had to do carry out teamwork activities in a very uncomfortable space, unable to look at each other straight in the face as there would be usually 3 or 4 students seating in a row, trying to juggle with the chairs to be able to maintain a conversation.

This issue was reported in study one, the online survey to worldwide educators, where many of the participants who already had experience with implementing PBL reported this as a major issue.

Lessons learnt and future implications

The researcher had to adapt the time for the two projects from previous time clusters assigned to content units of the syllabus by the university, and these projects came to substitute those. However, the contents assigned to those time clusters corresponded to methodologies that take less time, with a more substantial component of lecturing and a small daily tasks-based approach, not teamwork activities. After the first project, it was already evident that PBL takes much longer to facilitate than their former methodology:

For a project to really work, 3 weeks being the first project was not enough, we would probably need 5 weeks. I am not really sure, I can't say." (Ona, T11)

For future PBL instruction implementations, it is advisable to allocate more time than the one provided for classes facilitated with less interaction among students or that imply a massive component of teamwork. Nevertheless, even if this may seem a disadvantage it is merely a question to plan accordingly and be coherent with the alignment of contents and the type of methodology. PBL is proven to enhance the learning of life skills such as problem-solving, critical thinking, and collaboration abilities that otherwise are not usually part of the curriculum of an L2 class and are worth including to prepare students for life.

6.7. Summary

One of the cornerstones of this study is to test the feasibility of using PBL instruction in an L2 context when there are not ideal conditions; that is, the whole educational community is not united to support this decision. The singularity of this study about PBL instruction at the Higher Education level for an L2 is the emphasis on reporting not only on a detailed account of the instructional design and the challenges but also on concrete potential solutions. Both teachers and students were reluctant to invest time and effort in participating in PBL instruction as it may happen in many current educational contexts where there is a long tradition of working with a concrete pedagogy and making a pedagogical shift involves the willingness and motivation to invest time and effort to do so.

Both teachers and students would have needed more time and training to improve the main life skills that PBL entails, such as collaboration, creativity, critical thinking, or communication. Similarly, there was an initial adverse reaction of fear to the unknown and mistrust from both teachers and students, who were used to more traditional ways of instruction, that posed severe challenges to the success of the PBL implementation as they were perceived as better ways because they prepared for the tests.

The findings discussed in this chapter show controversial results pointing at different directions, with both positive and negative outcomes. On the one hand, working in teams proved to be extraordinarily conflictive and harmed the emotionality of many of the student participants. The limitation of time and the profile of students who found it challenging to meet after class to collaborate on the project tasks made it hard for them to expertly complete the tasks, which had a negative impact on their emotions and increased their levels of stress. Additionally, the lack of coherence between the PBL methodology and the final assessment method, imposed by the institution, made students feel unprepared for more standardized testing methods and hence question the validity and usefulness of a methodology that did not prepare them for such tests. There were also limitations in the design of the project because students did not see the connections between the learning activities and the language gains at all times, they would have needed constant reminders of their sub-goals and goals achievements, and more so taken into account their feelings of uncertainty and need for proof of validation of the methodology.

On the bright side, despite all the challenges, the motivation levels, which levels were already very high, did not change significantly after two semesters using PBL instruction, they decreased slightly after the first project and then rose again after the second project, when students were more used to it and saw some benefits. Students also reported that being connected with authentic situations and people motivated them greatly and increased their empathy towards the Hispanic community, concretely after the second project, where they had to interview random people from this community to learn about their family life and culture. The primary benefit emerging from this study is the increase

in the confidence of students when communicating orally and being able to participate in authentic conversations with native speakers spontaneously.

The use of different digital technologies did not impact enormously on the motivation of students, neither positively nor negatively. However, some students and teachers did mention the positive effects of using StoryMap JS to create more visually engaging online presentations and guides and more concretely, Italki, the social platform for language exchange, had a very beneficial impact as a tool to connect the students with real native speakers of Spanish.

The experiences contained in this study can be transferred to PBL theory applied to the teaching and learning of an L2 in the context of an Australian University, with a concrete profile of students, mainly from a monolingual background and with little exposure to intensive and communicative L2 learning, that posed a challenge to this sort of methodology.

Furthermore, the results presented in this chapter are of relevance to PBL research in a broader sense because they pose exciting challenges for the future, wondering about the feasibility of PBL instruction in contexts where there is not an institutional shift towards more active pedagogies as well as students who do not consider second languages as subjects worth investing extra time or effort. In Australia, foreign languages are not fundamental to obtain a higher social or economic status, such as the status of English as a Second or Foreign language in most of the world, where it is needed to obtain better job prospects or access to higher academic achievements. The next and final chapter, Chapter Seven, combines findings and conclusions from the two studies presented in this thesis and concludes by considering the implications for PBL research in the area of SLA.

Chapter Seven. Conclusions

This chapter presents the conclusions of two complementary studies, the first one investigating the perceptions on PBL methodology of educators of second and foreign languages at Higher Education institutions around the world and the second one looking at the impact of PBL instruction on teachers and students of Spanish as an L2 at an Australian University.

This thesis is one of the few to build on and contribute to work in the field of the use of PBL instruction in the teaching of Spanish as an L2 in the context of an Australian Higher Education institution and to elaborate with detail in the instructional design process as well as on the specific potential solutions to the challenges experienced. Although some studies have examined the impact of PBL instruction in English as a second or foreign language at different universities around the world, there has not been a strong focus on other languages than English, such as Spanish and the concrete case of an Australian University. One of the leading singularities of this study is that both teachers and students felt some level of reluctance to invest time and effort in participating in PBL instruction, as it may happen in many current educational contexts around the world where there is a long term established pedagogy and preconceived ideas about it, hence making a pedagogical shift more challenging.

As such, this study provides additional insights into the obstacles teachers and educational institutions may encounter and provide ideas on how to navigate them when implementing PBL methodology. PBL instruction needs a significant amount of time and effort as an initial investment from teachers and students alike, hence where the status of that language is not prestigious socially or economically, as it is the case of Spanish in Australia, that can be a very determinant factor for the chances of success or failure of its implementation. The researcher provides a unique understanding and reflection at how there is a crucial connection among the participants' preconceived ideas on the effectiveness of PBL, the status of a foreign language in a country, the involvement of the whole educational community, and the effectiveness of that methodology in motivating and fostering learning.

This chapter begins with a discussion of the main findings of the study and the researcher uses the three research questions that shaped the sustained inquiry of this study to guide the structure of this section. Next, the researcher examines the limitations, future research and the chapter concludes with a summary of the final remarks.

7.1. Major findings

In this section, the researcher will discuss how the results address the three research questions. First, the possible interpretations for every research question to then reflect on the limitations of the study, the possible avenues for future research, and the concluding remarks.

7.1.1. Research question one

What are the challenges and benefits that educators can encounter in the implementation of a Project Based Learning approach to teaching and learning in the context of SLA in Higher Education?

Challenges

PBL instruction involves different challenges for both students and teachers alike. In both present studies, Study One (a survey collection of data from teachers' perceptions on the impact of PBL on their students and their teaching practice) and Study Two (a class implementation case study to understand the perceptions of students and instructors at an Australian University on their experience with PBL instruction infused with technology) there were five significant common challenges identified: 1. Navigating teamwork for students and facilitating it for teachers; 2. The lack of training for teachers and students; 3. The lack of time; 4. The negative emotionality from teachers and/or students when confronted with a pedagogical shift and 5. The difficulty to align PBL instruction with the already existing curriculum. It is remarkable to observe how the data the researcher collected from educators around the world, in 13 different countries and 6 continents, and the data gathered in the implementation study at an Australian university coincide in so many vital points, which strengthens the validity of the results of the two studies.

From the five core challenges identified, the first, navigating successful teamwork was reported by the teachers in study one as being both challenging and empowering (see section 6.6.1. for reference). From the two groups, the teachers who had experience in PBL instruction and the ones who did not but were interested, there was a different perception of how challenging it was to facilitate teamwork in class since the inexperienced group did not see it as a prominent challenge while the experienced group did. Interestingly, the experienced group also saw teamwork as very beneficial for learning and motivation, once passed the initial learning curve and transition period. In study two, the teacher participants saw teamwork as an obstacle and, in a final reflection, commented on the need to get training for the students and themselves on the necessary skills to be able to work collaboratively in a practical way, which teachers in study one report equally.

This afterthought of the teachers in study two connects with the second challenge, the lack of training. In study one, almost half, 47.06%, of the group of teachers who had expertise in PBL reported the lack of training as an issue, whereas 78.95% of the teachers who did not have experience in PBL did, almost all of them. This showed this factor is one of the main obstacles to overcome for most teachers who are considering whether to embark on PBL instruction or not. Similarly, in study two, one teacher, Ona, reports widely on her need to obtain more training. In this case, the researcher observed the lack of soft skills of students when it comes to performing collaborative tasks successfully, which leads to the conclusion of them needing long-term training and to be exposed to sample mini-projects before beginning a long and deep PBL experience.

The lack of enough time is also one of the main difficulties when implementing the PBL methodology identified in this study. In study one, most of the teachers with experience in PBL, a 73.68%, believed that the lack of time is a significant issue when using PBL instruction, as opposed to the significantly lower expectation from the teachers with no experience in PBL, from whom only 47.96% foresee this as a future obstacle.

In study two, due to the department's pre-established academic schedule, the projects had a duration of three weeks, with three hours each week. This time allocation seemed insufficient for both teachers and students, creating some level of stress and the belief that the quality of the products and learning experience could have improved with more

time. Students had a profile that proved to be challenging for PBL instruction since many of them were working part-time and did not have much extra time to meet with their teams after class.

Consequently, the lack of time, the difficulties navigating teamwork, as well as facing the unknown were some of the significant reasons to lead to a negative emotionality from students when embarking on the PBL journey in study two. Regarding teachers, both the experienced and not experienced teachers in study one described similar experiences in their practice as well. The concerns from teachers in both studies responded to several reasons, among them a lack of training, the negative reaction from students to collaborative activities that involve a high amount of time and effort, additionally the absence of valid high-quality models that were specific for the subject matter, a second or foreign language in this study, to serve as a guide and their fear to change and preconceived ideas about what learning involves.

Finally, the last of the common core challenges found in common to the two studies refers to the difficulty to align PBL instruction with the already existing curriculum. In study one, interestingly, the inexperienced group of teachers showed their preoccupation with the challenge to align their curriculum with PBL instruction as opposed to the group of experienced teachers, who did not report on this issue. In study two, all teacher participants were novices in the use of PBL instruction and felt similar to the inexperienced group of study two. There were multiple utterances from both teachers and students asking for more explicit grammar since the curriculum of the subject had some explicit grammar goals and they were not always visible during the two projects.

As discussed in section 6.6.3, this is a controversial issue in SLA, and the opinions on the matter coming from both teachers and students are varied. Since in the PBL spirit, projects should be more open-ended and with minimum teacher instruction, but rather coaching. In study two there was a clash of ideas from teachers and students alike on what is to be expected in terms of teaching grammar. Both teachers and students were used to explicit grammar lecturing, complemented by communicative activities too, having a mixed approach between CLT and the grammar method. When in the PBL implementation, study two, the grammar lecturing was reduced and substituted for more research using authentic texts and team interaction and as a result, there was a general

concern that they were not learning grammar, despite being exposed inductively to grammar constantly.

In study one, the online questionnaire for worldwide teachers, there were three other challenges identified, as well as the five above mentioned. The first obstacle was the unsuitability of space, which did not appear in study two, which refers to not counting with appropriate learning spaces to work in groups, because of its size and/or ability to move tables and chairs. The second obstacle was having cohorts with very low L2 skills, making it very difficult for them to use the L2 in teamwork and to understand and produce L2 communicative materials, like texts or oral productions.

The third obstacle was the lack of institutional support, meaning not having help from colleagues and/or superiors and the institution itself. In study one, the percentage of answers show this is a minor problem for the teachers already doing PBL instruction, a 36.84% reported this as a challenge for them, but it contrasts with a higher percentage reported by the teachers who did not have experience in PBL yet, a 52.94%.

In study two, there was some departmental support, since two teachers were willing to try PBL instruction during their regular Spanish language hours allocated to them by the university. Nevertheless, there was no support in terms of more time or resources allocated by the institution and there was not a willingness to adapt the evaluation methods for PBL methodology.

Benefits

Literature reports PBL as carrying many benefits related mainly to improved learning outcomes, motivation, engagement, and acquisition of life skills, see section 2.2. for reference. Unlike the challenges, in terms of the benefits, there are not so many common occurrences between the first and second studies of this thesis. The discrepancy can be attributed to the lack of experience from teachers and students in study two and the challenges mentioned in the previous section, such as lack of time, the peculiar profile of students, lack of motivation to invest time and effort, to mention a few.

The main common benefit that is described in both studies is the value of authenticity, which is believed to play a major role in SLA. Remarkably, it appears in the open comments of educators in study one, perceived as a positive outcome of PBL by both experienced and inexperienced teachers. In study two, several students expressed their enjoyment of not only discovering about Hispanic culture through real sources but also being able to create and share with a real audience, which made them feel deeply connected with the Spanish-speaking world. Stoller (2006) also emphasizes authenticity in her account of PBL benefits in L2 teaching and learning as one of the main takeaways of PBL instruction.

In study one there are three more benefits mentioned apart from authenticity, these are teachers' enjoyment, student motivation, and collaboration skills. The vast majority of teachers who had experience with PBL reported enjoyment when using this methodology, probably because they had passed the transition period where they had to learn it and practice it until they felt comfortable using it, enjoying now its fruits. In the case of study two, the teacher participants showed both interest and concern, it was difficult for them to navigate the changes and obstacles without enough training and support.

Teachers in study one account for their students' high levels of motivation when doing PBL projects, though we don't have direct information from them, just the teachers' perceptions. However, in study two, the initial very high levels of motivation fluctuated slightly to smaller values during the two semesters. Just after the first project, the motivation levels diminished slightly, correlating with their accounts on the challenges encountered and their levels of stress, and recovered to a small extent after the second project. This phenomenon relates to a greater part of the discussion of study two in chapter six and the preceding section on challenges. The emotional strain of facing a new situation, struggling to see the future benefits associated with it, and the lack of time to do it to a high standard, made it difficult to sustain high levels of motivation during this initial pilot PBL implementation, though if it would have continued with proper time allocation and training for both teachers and students the motivation levels could have improved.

Another relevant benefit described in study one was the use of collaboration or teamwork skills. A high percentage of teacher participants, 64.71%, reported that students enjoyed working in teams. However, in both the experienced and inexperienced groups of teachers, they point at the challenges that teamwork involves, such as successfully assigning roles and tasks while students work collaboratively. It seems that these teachers acknowledge both the motivational value of teamwork and its challenges since they comment on both. In study two, students found it challenging to collaborate due to different levels of commitment, not been able to meet outside of the class, and communication issues mainly. Furthermore, many of them expressed that they had pre-existing negative experiences working in teams, and that made them reluctant from the start to engage in collaborative activities, especially if they were long-term. For teachers, this situation was, at times, difficult to deal with, and they would have needed more support on how to facilitate teamwork in a class.

Finally, in study two, there was an unexpected and very relevant benefit that arose from the comments of the students and the teacher and researcher's class observations and that was the increase in the students' confidence to use Spanish in authentic contexts. From the beginning of the classes, the researcher observed that they struggled to use Spanish orally, they seemed a bit shy when exploring their oral fluency—taking into account the particular situation of foreign languages in Australia, a mainly monolingual country, where students had not been extensively exposed to real interactions or the need to have them with native speakers of other languages. This could strike as a contradiction to the reader, given Aboriginals of Australia speak more than 300 ancient languages and the country itself is a melting pot of immigrants from Asia, Europe, and the Middle East mainly. However, unlike Europe, the Australian educational system does not have a comprehensive public system of bilingual schools, but instead second languages are given a very secondary place in the curriculum.

Many students showed signs of increased Willingness to Communicate (WTC); that is a way in which language learners use any chance to communicate in a second or foreign language (see section 2.2.5 for reference). The projects exposed them to authentic situations and audiences; the purposes of both projects were intimately related to the Hispanic community. In project two, they connected with real native speakers, and

though it was daunting initially, it proved to be a powerful motivator and a confidence booster.

7.1.2. Research question two

How can these challenges be addressed in the implementation of a PBL approach for Spanish language learning in an Australian university?

In the two project implementations, teachers, students, and the researcher faced several challenges, explained in section 6.6., which can be summarized into five major ones. 1. Navigating teamwork successfully; 2. Lack of training; 3. Linking the project with grammar goals; 4. Negative emotionality from students and teachers, and 6. Lack of time. In section 6.6. I discuss the possible interventions for future class implementation of PBL for each case concretely.

In study one, some of the key recommendations given by experienced PBL educators around the world were to:

1. Train teachers on PBL
2. Scaffold PBL for students
3. Design with the end product in mind
4. Invest time in the design of the project
5. Devote time to develop PBL in class
6. Navigate negative feedback
7. Be open to a new methodology
8. Show the purpose of the project to the students

Overwhelmingly, training teachers have been the more recurrent recommendation given by both the educators around the world and as a reflection coming from the teachers and researcher in study two. The researcher, as a current educational consultant working on teacher professional development in the area of PBL, can testify that without long-term training and peer support, it is unlikely PBL would be able to thrive at class or school level if so, it would be a heroic accomplishment. The main reason is that PBL is an umbrella term for a compound of different methodologies and teaching strategies; some of them can be very familiar to some teachers, but others may seem alien too; it takes time to

master all of them and see the big picture. PBL is not yet one primary subject usually taught in education degrees for pre-service teachers, and there are not so many teachers in the world who can be considered experts in the area, hence sometimes is not so easy to find high-quality training neither, mainly if the teachers are not located in the US, where this method originated, and more training experts are available.

The researcher's experience as a teacher trainer in PBL backs up the idea that to implement PBL effectively; teachers need to make a long-term pact with a team of peers and institution leaders who are willing to invest time and effort in learning and supporting PBL instruction. This long-term pact would not only entail a once-off training, which clearly will not have a significant impact on acquiring this or any other skill, but that is also typically learnt through extensive practice, with mentors, and through trial and error. Treating PBL training for teachers as something teachers can learn by taking notes and try to memorize is a fatal mistake some teachers and mainly budget-saving school leaders tend to do. Could they memorize how to ride a bike and then do it well?

The researcher believes that finding allies in the journey to learn PBL is a critical factor for success. In study one, expert PBL doers comment on how peer and institutional support, if not present, involves a significant challenge. PBL units are conceived to be designed in a team of teachers; taking advantage of the interaction of different minds, with complementing soft and hard skills, experiences, and the possibility to obtain regular feedback on ideas, can be incredibly beneficial.

Finally, as a reflection from study Two, the implementation study, one feature that needed to be more visible, explicit, and reminded was the purpose of the shift in methodology for both teachers and students, focusing on goal-setting strategies that could be split into smaller chunks of sub-goals. The researcher concluded that the level of metacognition skills of the students, which is "one's knowledge concerning one's cognitive processes or anything related to them" (Flavell, 1976, in Kaplan et al., 2013) would need to be trained consistently in general for their lifelong learning journey but in particular in this case to be able to be more self-aware of their learning gains when confronted with teaching methodologies that are unusual to them and help them be more open to them. Furthermore, it should be the participants' willing choice to invest time and

effort to be part of any new methodological approach, rather than an imposed decision made by the teacher or institution leaders, making it naturally challenging emotionally.

The preconceived ideas of teachers and students about learning a language in specific ways in which they felt comfortable, as they had done it for years, were not questioned and discussed before the project. Even after some students and teachers saw some benefits after the two projects, primarily the increase in student's oral fluency and willingness to speak, this was not a primary goal for them as their assessment methods had an important component that was explicit grammar. Making this decision together with all stakeholders would be ideally a better first step into a joint project together, not as an imposition.

7.1.3. Research question three

What is the impact of PBL instruction on the learning and teaching of Spanish as a foreign language in an Australian university?

This research question refers to the results of study two to more concretely describe the particular experience in the context of an Australian university. The question is divided into three sub-questions that are to be answered in the following paragraphs.

3.1. What is the impact of technology when used together with PBL instruction on students of an L2/FL?

In general, the use of technology did not involve a significant increase in students' motivation; it did not significantly impact it negatively either, but perhaps overuse of too many different tools at times. From all the digital tools used, including social networks, L2 apps, a project management app called Slack, and digital content creation tools, students reported a higher level of motivation with the use of social networks like Facebook, but more concretely Italki. Italki was a medium to meet real native speakers of Spanish and helped students connect with people of their choice, which proved to be both very scary and motivational for them. Iris describes how this activity meant an essential breakthrough for her personal L2 learning personal goals:

I thought the conversations (referring to online chats) pushed you out of your comfort zone, you don't usually go and have a conversation with someone and I thought that was really good, and really helpful and probably the most helpful thing that I have done, I guess so far, although it was nerve wrecking. (Iris, S12)

As a reflection on the use of this tool taken from the comments made at the interview with the students and my class observations, the researcher would recommend giving them more time to adapt to the situation. Many of them experienced anxiety and that could have been avoided with more simulations in class and doing formative activities at a lower stake level.

3.2. What is the experience of the Spanish language learners in terms of motivation for language learning?

The levels of motivation were initially very high, and as most of the values investigated, they showed a slight decrease after the first project to then recover a bit after the second one. It is very revealing to look at the results of one particular question with more drastic changes throughout the two semesters, "Many times this topic/project feels like a real struggle to keep going.". Before the project, the value is 1.1.; after the second project, it increases enormously to 4.5. and then decreases slightly to 4.3. As developed in this chapter and chapter six, the new challenges students encountered impacted their levels of motivation in a small way. However, even if the values are high here the impact on motivation was minor, probably because they also perceived benefits despite the efforts invested.

There was a need to make more visible and constant the acquisition of Spanish to them so as their levels of motivation and hence willingness to invest time and effort would improve. Additionally, it would have impacted positively to have more time to get them used to the new methodology to reduce their levels of stress and work on some of their soft skills, like collaboration and communication.

Furthermore, working on their social and emotional skills explicitly should have been a beneficial first step before beginning the methodological shift. It is very well known that to work well in a team we must feel comfortable with the others and there must be an

atmosphere of trust. This is sometimes naturally found in class but not always or with all students. Building a community and a safe space is based on the researcher's professional experience a very efficient way to facilitate collaboration. The intersections of PBL and SEL are still to be explored further by research to ascertain the potential benefits and recently is attracting the attention of researchers and international education organizations. Relatedly, at the moment of the submission of this thesis a massive project that mixes PBL, Social and Emotional Learning (SEL) and digital technologies has started in India that will be implemented in over 60 schools in 8 regions. It is called MYDream Project and it is orchestrated by a joint effort of the UNESCO Mahatma Gandhi Institute of Education for Peace and Sustainable Development (MGIEP), Samsung India, and the Ministry of Human Resources Development from India. The aims are to reduce the stress in students, increase their learning gains in Maths and Science and their 21st skills (MGIEP, n.d.).

3.3. What is the experience of the Spanish language educators from an instructional perspective?

Both educators participating in the two PBL projects reported concern before beginning about aligning the projects with their pre-existing curriculum, the learning of grammar concretely, and navigating teamwork successfully in class. After the two implementations, both Cara and Ona reported benefits like the improved confidence of students to use Spanish orally or the authentic nature of working on projects. Nevertheless, from my observations I believe they did not enjoy the experience to a great extent because they felt pressured to teach their curriculum, normally taught using lectures, communicative activities, and short tasks, at the same time but using a methodology that needs a greater amount of time for the same content knowledge. Furthermore, the exams had the same structure as before, not directly related to the format of learning activities done during the projects. Hence students did not feel prepared for the exams and some showed distress, which impacted the two teachers.

These reports are incredibly similar to the ones of the teacher and student participants in the works of Eyring (1989) and Beckett (1999). In these studies, even if students completed the project-work activities, they felt mixed feelings and tensions, the teacher participant at Eyring's study reverted to more traditional ESL classes, just like in the

second project, where Ona felt concerned about her students not being ready for the exam.

When they were asked if they would repeat the projects, Ona answered that she felt she needed more training to do so, and Cara, who had been initially very reluctant, responded positively.

7.2. Limitations

There were several limitations constraining this study. Firstly, both Study One would have benefitted from achieving a wider sample of Higher education educators in the world. Further, the data that was collected in Study One, via the online survey, was mainly quantitative and the researcher was not able to collect sufficient data on the concrete contexts of the participant teachers. The data collected for Study Two was also limited due to the number of volunteering participants. Specifically, only one student volunteered to do an interview after the completion of the first project and thus important qualitative data was not possible to be collected. Unfortunately, funding to compensate participants for their time was not available before the first project. Given the low levels of participation achieved for the first project, the researcher applied for funding for the second project. Some funding was granted, and this enabled the collection of qualitative data from six participants after project two.

Importantly, the Higher Education institution followed an assessment system that did not align conceptually with PBL instruction, and the researcher had to abide by it despite the evident contradiction and potential negative impact on students' experience. Indeed, as discussed previously, many students felt stressed because they felt that the project did not prepare them for the final exam, which included grammar fill-in-the-blanks exercises and vocabulary drills. Added to this, the PBL instruction time was too limited due to the previously allocated timetable for implementing this methodology. In PBL, learning units take longer to complete than when using other instructional methodologies. Thus, it could be expected that the reported challenges and issues experienced by both teachers and students could be due to implementing a PBL teaching methodology following a curriculum that was linked to grammatical units and delivered under time constrictions that did not permit participants to rip the benefits a PBL instruction can offer.

Lastly, the results of Study Two show challenges that align with those reported by other instructors in Study One and the literature but do not show the full range of benefits expected. It should be pointed, however, that the limited benefits reported in Study Two cannot be generalised and may only reflect the experience of the specific six participants in this project. This constitutes a limitation linked to the nature of the specific context of the Australian university and the low number of participants recruited (n=6).

7.3. Future research

The goal of both studies was to provide answers to the three basic research questions proposed. These questions tried to identify the challenges and benefits that educators can encounter in the implementation of a Project Based Learning when in the area of SLA in Higher Education, to understand better how these challenges can be addressed, and finally in the case of study two, to have a detailed look at the concrete experience of both students and teachers in the context of L2 teaching at an Australian university.

The conclusions of this thesis serve as a step forward in the deeper understanding of the practical implications of implementing PBL instruction, yet in doing so, these results are a springboard for potential further questions and research.

Some of the key areas for future research identified are:

1. The use of PBL in L2
2. The suitability of the MOSE framework to foster and measure motivation in class
3. The suitability of “The Learning Egg” to design PBL units and also online projects
4. DMC as a conceptual framework to understand motivation in the context of PBL
5. PBL as a suitable teaching approach to facilitate L2 classes that promote service-learning.

When thinking of possible new paths to take originating from this study, one of the most prominent would be to develop the findings and test them in various contexts where languages other than English (LOTE) are taught, how are the results different to cohorts of English as a foreign or second language, does it influence in their dedication in time and effort what language they are learning, their social and economic background or where they live in the world?

Moreover, given that the findings of the two studies indicate that dedicating more time and having continuous support would be beneficial, it is imperative to investigate how this acts up in the context of Higher Education in a longitudinal study that does not only portray a first or second-time experience but teachers and cohorts who have passed the novice stage. What would happen if both students and teachers work with PBL with more extensive projects and for a more extended period after having enough time for training?

The Motivation System for Education (MOSE), is a tool designed in this thesis inspired by the motivation theory of DMC. It could be applied virtually to any educational context where educators, school leadership, instructional designers, or others want to both recreate the ideal context for intense motivation to flourish and measure its levels.

The “Learning Egg Model” is a very simple and user-friendly model that can be used to understand and design learning activities that include the values of PBL, but not exclusively, it can also be applied to any social constructivist pedagogy in the design of online activities.

The use of the theory of DMC in this study to both measure student’s motivation and understand what learning environment potentially can foster motivation can and has the potential to be used in any Foreign Language Education context. The DMC framework provides a clear and holistic representation of the different components affecting motivation in L2, thus enabling to better understand the levels of language students’ motivation and subsequently, the design of instructional units that can be tailored to foster students’ motivation.

PBL also shows promise of making and improving connections with different communities, approaching the concept of service-learning. In study two students felt very motivated in the first project to help Spanish-speaking students who came to Adelaide and especially in the second project, when they talked several times with native speakers, either online or in-person in their hometown, opening them up to connect with that culture more deeply. The researcher believes that this is a significant benefit from PBL that could be explored further by making connections with communities and associations of people who speak the target language, hoping that both the engagement and language gains from students increase.

In a like manner, if we look at all the challenges PBL instruction involves, we could quickly feel discouraged from using it, and we may wonder if PBL is a suitable methodology for all content areas, concretely L2 learning, in this case, educational contexts and student profiles. The question is if PBL is beneficial when there are not enough resources (time, training, space, institutional support...) and the students are not motivated to invest considerable amounts of time and effort in learning PBL because of varied reasons (time constraints, the content area is not relevant to them, fear of change...). The researcher argues that the success of PBL depends on many factors, basing her opinion on the results obtained in the two studies from this thesis and her work on professional development for teachers on PBL in Australia, Asia, and Europe for three years now. PBL instruction despite deploying a very rich mosaic of the very best of evidence-based efficient teaching methodologies, focussing on a social constructivist approach and on building life skills for students, involves a serious and long-term commitment from all the educational community stakeholders, meaning students, teachers, school leaders, and even parents if the students are minors.

This leads to a second question, is everyone in the educational community ready for this long-term relationship past the point of a one-off experiment? It will depend on their motivation to begin using PBL instruction, their preconceived ideas on what efficient teaching means, there are often significant doubts and fear when letting go of the teacher-led classes to transform into student-led ones and neither teachers nor students have had numerous positive experiences with teamwork and lack training on the skills needed for it. When fostering the success of PBL instruction it is crucial to have support from colleagues and institution leaders, particularly in terms of training, time and space allocation, and regular peer support. Another relevant form of support for PBL doers could be a community of practice, there are already some informal PBL groups, but not many are subject or area related, with high-quality curated activities. Having well-structured communities of practice integrated by both teachers and students is a necessary pillar on where to stand and grow through the knowledge acquired through interactions with others in the pure spirit of PBL.

Using PBL institution-wide has proven to be more effective than piloting solo, it can be very motivational and prepare students for the future, since it taps on skills such as creativity, communication, collaboration, and critical thinking, referred by some

researchers and educational gurus as 21st-century skills, however in a world where educational ideologies fluctuate by decade it is a risky investment for some and a very confident one for others, it all depends on the eye of the beholder.

Furthermore, there is a need to investigate the potentially positive interactions of using Social and Emotional Learning (SEL) techniques consistently along with PBL instruction. PBL needs to embed a sustained long-term collaborative atmosphere that sometimes may need to be aided by SEL strategies to keep it in good health and most importantly avoid common challenges related to teamwork, such as communication issues, conflicts, and lack of accountability.

These questions need to be explored further by researchers and educators alike, working closely to avoid that awful gap between theory and practice and to find ways to use PBL in the most efficient and context-sensitive manner.

7.4. Concluding remarks

The researcher started this quest to test if PBL could be also a motivational pedagogy in the area of Spanish as a foreign language, where not many studies had been done, as opposed to ESL and EFL. During these years the researcher has surveyed educators around the world, she has made two project implementations at an Australian University, and she started her educational consultancy, Pegasus Teacher Academy, that led her to hear the often forgotten but essential voices of the teachers who are in the front lines from many countries around the world, to name a few, Australia, China, Laos, East Timor, Sri Lanka, India, Indonesia, Italy, Slovenia, Ireland, UK, Czech Republic, Hungary, Finland, Sweden, Iceland, Belgium, Poland, Romania, Spain and many more. Interestingly what all these teachers coming from very different corners of the world had in common is that they were all searching for new ways to motivate their students and bring their attention back to their classes.

Now, after several years of research and experience, the researcher realizes that a considerable amount of research published in this area is mainly a set of once-off case studies, rather than longitudinal long-term studies on PBL and second or foreign languages, and only a few in languages other than English (LOTE). Therefore, there is a

need to produce such long-term studies that elaborate on the process and outcomes with details accounts the how-to for educators to learn the necessary strategies and skills to implement PBL in their classes successfully.

In this thesis, there is a conscious effort to portray the instructional design process and implementation with more detail than it is usually displayed in research since this is more concerned with the how-to, the journey, which can help teachers to enact practical implementations effectively.

One of the most significant conclusions of this thesis is the realization that experienced PBL teachers do report great benefits for their teaching practice and their students, initiating a critical reflection on how to measure the success of PBL in SLA, considering that the learning curve is steep and testing teachers and students at initial stages of their PBL journey might be misleading.

It was remarkable that one of the main gains of this study was a clear evolution in the willingness to communicate (WTC) of the student participants, given that Australia is a monolingual country where traditionally students do not work extensively on the oral skills in an L2 in their Primary or Secondary years. This is a significant accomplishment and should be explored further as a useful tool to foster oral skills.

Thanks to their improved WTC, students were able to make deeper connections with the Hispanic community in Adelaide and overseas, which is not only an added benefit for the students stemming from the PBL implementation but also a benefit for the community as it promotes tolerance and mutual understanding among communities of different cultures.

After all these complementing experiences, direct and indirect, with PBL instruction, for five intense years, my initial ambition to improve students' motivation has not changed but is more grounded in a clearer perception of what the benefits and challenges are and the ways to overcome them.

The researcher firmly believes that PBL instruction can be a very motivational and practical approach to teaching with the right kind of long-term support and community of practice, hence the teachers embarking in this quest need to be strategic and resilient in how they approach this journey to be able to succeed.

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Appendices

Appendix A: Signed Ethical approval for studies one and two.

MODIFICATION (No.1) APPROVAL NOTICE

Project No.:

7209

Project Title:

Impact of Technologically enhanced Project Based Learning on Spanish Language Learners' Motivation in Higher Education

Principal Researcher:

Mrs Carolina Castro Huercano

Email:

carolina.castro@flinders.edu.au

Modification
Approval Date:

27 June 2016

Ethics Approval
Expiry Date:

9 March 2019

I am pleased to inform you that the modification request submitted for project 7209 on the 6 June 2016 has been reviewed and approved by the SBREC Chairperson. Please see below for a list of the approved modifications. Any additional information that may be required from you will be listed in the second table shown below called 'Additional Information Required'.

Approved Modifications	
Extension of ethics approval expiry date	
Project title change	
Personnel change	
Research objectives change	
Research method change	
Participants – addition +/- change	X
Consent process change	
Recruitment process change	
Research tools change	X
Document / Information Changes	X
Other (if yes, please specify)	

Additional Information Required
None.

RESPONSIBILITIES OF RESEARCHERS AND SUPERVISORS

1. Participant Documentation

Please note that it is the responsibility of researchers and supervisors, in the case of student projects, to ensure that:

- all participant documents are checked for spelling, grammatical, numbering and formatting errors. The Committee does not accept any responsibility for the above mentioned errors.
- the Flinders University logo is included on all participant documentation (e.g., letters of Introduction, information Sheets, consent forms, debriefing information and questionnaires – with the exception of purchased research tools) and the current Flinders University letterhead is included in the header of all letters of introduction. The Flinders University international logo/letterhead should be used and documentation should contain international dialling codes for all telephone and fax numbers listed for all research to be conducted overseas.
- the SBREC contact details, listed below, are included in the footer of all letters of introduction and information sheets.

This research project has been approved by the Flinders University Social and Behavioural Research Ethics Committee (Project Number 'INSERT PROJECT No. here following approval'). For more information regarding ethical approval of the project the Executive Officer of the Committee can be contacted by telephone on 8201 3116, by fax on 8201 2035 or by email human.researchethics@flinders.edu.au.

2. Annual Progress / Final Reports

Please be reminded that in order to comply with the monitoring requirements of the [National Statement on Ethical Conduct in Human Research \(March 2007\)](#) an annual progress report must be submitted each year on **27 April** (approval anniversary date) for the duration of the ethics approval.

If the project is completed *before* ethics approval has expired please ensure a final report is submitted immediately. If ethics approval for your project expires please submit either (1) a final report; or (2) an extension of time request and an annual report.

Student Projects

The SBREC recommends that current ethics approval is maintained until a student's thesis has been submitted, reviewed and approved. This is to protect the student in the event that reviewers recommend some changes that may include the collection of additional participant data.

Your next report is due on **27 April 2017** or on completion of the project, whichever is the earliest. The report template is available from the [Managing Your Ethics Approval](#) SBREC web page. *Please retain this notice for reference when completing annual progress or final reports.*

3. Modifications to Project

Modifications to the project must not proceed until approval has been obtained from the Ethics Committee. Such proposed changes / modifications include:

- change of project title;
- change to research team (e.g., additions, removals, principal researcher or supervisor change);
- changes to research objectives;
- changes to research protocol;
- changes to participant recruitment methods;
- changes / additions to source(s) of participants;

- changes of procedures used to seek informed consent;
- changes to reimbursements provided to participants;
- changes / additions to information and/or documentation to be provided to potential participants;
- changes to research tools (e.g., questionnaire, interview questions, focus group questions);
- extensions of time.

To notify the Committee of any proposed modifications to the project please complete and submit the *Modification Request Form* which is available from the [Managing Your Ethics Approval](#) SBREC web page. Download the form from the website every time a new modification request is submitted to ensure that the most recent form is used. Please note that extension of time requests should be submitted prior to the Ethics Approval Expiry Date listed on this notice.

Change of Contact Details

Please ensure that you notify the Executive Officer if either your mailing or email address changes to ensure that correspondence relating to this project can be sent to you. A modification request is not required to change your contact details.

4. Adverse Events and/or Complaints

Researchers should advise the [Executive Officer](#) immediately on 08 8201-3116 or human.researchethics@flinders.edu.au if:

- any complaints regarding the research are received;
- a serious or unexpected adverse event occurs that effects participants;
- an unforeseen event occurs that may affect the ethical acceptability of the project.

Kind regards
Andrea

Mrs Andrea Fiegert and Ms Rae Tyler

Ethics Officers and Executive Officer, Social and Behavioural Research Ethics Committee
Andrea - Telephone: +61 8 8201-3116 | Monday, Tuesday and Wednesday
Rae – Telephone: +61 8 8201-7938 | ½ day Wednesday, Thursday and Friday
Email: human.researchethics@flinders.edu.au
Web: [Social and Behavioural Research Ethics Committee \(SBREC\)](#)

Manager, Research Ethics and Integrity – Dr Peter Wigley
Telephone: +61 8 8201-5466 | email: peter.wigley@flinders.edu.au
[Research Services Office](#) | Union Building Basement
Flinders University
Sturt Road, Bedford Park | South Australia | 5042
GPO Box 2100 | Adelaide SA 5001

CRICOS Registered Provider: The Flinders University of South Australia | CRICOS Provider Number 00114A
This email and attachments may be confidential. If you are not the intended recipient, please inform the sender by reply email and delete all copies of this message.

Appendix B: Consent form for students and teachers



Flinders

CONSENT FORM FOR PARTICIPATION IN RESEARCH
by observation, questionnaire and interview

Impact of Technologically Enhanced Project Based Learning on Spanish Language Learners' Motivation in Higher Education.
--

I

being over the age of 18 years hereby consent to participate as requested in the interview for the research project on 'Impact of Technologically Enhanced Project Based Learning on Spanish Language Learners' Motivation in Higher Education.'

1. I have read the information provided.
2. Details of procedures and any risks have been explained to my satisfaction.
3. I agree to audio recording of my information and participation.
 4. I am aware that I should retain a copy of the Information Sheet and Consent Form for future reference.
5. I understand that:
 - I may not directly benefit from taking part in this research.
 - I am free to withdraw from the project at any time and am free to decline to answer particular questions.
 - While the information gained in this study will be published as explained, I will not be identified, and individual information will remain confidential.
 - Whether I participate or not, or withdraw after participating, will have no effect on any treatment or service that is being provided to me.
 - Whether I participate or not, or withdraw after participating, will have no effect on my progress in my course of study, or results gained.
 - I may ask that the recording/observation be stopped at any time, and that I may withdraw at any time from the session or the research without disadvantage.
6. I agree/disagree to the tape/transcript being made available to other researchers who are not members of this research team, but who are judged by the research team to be doing related research, on condition that my identity is not revealed.

Participant's signature.....**Date**.....

I certify that I have explained the study to the volunteer and consider that she/he understands what is involved and freely consents to participation.

Researcher's name.....

Researcher's signature.....**Date**.....

NB: Two signed copies should be obtained. The copy retained by the researcher may then be used for authorisation of Items 8 and 9, as appropriate.

8. I, the participant whose signature appears below, have read a transcript of my participation and agree to its use by the researcher as explained.

Participant's signature.....**Date**.....

9. I, the participant whose signature appears below, have read the researcher's report and agree to the publication of my information as reported.

Participant's signature.....**Date**.....



Flinders
UNIVERSITY

CONSENT FORM FOR PARTICIPATION IN RESEARCH
by interview

Impact of Technologically enhanced Project Based Learning on Spanish Language Learners' Motivation in Higher Education.

I

being over the age of 18 years hereby consent to participate as requested in the interview for the research project on 'Impact of Technologically enhanced Project Based Learning on Spanish Language Learners' Motivation in Higher Education.'

- 4. I have read the information provided.
- 5. Details of procedures and any risks have been explained to my satisfaction.
- 6. I agree to audio recording of my information and participation.
- 4. I am aware that I should retain a copy of the Information Sheet and Consent Form for future reference.

5. I understand that:
- I may not directly benefit from taking part in this research.
 - I am free to withdraw from the project at any time and am free to decline to answer particular questions.
 - While the information gained in this study will be published as explained, I will not be identified, and individual information will remain confidential.
 - Whether I participate or not, or withdraw after participating, will have no effect on any treatment or service that is being provided to me.
 - Whether I participate or not, or withdraw after participating, will have no effect on my progress in my course of study, or results gained.
 - I may ask that the recording/observation be stopped at any time, and that I may withdraw at any time from the session or the research without disadvantage.
6. I agree/disagree to the tape/transcript being made available to other researchers who are not members of this research team, but who are judged by the research team to be doing related research, on condition that my identity is not revealed.

Participant's signature.....Date.....

I certify that I have explained the study to the volunteer and consider that she/he understands what is involved and freely consents to participation.

Researcher's name.....

Researcher's signature.....Date.....

NB: Two signed copies should be obtained. The copy retained by the researcher may then be used for authorisation of Items 8 and 9, as appropriate.

8. I, the participant whose signature appears below, have read a transcript of my participation and agree to its use by the researcher as explained.

Participant's signature.....Date.....

9. I, the participant whose signature appears below, have read the researcher's report and agree to the publication of my information as reported.

Participant's signature.....Date.....

Appendix C: Introduction letters for students and teachers

LETTER OF INTRODUCTION FOR SPANISH LANGUAGE LEARNERS

Dear Sir/Madam,

This letter is to introduce Ms. Carolina Castro Huercano, who is a PhD candidate in the Department of Languages and Applied Linguistics (Spanish). She will produce her student card, which carries a photograph, as proof of identity.

Carolina is undertaking research leading to the production of a PhD thesis and other publications on the potential impact of technologically enhanced Project Based Learning on Spanish language learning. Her project aims to evaluate the design, development and implementation of a collaborative language learning environment for intermediate Spanish language learners in Higher Education. This project intends to explore whether this learning environment will enhance students' motivation and their engagement in language learning.

She would be most grateful if you would volunteer to assist in this project. If willing to participate, your contribution will entail agreeing to being observed in regular class learning activities when collaborating in student groups in semester 1 and 2, completing five questionnaires (three in semester 1 and two in semester 2), and granting two interviews (one in semester 1 and one in semester 2).

As a participant, a total of 115 minutes would be required of your time. This would include your participation in the five questionnaires (75 minutes in total: 15 mins x 5) and in the two interviews (40 minutes in total: 20 mins for the first interview and 20 minutes for the second interview).

Since Carolina intends to make a tape recording of the two interviews, she will also seek your consent, on the attached form, to record the interviews, and to use the recording or a transcription in preparing the thesis, report or other publications.

Please be assured that any information provided will be treated in the strictest confidence and no participant will be individually identifiable in the resulting thesis, report or other publications. You are, of course, entirely free to discontinue your participation at any time or to decline to answer particular questions.

Any enquiries you may have concerning this project should be directed to me at the address given above, by telephone on 08 82012164 or by e-mail (olga.castro@flinders.edu.au).

Thank you for your attention and assistance.

Yours sincerely,

Dr. Olga Sánchez Castro
Coordinator, Spanish

This research project has been approved by the Flinders University Social and Behavioural Research Ethics Committee (Project number INSERT PROJECT No. here following approval). For more information regarding ethical approval of the project the Executive Officer of the Committee can be contacted by telephone on 8201 3116, by fax on 8201 2035 or by email human.researchethics@flinders.edu.au

LETTER OF INTRODUCTION

for teachers

Dear Sir/Madam,

This letter is to introduce Ms. Carolina Castro Huercano, who is a PhD student in the School of Humanities and Creative Arts, Dept. of Languages and Applied Linguistics, at Flinders University. She will produce her student card, which carries a photograph, as proof of identity.

She is undertaking research leading to the production of a thesis or other publications on the subject of Impact of Technologically enhanced Project Based Learning on Spanish Language Learners' Motivation in Higher Education.

Your participation will involve introducing her to the students in your class on one occasion so I can explain the project to students and invite them to participate. This announcement will take no more than 10 minutes. She will observe all the classes during the project times, weeks 7 to 9 in Semester 1 and weeks 2 to 4 in Semester 2, but only to collect data on the students' motivation and not on your professional activity. You will also be invited to participate in two individual interviews with an approximate duration of 20 minutes, after the two collaborative projects, the first in week 11 of Semester 1 and the second in week 6 of Semester 2, so as to collect data on your impressions and suggestions for improvement on the learning materials implemented during these two collaborative projects.

Be assured that any information provided will be treated in the strictest confidence and none of the participants will be individually identifiable in the resulting thesis, report or other publications. You are, of course, entirely free to discontinue your participation at any time or to decline to answer particular questions.

Since she intends to make a tape recording of the interview, she will seek your consent, on the attached form, to record the interview, to use the recording or a transcription in preparing the thesis, report or other publications, on condition that your name or identity is not revealed, and to make the recording available to other researchers on the same conditions (or that the recording will not be made available to any other person).

Any enquiries you may have concerning this project should be directed to me at the address given above or by telephone on 08 82012164 or e-mail olga.castro@flinders.edu.au

Thank you for your attention and assistance.

Yours sincerely,

Dr. Olga Sánchez Castro

This research project has been approved by the Flinders University Social and Behavioural Research Ethics Committee (Project number INSERT PROJECT No. here following approval). For more information regarding ethical approval of the project the Executive Officer of the Committee can be contacted by telephone on 8201 3116, by fax on 8201 2035 or by email human.researchethics@flinders.edu.au

Appendix D: Online questionnaire for study one

Survey for Higher Education Language Educators

Full name:

Institution:

Department:

1. What foreign language do you teach?

2. How long have you been a language teacher?

3. Have you heard of any case study, colleague using Project based Learning as a main approach for teaching/learning a second language in Higher Education?

Yes		No	
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-If yes, what are your perceptions of its impact on students' motivation to learn a second language?

4. Would you use Project Based Learning in your second language class?

Yes		No		I am not sure	
-----	--	----	--	---------------	--

-Why?

5. Have you used Project based Learning for teaching/learning a second language in Higher Education in your classes?

Yes		No	
-----	--	----	--

-If yes go to page 2.

-If no go to page 3.

Yes...

1. For how long did you use Project Based Learning (PBL) in your class?
2. Are you still using it? Why?
3. What advantages and disadvantages do you see in PBL?
4. What effect do you think working in projects had on your students? Why?
5. Did you use some technology to facilitate PBL? Which one? What impact did it have on the students motivation and your teaching?
6. Do you think PBL motivated your students? Give examples.
7. Did you find any difficulty implementing this project? Explain.
If any, how did you tackle them?
8. What would help you to implement this approach better in the future?
9. Did you enjoy working with this methodology? Why?
10. Would you recommend it to other teachers of foreign languages?
11. What improvement recommendations do you have about the approach?
12. Do you have any further comments?

No...

1. Would you like to use Project Based Learning (PBL) in your classes?

2. Why haven't you used PBL so far?
3. If you want to use PBL but are unable to do it, explain what obstacles are in your way (time restrictions, space, lack of training, institution is not keen, etc...)
4. What would help you implement PBL if you wanted to?
5. What effect do you think working in projects would have on your students?
Why?
6. Do you think PBL would motivate your students? Why?
7. Do you think you would enjoy working with PBL in your class? Why?
8. Would you recommend PBL to other teachers of foreign languages? Why?
9. What improvement recommendations do you have about PBL?
10. Do you have any further comments?

Appendix E: First questionnaire for study two
Questionnaire 1

Name: _____

Surname: _____

Age: _____

Gender: Female Male

Spanish is my: Second language First language

Number of years studying Spanish:

This questionnaire consists of two parts:

Part 1: Closed-ended questions; and

Part 2: Open-ended questions.

Part 1: The questionnaire in this research talks about Higher Education students' perceptions towards motivational factors that influence their learning of the Spanish language. Attached is a number of statements which requires you to read and tick (✓) carefully, based on your personal valid opinion (whether you agree and/or disagree), in order for the research to obtain an accurate result.

Below, is an example of how to do the questionnaire. You must read the statement and tick (✓) one of the empty boxes based on your valid opinion.

No.	Statement	Strongly disagree	Disagree	No opinion	Somewhat agree	Agree	Strongly agree
		1	2	3	4	5	6
1	<i>I really enjoy watching movies in Spanish.</i>					✓	

With each statement, please answer based on your immediate opinion without overthinking it. There is no right or wrong answer; it's purely your opinion that is needed. At the same time, please do not rush in answering without giving each statement its required attention. This questionnaire is strictly confidential. No teacher can access this information.

Part 2: This section requires you to answer the following questions honestly. If you require more space for your answers, you can write on the back of the page:

Example of open-ended question that might be asked is:

1 – What are your favourite learning methods to learn Spanish?

.....

Part 1: Closed-ended questions

No.	Statement	Strongly disagree	Disagree	No opinion	Somewhat agree	Agree	Strongly agree

		1	2	3	4	5	6
1	I really enjoy learning Spanish.						
2	This topic bores me.						
3	I enjoy this Spanish class.						
4	Many times this topic feels like a real struggle to keep going.						
5	With this topic I am able to work more productively than I usually can.						
6	I feel this topic is helping me to achieve all I want and more.						
7	When I am in the Spanish class I am usually distracted.						
8	Spanish class learning activities do not seem like hard work to me, I am usually caught up in the flow.						
9	When in the Spanish class, I am totally absorbed in what I am doing.						
10	I spend lots of time studying Spanish.						
11	I concentrate on studying Spanish more than any other topic.						
12	I would do this topic again even if it were not required.						
13	The aims and objectives of this topic are related to my own personal goals.						
14	I regularly think about my goal for learning Spanish.						

No.	Statement	Strongly disagree	Disagree	No opinion	Somewhat agree	Agree	Strongly agree
		1	2	3	4	5	6
15	I often see myself achieving my goal to learn Spanish.						
16	I feel that in this topic I can make decisions on how I want to learn Spanish						

Part 2: Open-ended questions

This section requires you to answer the following questions honestly. If you require more space for your answers, you can write on the back of the page:

1 – What are the things that motivate you to learn Spanish? How?

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2 – What tasks or methodology that you have done so far in the course helped you the most to learn Spanish?

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3 – What would you change of the current methodology and learning materials? How would you improve this course?

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Appendix F: Second and third questionnaire for study two

Questionnaire 2

Name: _____

Surname: _____

Age: _____

Gender: Female Male

Spanish is my: Second language First language

Number of years studying Spanish:

This questionnaire consists of two parts:

Part 1: Closed-ended questions; and

Part 2: Open-ended questions.

Part 1: The questionnaire in this research talks about Higher Education students' perceptions towards motivational factors that influence their learning of the Spanish language. Attached is a number of statements which requires you to read and tick ($\sqrt{\quad}$) carefully, based on your personal valid opinion (whether you agree and/or disagree), in order for the research to obtain an accurate result.

Below, is an example of how to do the questionnaire. You must read the statement and tick ($\sqrt{\quad}$) one of the empty boxes based on your valid opinion.

No.	Statement	Strongly disagree	Disagree	No opinion	Somewhat agree	Agree	Strongly agree
		1	2	3	4	5	6
1	I really enjoy watching movies in Spanish.					$\sqrt{\quad}$	

With each statement, please answer based on your immediate opinion without overthinking it. There is no right or wrong answer; it's purely your opinion that is needed. At the same time, please do not rush in answering without giving each statement its required attention. This questionnaire is strictly confidential. No teacher can access this information.

Part 2: This section requires you to answer the following questions honestly. If you require more space for your answers, you can write on the back of the page:

Example of open-ended question that might be asked is:

1 – What are your favourite learning methods to learn Spanish?

.....
.....
.....

Part 1: Closed-ended questions

No.	Statement	Strongly disagree	Disagree	No opinion	Somewhat agree	Agree	Strongly agree
		1	2	3	4	5	6
1	I really enjoy learning Spanish.						
2	This project bored me.						
3	I enjoyed this project.						
4	This project didn't feel like hard work to me, I was often caught up in the flow.						
5	With this project I was able to work more productively than I usually can.						
6	I felt this project was helping me to achieve all I wanted and more.						
7	When I was doing the project in class I was usually distracted.						
8	The project learning activities did not seem like hard work to me, I was usually caught up in the flow.						
9	When doing the project, I was totally absorbed in what I was doing.						
10	I spent lots of time doing the project.						
11	I concentrated on doing this project more than any other topic.						
12	I would do this project again even if it were not required.						
13	The aims and objectives of this project were related						

	to my own personal goals.						
14	I regularly thought about my goal for learning Spanish during this project.						

No.	Statement	Strongly disagree	Disagree	No opinion	Somewhat agree	Agree	Strongly agree
		1	2	3	4	5	6
15	I often saw myself achieving my goal to learn Spanish.						
16	I felt that in this project I could make decisions on how I wanted to learn Spanish.						
17	I enjoyed learning Spanish using social media (YouTube, Facebook, Twitter, Google apps)						
18	I found Slack very useful to navigate the activities.						
19	I would have preferred using just FLO to navigate the activities.						
20	I liked using my mobile phone to learn Spanish.						
21	I liked creating content online in Spanish language (a blog, participate in a chat, write a review, upload a video to YouTube and so on).						
22	I enjoyed collaborating with people while learning Spanish.						
23	I learnt better by working towards a common goal.						
24	I would have preferred to work individually.						
25	I liked deciding on how to organize our project						

	in a team, rather than the teacher telling us what to do all the time.						
26	5-The aims and objectives of this project were very clear.						

Part 2: Open-ended questions

This section requires you to answer the following questions honestly. If you require more space for your answers, you can write on the back of the page:

1 – What did you enjoyed the most and the least about this project? Give examples.

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2 – What technologies used in this project did you find helpful?

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3 – What would you change of the way this project was done?

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4 – If you could design your Spanish language learning materials what would they be like? Give details about what features you would enjoy and would help you learn better.

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