MONDRAGON UNIBERTSITATEA

# DOCTORAL THESIS

## THE IMPACT OF CONTEXTUAL FACTORS IN THE DEVELOPMENT OF COLLABORATIVE WRITING IN CLIL-POL SETTINGS AT TERTIARY LEVEL.


NAGORE IPIÑA LARRAÑAGA // Eskoriatza, 2012

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To my granddad,

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# Introduction

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The purpose of this introductory chapter is to present the justification behind the study, the overarching goal, and to explain the structure of the work.

The justification consists of a brief introduction to the topic and the motivation for carrying out the research. The overarching goal and the research questions are also presented in this introductory chapter, in order to have a global understanding of the study. The last section describes the structure of the work by summarizing the subsequent chapters.

## 0.1. Justification for the research

The rapid and massive impact of Information and Communication Technology (hereafter ICT) in western society, and the way it has accelerated globalization and relocation, has prompted one of the biggest transformations society has ever faced. This **technological revolution** can be mainly identified as a resource-type-change. In fact, material resources, one of the main characteristics of the industrial society, have become less significant and a new immaterial culture has emerged. Conceptualized as "**information and knowledge based culture**", this technological revolution has moreover created a society where visual thinking (Aguaded and Pérez, 2007), and networks and nodes (Castells, 2009) are predominant.

The Knowledge Society has impacted on **life-long-learning** processes and **education** itself. Hence, fostering the necessary competences for the 21st Century is one of the main contemporary challenges for educational systems (Riveros and Mendoza, 2005). A major goal of education is therefore, constructing and designing areas and spaces that will ensure that future professionals and students will possess the competences needed in the Knowledge Society. This change is however, one of the most complicated changes that the history of education has ever faced (Bauman, 2011).

Understanding education as a life-long-learning process (Bauman, 2011) which is partially and critically constructed, demands fostering in-depth learning, cognitive

learning, creativity, ingenuity, team work, conflict management, ability to adapt to changes, emotionality, and cosmopolitan identity (Hargreaves, 2003). In this regard a constructivist approach built on **socio-cultural theories** emerges as one of the alternative paradigms.

As far as Higher Education is concerned, social and educational changes have led, among others, to the development of the **European Higher Education Area**. The European Commission (2010) states that higher education plays an essential role in society. That role is defined by creating new knowledge and fostering innovation. As is known, one of the features arising from the current paradigmatic change is the implementation of **competence-based approaches**. These approaches encourage the training of flexible, efficient and autonomous professionals as necessary in the Knowledge Society. Moreover, the approach could help students to develop the capacity for life-long learning.

Learning languages is one area that has become necessary in today's society, and **multilingualism** - fostered by the new curriculum(s), literacy, key competences and mobility - seems to be another important aspect of the Knowledge Society. Promoting multilingual or bilingual education will create a multilingual society consistent with the Knowledge Society (Cenoz, 2009). However, language learning and teaching processes should mean working on cognitive, social and communicative skills (Mongelos and Ipiña, 2010).

Equally, as Harecker and Lehner-Wieternik (2009) state, traditional language training has been in many cases dominated by cognitive aspects. So, consequently it has provided few opportunities to use language in natural contexts. From this point of view, language learning processes require appropriate language use and knowledge in addition to language code mastery. In order to achieve that aim, spaces and situations where interaction occurs naturally should be designed.

**Content and Language Integrated Learning** (hereafter CLIL) approach is one possible option. Theoretical foundations (Coyle, 2005; 2007; 2010; Marsh, 2000 for instance) as well as research conclusions (Ackerl, 2007; Lasagabaster, 2008; Llinares and Whitttaker, 2010; Pedrosa, 2011; Ruiz de Zarobe, 2008 for example) justify CLIL as a potential way forward for developing foreign language competence. However, as Ruiz de Zarobe, Sierra and Gallardo del Puerto (2011 in Coyle, 2011:10) assert CLIL "*raises as many issues as it solves*". CLIL approaches have, as Ramos (2010) states, the potential

to fulfil the requirements of the European Higher Education Area. Likewise, Lasagabaster and Ruiz de Zarobe (2010) understand CLIL as a trend which corresponds to the Knowledge Society:

> "CLIL is consolidating as a trend in the autonomous education systems, which are rapidly attempting to conform to the new demands of our globalized society" (Lasagabaster and Ruiz de Zarobe, 2010: xi).

CLIL approaches aim at a type of learning that requires acquisition of concepts, skills and attitudes (Alonso, Grisaleña and Campo, 2008). In CLIL approaches, language could be understood as an intrinsic object in everyday's life (Dolz, Gagnon and Mosquera, 2009). That is, language is a tool to understand, to represent, to communicate and to know reality. Learning languages aids structuring thinking (Basterretxea and González, 1997). Consequently, it seems necessary to understand language from an **ecological** view emphasizing the context because as van Lier (2004:1) stated "*a school without language could not exist, and education could not take place*".

As multilingual education, digital literacy also presents a challenge for educational institutions. Owing to the technological revolution mentioned above, **integrating ICT and web 2.0 resources in education** is nowadays a primary objective (Oblinger and Oblinger, 2005). In fact, ICT and web 2.0 tools have affected the social nature of knowledge. Hence, their influence in the educational context is unquestionable. As far as Higher Education is concerned, there is a need to integrate ICT and web 2.0 resources in teaching-learning processes in order to develop collective intelligence and social understanding of learning.

This change will require, among other things the re-conceptualization of approaches to learning in universities. Inside that change it will be necessary to develop digital competence, including instrumental and cognitive aspects (Area, 2009). Furthermore, the development of new multiliteracies (Area, 2011b) is required. The integration of ICT and web 2.0 tools should be based on active participation, knowledge construction and self-regulation. After some years following an individualist approach in the development and use of virtual spaces, collaboration is being highlighted nowadays (Barberá, 2009).

Consequently, the wiki could be considered a useful tool for cultivating the diverse skills required.

Whilst the participative structure and philosophy associated with wikis have intensified its interest in the academic field, there remains a paucity of research into its use in educational settings (Bower, Woo, Roberts and Watters, 2006). Wikis are characterized by ease, versatility, openness, endless and collaborative editing environment creation. In addition, the wiki is designed for collaborative writing, meaning negotiation, and social learning opportunities. However, it is necessary to mention that studies have shown that training in the use of wiki and collaborative learning is required (Davis, 2004; Guzdial, Ludovice, Realff, Morley and Carroll, 2002; Lambert, Kalyuga and Capan, 2009). In foreign language teaching-learning environments, the use of the wiki can promote **collaborative learning** especially in terms of writing, and it can at the same time raise the user's language awareness.

Nevertheless, the complexities and demands of the conditions and elements of collaborative learning require, to a large extent, a change in educational perspectives. That is to say, collaborative learning requires understanding education in terms of **interaction and dialogue**, rather than monologic experiences enacted in many classrooms (Mercer, 1997). This also involves changes in the roles of both students and teachers. Teachers are challenged to create spaces for discussion and students are required to be responsible for their own learning.

Higher Education can be a rich context for collaborative learning. In addition, studies have shown that through collaborative learning, social skills (Johnson and Johnson, 1989; Leidner and Jarvenpaa, 1995; Lemare and Rubin, 1987) and cognitive skills (Cenich and Santos, 2005; Chiang, Yang and Chu, 2005; Gokhale, 1995; Johnson, Johnson, Stanne and Garibaldi, 1990) can be developed. Among these the development of high-order thinking, improvement of the learning process, an increase in motivation and satisfaction, and development of interpersonal skills are underlined. The characteristics of the Knowledge Society and the learning opportunities offered by ICT and web 2.0 applications present new opportunities to develop collaborative learning.

**Project Oriented Learning** (hereafter POL) also provides another potential approach to integrate collaborative practices. POL is described as an authentic-social learning process (Kolmos, 2008) which takes place over a period of time, and which requires interdisciplinary competences (Helle, Tynjälä and Olkinuira, 2006) to develop a final

group-product (Papanikolaou and Boubouka, 2010). It is observed that POL characteristics appear to resonate coherently with collaborative learning. In line with the other aspects discussed, it appears that a significant shift in teacher and student roles is required for POL, collaborative learning, CLIL, ICT, and web 2.0 applications to contribute to effective collaborative learning.

The emergence of interest in holistic education in order to answer to all the requirements mentioned above also demands **attitudinal factors** to remain present (Lozano, García-Cueto and Gallo, 2000). The influence of attitudes towards languages in second and third language teaching-learning processes has an empirical base which underlines their importance (Arratibel, 1999; Gardner, 1985; Gardner, Masgoret, Tennant and Mihic, 2004; Lasagabaster, 2003; Masgoret and Gardner, 2003). On the other hand, research about attitudes towards ICT has emerged as one of the key issues in recent years. Many research studies (Guo and Stevens, 2011) suggest that positive attitudes are necessary for successful language learning processes and for meaningful use of ICT.

## 0.2. Motivation

The topic addressed in this work emphasises the idea of learning languages in a collaborative way using Information and Communication Technology but emphasizing attitudinal factors. The idea comes from **both my personal and professional life** as explained below.

I obtained a degree in Audiovisual Communication, acquiring some skills in Information and Communication Technology and discovering Society. While following this degree I started working as a young and junior English learners' teacher at a private language school and became concerned about the factors that could impact on those young students' learning process. Sometimes in an implicit way, and sometimes in an explicit way, I realised that my main aim with language learners was to help them to develop a positive attitude towards the language whilst at the same time always having innovation present. Regarding junior learners I realised my aim was to make them feel that language was a useful communicative tool and help them to change that negative view of the "school compulsory foreign language".

Having become involved in education I decided to enrol in doctoral studies at the Faculty of Humanities and Education at Mondragon Unibertsitatea in order to find the answers to these worries. My Master Thesis (DEA) was entitled "**A proposal to integrate ICT in a CLIL approach**", in the belief that CLIL was the way of understanding language as a real communicative tool. The project was also the background for this paper, where the different options of using ICT in a CLIL approach are researched and analysed.

## 0.3. Research objective and questions

The **overarching goal** of this study is to investigate the contextual factors which impact on the development of collaborative writing competence of first year Higher Education students. As stated in the following research questions, the present study which is placed in a CLIL-POL approach, underlines the importance of attitudes and the tutor in the learning process.

The **research questions** arising from the research objective are as follows:

1. In a CLIL-POL context, how do first year higher education students' attitudes towards English and ICT develop?

    1.1. Does a CLIL-POL experience impact on students' attitudes towards English? Is that change, if any, sustained?

    1.2. Does the use of a wiki as a collaborative writing tool in a CLIL-POL experience impact on students' attitude towards ICT? Is that change, if any, sustained?

2. Does a CLIL-POL context impact on first year Higher Education students' writing competence?

    2.1. Does a CLIL-POL experience impact on students' collaborative writing competence? Is that change, if any, sustained?

    2.2. Do students' attitudes towards English and ICT impact on their collaborative writing competence over time?

3. How does the tutor influence the development of first year Higher Education students' collaborative writing competence?

    3.1. Do tutor's attitudes towards the CLIL-POL module impact on students' collaborative texts?

    3.2. Do tutor's attitudes towards the use of ICT in the learning process impact on students' collaborative texts?

    3.3. Does tutor's ICT profile impact on students' collaborative texts?

## 0.4. Structure of the work and summary of the chapters

The work is divided in eight different chapters. The first five chapters deal with the theoretical and contextual framework of the research detailing the main concepts and principles of the study, while the last three chapters frame the empirical research carried out and the discussion and conclusions arising from the results.

The aim of the **first chapter** is twofold. First, it describes the general context of the research embedding it in contemporary society and emphasising the changes driven by the Knowledge Society. Second, taking into account the changes described and outlining the main features of a range of educational paradigms, the chapter underlines the alternative conceptions of learning and revises the literature concerning students enrolling the new European Higher Education Area.

The **second chapter** highlights the importance of languages in society and in education, and attempts to explain the theoretical view of understanding language. It provides a summary of the historical evolution of language learning and teaching processes, whilst emphasising the communicative and ecological perspectives as the bases of CLIL approaches. The last part of the chapter moves onto language pedagogy where the focus is on the writing competence. The chapter emphasizes empirical evidence that demonstrates the positive effects of collaborative writing.

The purpose of the **third chapter** is to describe the influence and use of ICT and web 2.0 applications in education and foreign language teaching-learning processes. As far as tertiary education is concerned the chapter emphasizes the need to integrate ICT and

web 2.0 resources in teaching-learning processes in order to develop collective intelligence and social understanding of learning. As the present study is rooted in a CLIL approach the chapter justifies the use of ICT and web 2.0 applications in CLIL contexts. The last part of the chapter looks at the use of wikis as academic tools in foreign language teaching-learning environments as a way to promote collaborative learning.

As the **fourth chapter** explains, collaborative learning is becoming more important in social and educational fields. Due to the complexities and demands of the conditions required by collaborative learning, higher education is justified as a rich context for it. In that regard the chapter underlines POL as a potential approach to integrate collaborative learning in tertiary education.

The last chapter of the theoretical framework (**chapter five**) details the importance of attitudinal factors in teaching and learning processes. After analysing attitudes in general terms and analysing components and functions, the chapter focuses on both language attitudes and attitudes towards ICT. As far as attitudes towards languages are concerned, the chapter summarises the main findings in national and international studies, paying special attention to those carried out in the Basque Autonomous Community (hereafter BAC). As for attitudes towards ICT, it is noted that training and meaningful use are agreed as being the most significant variables.

As the present study straddles a wide range of disciplines, it is important that the links between the different theoretical chapters are explicitly stated. The following figure [Figure 0.1] summarizes the links between the chapters:

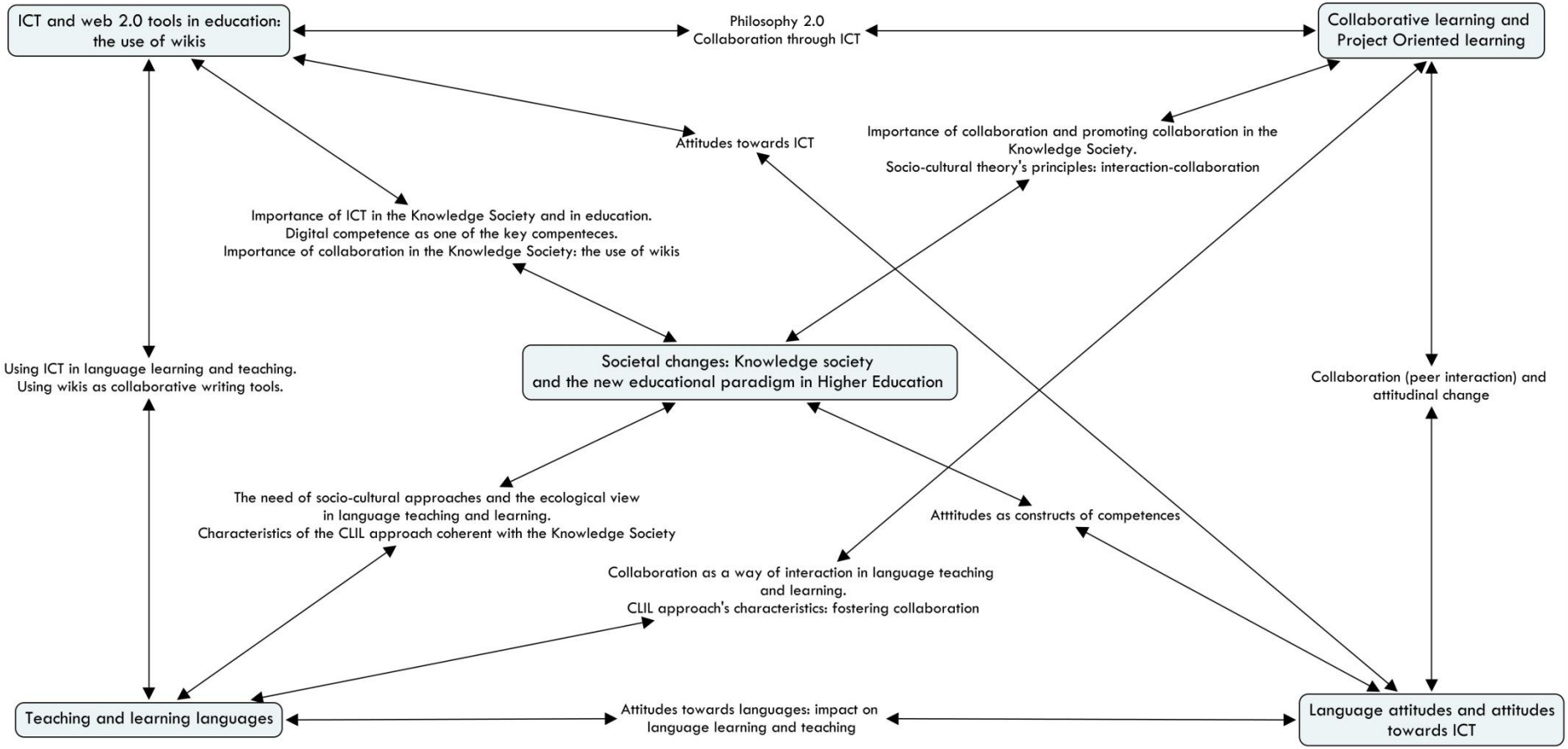


**Figure 0.1. Links between the chapters in the theoretical framework**

The empirical part of the research starts with the **sixth chapter** in which the research context, the study sample, the methodology and tools designed to carry out the research are described. In order to contextualize the research the first part of the chapter describes the philosophy of the Faculty of Humanities and Education at Mondragon Unibertsitatea. The chapter also describes the Primary Education degree before moving on to the specific module where the research is situated as well as the sample involved. The third section of the chapter describes the methodology designed and the tools used in the research together with the data collection procedure.

The **seventh chapter** shows the results obtained from the data analysis. First, quantitative and qualitative analysis criteria and procedures are presented. The results are presented in term of research questions.

The **eighth chapter** comprises the conclusions and discussion aris*ing* from the research question as well as the limitations, contributions and further research lines. Being an interdisciplinary topic, contributions to two different fields have been observed. On the one hand, contributions to the field of CLIL approaches in higher education and on the other hand, contributions to the field of ICT use in language learning and teaching processes from a socio-cultural approach. Further research lines are presented in the closing remarks.

# Theoretical framework

# Chapter 1. Societal changes: Knowledge Society and the new educational paradigm in Higher Education.

**Contents**

The aim of the first chapter is twofold. First, it describes the general context of the research embedding it in contemporary society. Second, it draws some links with subsequent chapters.

The first section of the chapter describes the changes driven by the Knowledge Society in comparison to the Industrial Society. These changes will also represent the evolution of the educational system as well as the development of the European Higher Education Area. The last section of the chapter summarises some of the main characteristics of present-day-students.

## 1.0. Introduction

Society has been influenced by diverse technological revolutions; namely social, economic, political, and technological changes in all spheres have directed society to a model where information and knowledge have become key aspects. With the latest "non-planed" revolution (Marcelo, 2007) the so-called "Information/ Knowledge Society" has emerged; a society culturally based on bits more than on atoms (Negroponte, 1995).

However, the new situation should be described using the western society as a reference. The reason for focusing on this specific area can be explained by means of the rapid and massive impact of Information and Communication Technology (henceforth ICT) on western society, and the acceleration they have fostered in terms of globalization and delocalization.

One of the main developments in western society can be identified as a resource-type-change. In fact, material resources, one of the main characteristics of the Industrial Society, have become less significant and a new 'immaterial-culture' has emerged, conceptualised as information and knowledge based culture, and mainly promoted by

ICT or, as Bauman (2011) asserts, ICT is at least the last link of an existing chain of factors necessary for transformation.

There is no space for finished products in the new societal configuration (Ramonet, 2011). That is to say, in the knowledge-based society products are created by means of knowledge and therefore, all products are nowadays exposed to constant modifications, or in Ramonet's (2011) words, they are mainly "work-in-progress" products.

This technological revolution has moreover created a society where visual thinking (Aguaded and Pérez, 2007), and networks and nodes (Castells, 2009) are predominant. The so-called liquid modernity (Bauman, 2007), uncertainty society (Morin, 1999) or cognitive society (Delors, 1996) has guided changes in the social, economic and political spheres, closely related to the immaterial-culture mentioned above.

This new societal configuration is also supported by the importance of intellectual capital, the strength of social and cognitive knowledge and skills, collaborative and cooperative work, information delocalization, processes acceleration, constant use of knowledge, relevance of learning or revaluation of people among others (Drucker, 1993; Stewart, 1997). As a result of all these changes, most of the characteristics of the Knowledge Society impact on life-long learning processes and education itself.

The main areas of the chapter can be seen in the following conceptual map [Figure 1.0.]:

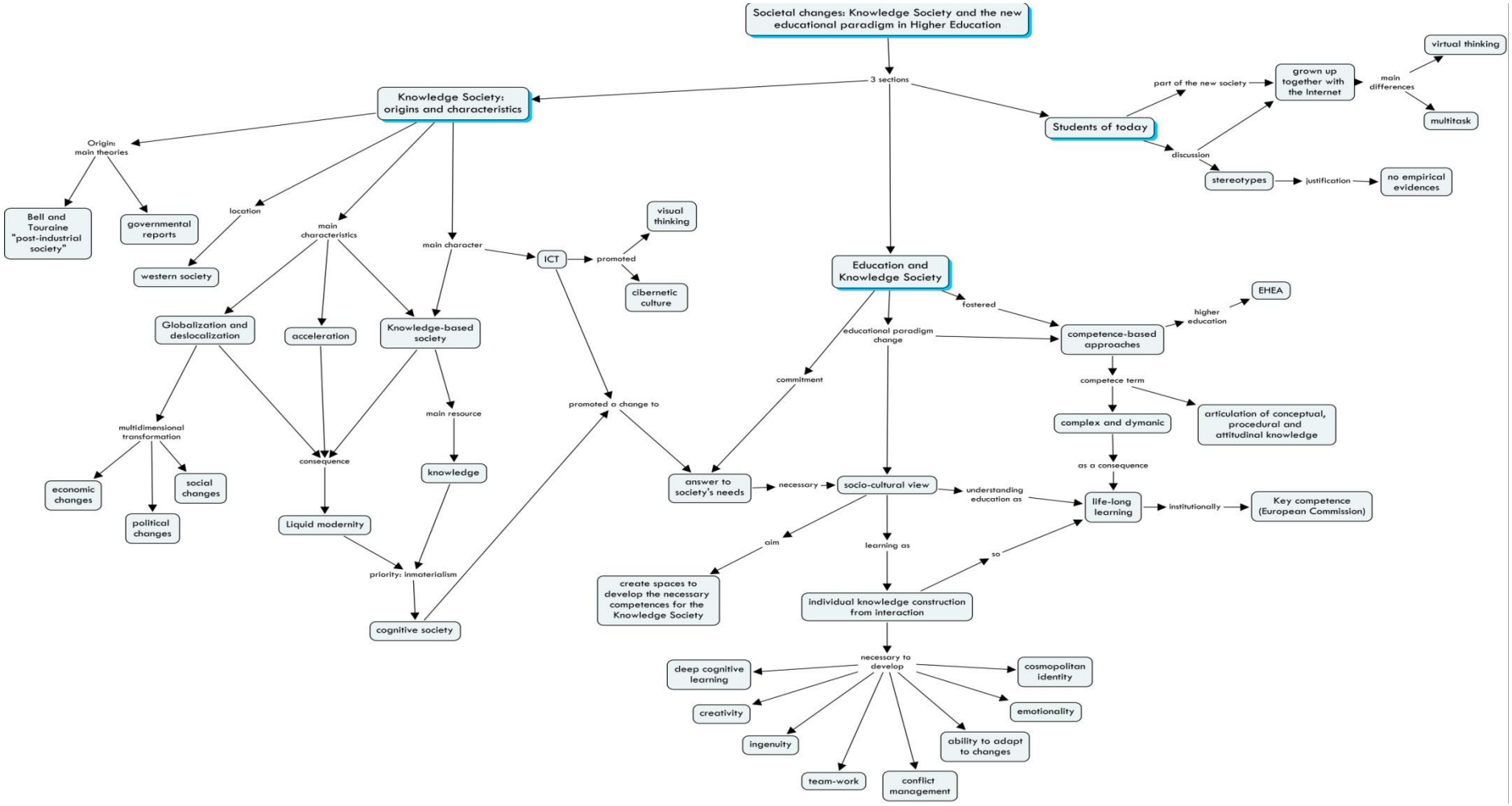


**Figure 1.0. Main areas of the chapter**

The following sections examine the creation of this new society, its main characteristics and its impact on education.

## 1.1. Knowledge Society: origins and main characteristics

Historically, society has been named after the economic force of each period. Thus, the agricultural era was defined by the use of animal power, agriculture, manufacturing, and rotation; the industrial era was supported by the emergence of industries, energy, and mechanical power. As far as the creation of the Knowledge Society is concerned, it needs to be stated that its delimitation is still being discussed. However, from neo-conservators to post-industrials, all theoreticians agree that knowledge is the main driver of both economic development and social development (Marcelo, 2007) in this new period.

Some researchers on the subject, Cabero (2007) or Hargreaves (2003) for example, attribute to Alain Touraine and Daniel Bell the first use of the term. Even if these authors employed the concept of "post-industrial society", they were the first ones to identify the forthcoming change. Bell (1976) for example, emphasizes the central nature of knowledge in his work. Touraine (1969), similarly, states that knowledge is the main factor of productiveness.

Cremades (2001), on the other hand, places the conceptual approach of information and society around 1975. According to the author, the Information Society was originated by different governmental research programmes and international organizations. Joyanes (2007) also pointed out in his analysis the impact of institutional reports on the creation of the present social model. Research and reports such as "The Limits to Growth" (1972), "L'informatisation de la société'" (1978) report, "An inconvenient Truth" (1993) known also as the "Al Gore" report, and the report called "Recommendation to the European Council, Europe and the global information society" (1994) or the "Bangemann" report, were the starting point of the new societal establishment. However, it seems that the concept was expanded due to the last two reports (Joyanes, 2007).

Méndez (2009) references Peter Drucker as the first to use the term Knowledge Society in 1969. Drucker, referring to management and overall market, presented knowledge as

the new configuration command. Méndez (2009) defines the Knowledge Society from an economic view rather than educational. In the same way, Hargreaves (2003) mentioned that more than Knowledge Society, the new societal configuration should be named the "Knowledge Economy".

It can be seen, therefore, that several concepts such as Information Society, Knowledge Economy, Post-industrial Society or Knowledge Society have been used to denominate this period. Some authors have conceded that Information Society is the transition from the Industrial Society to the Knowledge Society (UNESCO, 2005). Other authors (Pérez Díaz, 2002) understand the gap between the Information Society and the Knowledge Society in terms of learning. For the sake of clarity, and taking into account the essence of this study, the term Knowledge Society will be used from now on.

As a summary, the following time line [Figure 1.1.] displays the main points discussed in this section.

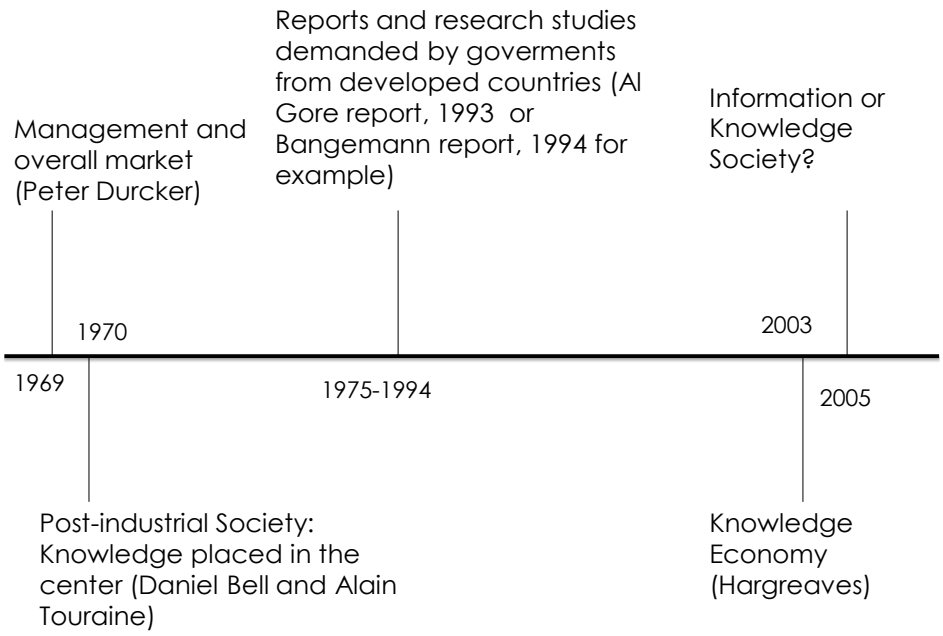


**Figure 1.1.: Time-line of the Knowledge Society**

Riveros and Mendoza (2005) referred to the Knowledge Society as the society in which most jobs require the ability to acquire and apply theoretical and analytical knowledge. That is, a society in which life-long learning is necessary and the central nature of knowledge is highlighted.

Apart from knowledge and continuous learning, the new configuration has promoted changes in society's economical, political, and, of course, social, and organizational characteristics. Based on de Moragas (1986), Creus and Deó (2008), Reigeluth (1999), and Egaña's (2010) works the following table [Table 1.1.] presents some of the changes arising from the societal transformation:

| Change | Characteristic | Industrial Society | Knowledge Society |
|---|---|---|---|
| Economical changes | Main resource | Material. | Immaterial. |
| | Amount of resources | Poor. | Big amount of information and rapid growth. |
| | Use of resources | Materials lose value with use. | Information can be shared and grows with the use and re-construction of knowledge. |
| | Durability of resources | Permanent. | Necessary to update. Quality can be lost easily. |
| | Distribution | Transport is necessary. | Easy to share. |
| | Property and law | Patents, control and taxes. | Difficult to rule. Importance of intellectual property. |
| | Price | Depends on materials, work and transport. | Depends on context, authors and other factors. |
| Political changes | Main ideology | Authoritarianism. | Pensée unique, neoliberalism and globalization. |
| | Control | Centralized. | Autonomy. |
| | Decisions | Autocratic. | Shared. |
| | Organization | Burocratic. | Based on groups. |
| | Power relationship | Hierarchical. | Horizontal and plural. |
| Social changes | Relationship | Physical environment; competetitive relationships. | New models of social relationships: virtual, cyberspace. |
| | Free time | Physical. | Physical and virtual. |
| | Education | Limited. | Compulsory and integral. |
| | Family | Traditional model. | Diverse familiar models. |
| | Culture | Written. | Screen. |
| | Communication | Mass media. | Individual and sectorial communication processes. |
| | Values | Importance of traditional values. | New social behaviours. |
| | Mobility | Limited by the market. | Free mobility. |
| | Work place | Industrial services. | Services. |
| | Population | Decrease of death rate. | Decrease of birth rate. |
| | Genre | Male superiority. | Massive inclusion of women. Equility. |
| | Religion | Importance of religion. | Decline of religion. |
| | Characteristics of products | Standarization. | Personalization. |
| | Consume | Massive consume. | Consume quickly. |

**Table 1.1.: Societal changes (based on de Moragas, 1986; Creus and Deó, 2008; Egaña, 2010 and Reigeluth, 1999)**

The structural change is however much more complex in reality than shown in the table above [Table 1.1.]. Nonetheless, and based on theoretical frameworks, it does show some of the pillars of contemporary society. That is, economical changes could be explained in terms of power and expansion of immaterial resources, and the value given to the user. The economic changes consequently, illustrate Hargreaves's (2003) Knowledge-based Economy. Political changes as well, in general and simplified, have

directed society along the paths of democracy and horizontal power. With regard to social aspects, values, relationships and behavioural changes have promoted different ways of communicating and living.

As mentioned in the introduction, all those techno-socio-economical factors or this multidimensional transformation have been characterized by the technological revolution. However, Castells (1996) claims that it is necessary to understand the dichotomy between technology and society. According to the author, technology does not determine society but shapes it. On the other hand, Castells (1996) mentions that society has also established technology by its use.

An explicit reference to learning-teaching processes can be found in the changes described. Consequently, preparing future professionals to critically respond and to adapt to all these features (Francisco Amat, 2011), and to develop life-long learning skills (Area, 2010; Marcelo, 2007) are some of the key aspects regarding educational changes. The next section analyzes the links between the education system and the Knowledge Society.

## 1.2. Education and Knowledge Society

As mentioned in the introduction social changes have also promoted changes in the education sphere. As Bauman (2011) claims this change is one of the most complicated that the history of education has ever faced (Bauman, 2011). Education is the key in a world overflowing with information, dynamic and liquid (Acaso, 2006; Aparici and García Mantilla, 2008; Bauman, 2007). As a consequence, education stakeholders should create a model to enable students to develop the necessary competences to live in the current society (Bauman, 2011; Riveros and Mendoza, 2005). However, Bauman (2011) states that creating that new model is an art that has not yet been invented. In this situation, ICT and horizontal relationships among education stakeholders play an important role (Fullan, 2002).

Having reached this point it should be mentioned that technology has always influenced teaching and learning processes. The use of educational technology is not therefore the innovation claimed by multiple forums. Innovation could be understood as using technology in a significant way, but without dependencies (Rodríguez Izquierdo, 2010).

Following on from that, Coll and Monereo (2008) mentioned that the learning model has always been associated with the technology of the time.

Similarly, the way of thinking and understanding knowledge are linked to the social patterns associated to each technology (Monero and Pozo, 2008; Salomon, 1992; Simone, 2000). Monereo and Pozo (2008) assert that each technology provides a metaphor of the epistemological conception of the human being in each historical era:

> "Currently, the clearest expression of how we think could be explained as a network of connected computers that can process in parallel all kinds of codes and that enable communication on a planetary level. Internet becomes the dominant metacognitive metaphor of nowadays" (Monereo eta Pozo, 2008: 26).

Not only has the way of thinking and understanding changed (Bouchard, 2011), but also the conception of learning, due to emerging technologies. Learning is not, therefore, acquiring the absolute truth; learning is constructing knowledge from interactions and interconnections, i.e. from a wide range of partial truths. Therefore, knowledge is no more ready-made (Morin, 1999).

The ability to manage in different situations permits the current period to be characterized as uncertain (Morin, 1999). Thus, according to Morin (1999), the fact that different points of view, diverse theories and interpretations are acceptable should be accepted. In addition, today's society requires students to develop the following: deep cognitive learning, creativity, agility, teamwork, conflict management, adaptability to change, emotionality and cosmopolitan identity (Hargreaves, 2003). In other words, as Morin (1999) claims, students need to learn how to dialogue with ignorance and uncertainty.

Taking into account all the above mentioned and emphasizing the phenomena of the Knowledge Society, it is essential to understand education as a process which is partly and critically constructed. In order to achieve that aim, however, educational practices must be significant and students should develop competences for life-long learning and develop the ability to construct knowledge. Therefore, education should be understood from a constructivist, global and holistic approach.

In this regard, research on the topic has concluded that constructivist approaches could be the contemporary education paradigms (Coll, 2001; Hernández, 2008; Lara, 2005;

Martín Bernal, 2009). As Martín Bernal's (2009) claims constructivist approaches allow the link between education and technology, the change in teacher's role (from transmission to guidance and monitoring), the interaction between the individual and the group, and student's active participation for instance. Moreover, as Bauman (2007) states, education is not achievable neither finished; it is a dynamic process (re)constructed through social interactions.

It is known that the origins of the current historical-cultural paradigm, constructivism, could be found in Lev Vygotski's work. Vygotski's (1978) view emphasizes the fact that the process of cognitive development is not a process that can be divided from the socio-cultural evolution. From this point of view, students reconstruct knowledge while interacting and knowledge is the result of active learning and personal construction (Solé and Coll, 1999).

So, according to the constructivist theory, meaningful learning takes place as a consequence of the changes inside each student's cognitive structure concerning previous knowledge. From this epistemology, human development is considered to be the exchanging process that occurs between the context and the individual. Therefore, active participation of the individual can foster a cognitive change.

Historically different authors have suggested that the constructivist theory can be represented by an interactive triangular model. Nowadays, however, trying to include factors as methodology and context, the "learning pentagon" (Garagorri, 2004) has been enacted. The pentagon has five variables: teacher, student, content, methodology and context. In fact, changes in one of the variables will lead to changes in the rest of the factors. The pentagon is shown in the following figure [Figure 1.2.].

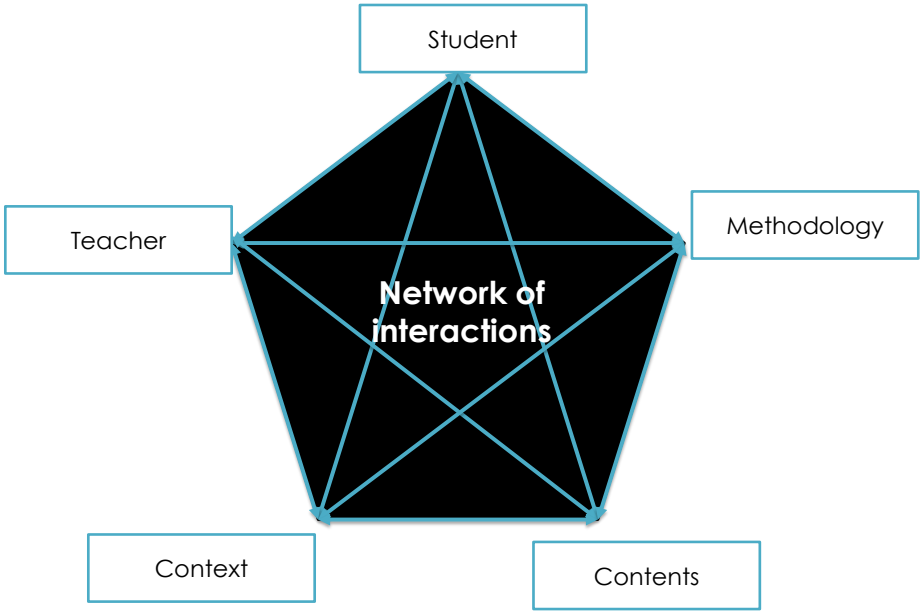


**Figure 1.2. The didactic pentagon**

The learning pentagon strengthens Bronfrenbrenner's (1987) ecological view. The next chapter examines the ecological view in greater detail, however Bronfrenbrenner's theory seeks to explain the complex interactions between the individual and the environment (Villalba, 2003). The author structures the ecological environment in different layers where each one consists of different actors holding the rest of the layers (Bronfrenbrenner, 1987). Bronfrenbrenner (1987) states that knowledge is constructed by the interactions occurring in the complex network.

As a result, students are seen as active agents. It is accepted that each individual will be involved in diverse interactions and confrontations, and will organize, code, and categorize information. Student are considered "scientists" (Karagiorgi and Symeou, 2005), who with the help of personal filters such as curiosity or experience, and interaction with cultural artefacts will construct knowledge by means of cognitive conflicts.

> "Constructivism is a theory of learning which emphasizes the importance of the learner's active construction of knowledge and the interplay between new knowledge and the learner's prior knowledge. The key tenet of constructivism theory is that people learn by actively constructing knowledge, weighing new information against their previous understanding, thinking about and working through discrepancies and coming to a new understanding" **(Donato and Terry, 1995, in Casal, 2007:57).**

From the different schools of thought found inside the constructivist theory the present research conforms to the socio-cultural theory or socio-constructive approach. Although some authors believe that the socio-constructivist theory could not be considered per se as the unique acceptable theory, this approach is considered to be the one identified with the paradigm of the Knowledge Society. Equally, it should be taken into account as Shulman (1989 in Coll, 1999) indicates that there is not a paradigm which can address all the simultaneous phenomena happening in a classroom.

Inside that paradigm and as a result of the current changing society, the role of the educational institutions has also changed. (Dis)Information's (Monereo and Pozo, 2001) life is becoming shorter; that is, information is renewed every ten years; therefore, at this moment knowledge that would be used by a child who is just born has not yet been created (Francisco Amat, 2011; Monereo and Pozo, 2001). Due to this reason, the education system should direct efforts to move from content-based learning onto competence-based approaches.

What is happening is not just relevant to compulsory education. Higher education systems are also influenced by the changes arising from the Knowledge Society (Riveros and Mendoza, 2005). Barnett (2001) reflects on the terminological change happening at tertiary level emphasising the need to forget the criteria of traditional societies which are no longer considered adequate for the problems of contemporary society. The change will also require an epistemological change consistent with the nature of the practice.

Universities, in the uncertainty of the context, cannot transmit all the professional knowledge required for future workers (Pozo and Pérez Echeverria, 2009). The Universities' duty, in this situation, should be training flexible, efficient and self-sufficient future professionals, contributing to the development of life-long learning (Hargreaves, 2003).

Universities are in essence spaces for pedagogic reflection but in general, are resistant to change and still play a transformative role. Studies on teachers' and students' epistemological conceptions reinforce the idea that both teachers and students continue understanding knowledge as absolute. In addition, several studies have concluded that it is not always easy to overcome these beliefs (Hofer and Pintrich, 1997; Pecharromán and Pozo, 2008; Pecharromán, Pozo, Mateos, Pérez Echevarria and Puy, 2009; Pérez Echeverria, Mateos, Pozo and Scheuer, 2001; Pérez Echevarria, Pozo, Pecharromán,

Cervi, Martínez and Martín, 2006). The new European Higher Education Area is a commitment to overcome the propedeutical (Zabala, 1995) view and take a new direction (Pérez, 2010).

Universities, according to the new paradigm, should create environments and spaces to enhance communication between students and teachers, to connect experience and learning, to work in groups, and to use ICT as a way to create learning communities (Salinas and de Benito, 2008). However, there is a significant gap between the integration of ICT and innovation, equivalent to the one between society and school. As a result, it is necessary to understand technological integration in terms of methodological change. Therefore, it is necessary in Infant and Primary Teacher Degrees, more than anywhere else, to foster methodologies, strategies, assessment, tasks and uses according to the new requirements. Similarly, it is necessary to foster reflection on the teaching profession.

Higher education institutions have been immersed in the process of change and transformation for ten years. The new phase began with the Sorbonne declaration in 1998. One of the main objectives was to create a common framework for the process; equally, another purpose of this common framework was fostering mobility and creating a knowledge-based society (European Ministers of Education, 1998). The Bologna declaration was the starting point to commence designing the European Higher Education Area (henceforth EHEA ). After this declaration different communications such as Prague 2001, Berlin 2003 and Bergen 2005 established the new higher education model.

These changes include the following set of reforms (de Pablos, 2010):

- Education is organized according to a sustainable model; directed to competence-based approaches.
- Degrees are redesigned according to the professional profile.
- Reflection is necessary.
- Teaching methodologies must be consistent.
- Administration and management change is also required.
- Need to educate professionals in competences and the ability to adapt to changes.

Therefore and due to the exponential growth of information and knowledge, strengthening competence-based approaches in higher education (Cano, 2008) and taking the complexity of the knowledge into account are necessary. Competence-based design allows, as Morin (1999) claims, training professionals to face and develop task in the uncertain society. In other words, this design helps students to take an active role in constructing knowledge. Teachers, in turn, will be required to guide students' knowledge construction process. To this end, teachers should think about "how" and "why" students should learn instead of "what" they should teach (Cano, 2008). Focused on the Teacher Education Degrees, it is necessary to prepare future teachers to address the needs of future students (UNESCO, 2011).

As far as competences are concerned, it should be mentioned that in the education field the term started to be used few decades ago (Bronckart, 2008) as a result of the work carried out by Bloom (Vossio, 2002) and strengthen due to the report published under the supervision of Jacques Delors in 1996. In the latter report, competences are understood to be the passport for life.

The term has been defined from a wide range of academic and administrative aspects. The different and multiple definitions of the word competence (1513/07 Decree; Coll, 2007; González and Wagenaar, 2003; Kane, 1992; Monereo and Pozo, 2007; OECD, 2001; 2005; Perrenoud, 2004; Stephenson and Yorke; 1998, for example) attribute the term a high level of abstraction. In addition, Gimeno and García (2009) state that the concept of competence is so confusing because it accumulates ideas from different traditions and there is little experience on how they could work in practice. However, some common elements could be found from both administrative and academic definitions:

- They are permanent but dynamic features of the individual.
- Competences appear while carrying out an action or a task.
- Competences maintain a direct relationship with the work done.
- Competences could be generalized to multiple activities.
- Knowledge, skills and attitudes appear in combination.
- Multiple skills are activated.

The concept of competence, therefore, articulates conceptual, attitudinal and procedural knowledge. It underlines the importance of applying knowledge to different situations. In this conception, it also integrates the ability to deal with future challenges (Monereo and Pozo, 2007). However, competences are not finished achievements; they are part of a dynamic process, as well as education.

From all the competences that individuals can develop, the Council of Europe (2004) selected a number of key skills essential to address the demands of society. These key competences are defined as transferable and, therefore, applicable in different situations and contexts. On the other hand, they should also be multifunctional, emphasizing the different objectives, problems, tasks, and solutions. The Council of Europe (2004) defined 8 key competences that fulfilled those criteria: communication in the native language; communication in foreign languages; mathematical, scientific and technological skills; digital competence; learning to learn; interpersonal skills and citizenship; initiative and entrepreneurial spirit; and cultural awareness and expression.

In that context, the importance of multilingualism in society also needs to be emphasized. Cenoz (2009) asserts that there is a two-way relationship between schools and society. According to the author, social beliefs, attitudes, and discourses are reflected in schools' linguistic and education projects. Thus, Cenoz (2009) considers that bilingual or multilingual education can promote a multilingual society in concordance with the society of today.

Multilingualism is a rich and complex phenomenon, which at the same time both enriches and complicates society (European Commission, 2008a). In order to achieve a multilingual society, education institutions play an important role and therefore, it is necessary to promote multilingual education. As can be seen in the following quotation, multilingual education should be understood by means of multilingual learning-teaching processes and multilingual organizational objectives.

> "Multilingual education implies teaching more than two languages provided that schools aim at multilingualism and multiliteracy" (Cenoz, 2009: 32).

Following this idea, the European Commission (2008b) supports the acquisition of the mother tongue plus two languages. Multilingualism promotes mobility, intercultural dialogue, and social cohesion. However, it will be necessary, taking into account the

circumstances, to promote a situation where language competences are developed in a meaningful way.

Given all this, it is necessary to bear in mind the nature of the students of today. Not only has society changed its customs, cultures, and experiences but individuals too. Thus, students entering university have also changed. Consequently, the aim of the next section is to explain some features of the students of today.

## 1.3. Students of today

Students involved in the present research are part of the Knowledge Society. These students represent a generation that has grown up together with the Internet. Owing to the configurative strength of ICT a wide range of terms related to this issue have been used. Students have been named as Generation X (Couplands, 1991), Generation M or Millenians (Strauss and Neil, 1992), Net Generation (Tapscott, 1998), Digital Natives (Prensky, 2001a), Screenagers (Castells and Bofarull, 2002), Homo zappiens (Veen, 2003), Generation @ (Freixa, 2003), neomillenials (Dede, 2005), the Gamer Generation (Carstens and Beck, 2005), Generation sms (Gordo and Megías, 2005); Google generation (British Library, 2008) or Einstein's Generation (Piscitelli, 2009) for instance.

Oblinger and Oblinger (2005) refer to this generation as those born between 1982 and 1991. Tapscott (1998), however, sets the boundaries between 1977 and 1997. McCrindle (2006) on the other hand, considers those born between 1980 and 1994 as part of this generation. The origin of this discussion could be found in comments made by Marc Prensky (2001a, 2001b) about digital natives and digital immigrants. According to Prensky (2001a), students entering universities can be described as digital natives because all of them have computers, video games, video cameras, mobile phones, and other tools from the digital era. According to Prensky (2001a) as a consequence of the digital culture, mentality has also changed.

Other authors also reinforce Prensky's ideas. Johnson, Chapman, and Dyer (2006) for example, mention that ICT is an integral part of students' lives. Therefore, students use them in an intuitive way. Students of today are also considered to be "multitask" students (Sánchez, Boix and Jurado, 2009; García, 2010). That is, students able to send messages through their mobile phones while they are searching for something on the

Internet or watching TV. In this regard, García (2010) summarizes the characteristics of the students of this generation. According to the author, these young people have visual intelligence, the ability to with multimedia in natural way, tend to learn in an inductive way, they are immersed in an attention crisis, they are looking for immediacy, and seeking interaction with socio-technological resources.

Contrary to these comments, some researchers conclude that being a digital native does not guarantee digital competence. Gutierrez, Palacios and Torrego (2010) as well as Egaña (2010) for example, mention that there are a lot of stereotypes about students entering universities today. It seems that all this is purely anecdotal because there is a lack of empirical evidences (British Library, 2008; Geck, 2006; Kipniss and Childs, 2005). Bruns and Humphreys (2007) assert that it can not be admitted that all students in higher education are skilled in the use of technological resources as learning tools.

Research on instrumental use and property in higher education has concluded that students do have a high access but use is relatively poor (Brazo and Ipiña, 2010; Kennedy, Dalgarno, Gray, Judd, Waycott, Bennett, Maton, Krause, Bishop, Chang, and Churchward, 2007). Some studies analysing the cognitive use of ICT concluded that students are not very skilled (Egaña, 2010) while international studies have showed that with appropriate guidance students could learn in greater depth using multimedia tools (Moreno and Mayer, 2005).

Together with the societal changes a new way of interpreting the world has emerged. Interpretation, as García (2010) states, is closer to the above-mentioned characteristics. Moreover, Egaña (2010) states that there is a trend towards a virtual mind. Thus, Monereo (2005) summarizes some of the characteristics of digital intelligence:

- Students show more capability of interpreting information simultaneously.
- As anyone can publish anything on the net, the importance and credibility of what they read is relative.
- The most important thing is to know where to go in order to look for information when necessary.
- They do not need to memorize things.

Whether or not our students are digital natives, there are some other characteristics and competences required by society. Education will be responsible for, among others,

contributing to this development. In other words, education should be responsible for helping students to develop the ability to continue learning throughout life.

Summing up, the Knowledge Society will require students to be active in their learning process and understand knowledge and information as changing and dynamic (Riveros and Mendoza, 2005) in order to be ready to (re)construct knowledge. As Morin (1999) claims, students should develop the ability to move through uncertainty.

# Chapter 2. Teaching and learning languages

**Contents**

"Clearly, a school without language could not exist, and education could not take place. Not only is language the vehicle by which education is conducted in every classroom in every school, it is also the main tool by means of which the institution of education is organized. [...] That is not all. Language is part of other message systems that are tied up with all our sensory systems, and all our memories, and all the stories we construct to nurture our identity. [...] The role of language in education is not limited to first, second and foreign language classes, it pervades all the education, in all subjects" **(van Lier, 2004: 1-2).**

The aim of the second chapter is to establish a socio-cultural framework of language teaching and learning processes from a communicative and ecological perspective, by summarising the different approaches. Grounds for the use of Content and Language Integrated Learning (CLIL) are also set out. The last section of the chapter introduces the area of writing processes and collaborative writing.

## 2.0. Introduction

Language is an indirect-intrinsic object (Dolz, Gagnon, and Mosquera, 2009), which is found everywhere and at any time. Language is therefore, a necessary tool to understand, represent, communicate, and discover reality. In addition, learning a language involves structuring thoughts (Basterretxea and González, 1997); which is, in the same way, an essential element to construct knowledge (Pozo, 2004).

Due to the importance of languages and societal changes explained in the previous chapter, it is indispensable to learn, in keeping with the Council of Europe (2003), the mother tongue or first language plus two languages. Thus, in the training process of new professionals, teaching and learning the mother tongue plus two languages has become one of the basic requirements (Martínez, 1996). Equally, the Council of Europe (1995; 2003; 2005) has highlighted the need for citizens who can communicate in multiple languages. The present chapter analyses some of the possible options aimed at achieving a multilingual society. A conceptual map summarizing the main points of the chapter can be seen below [Figure 2.0.].

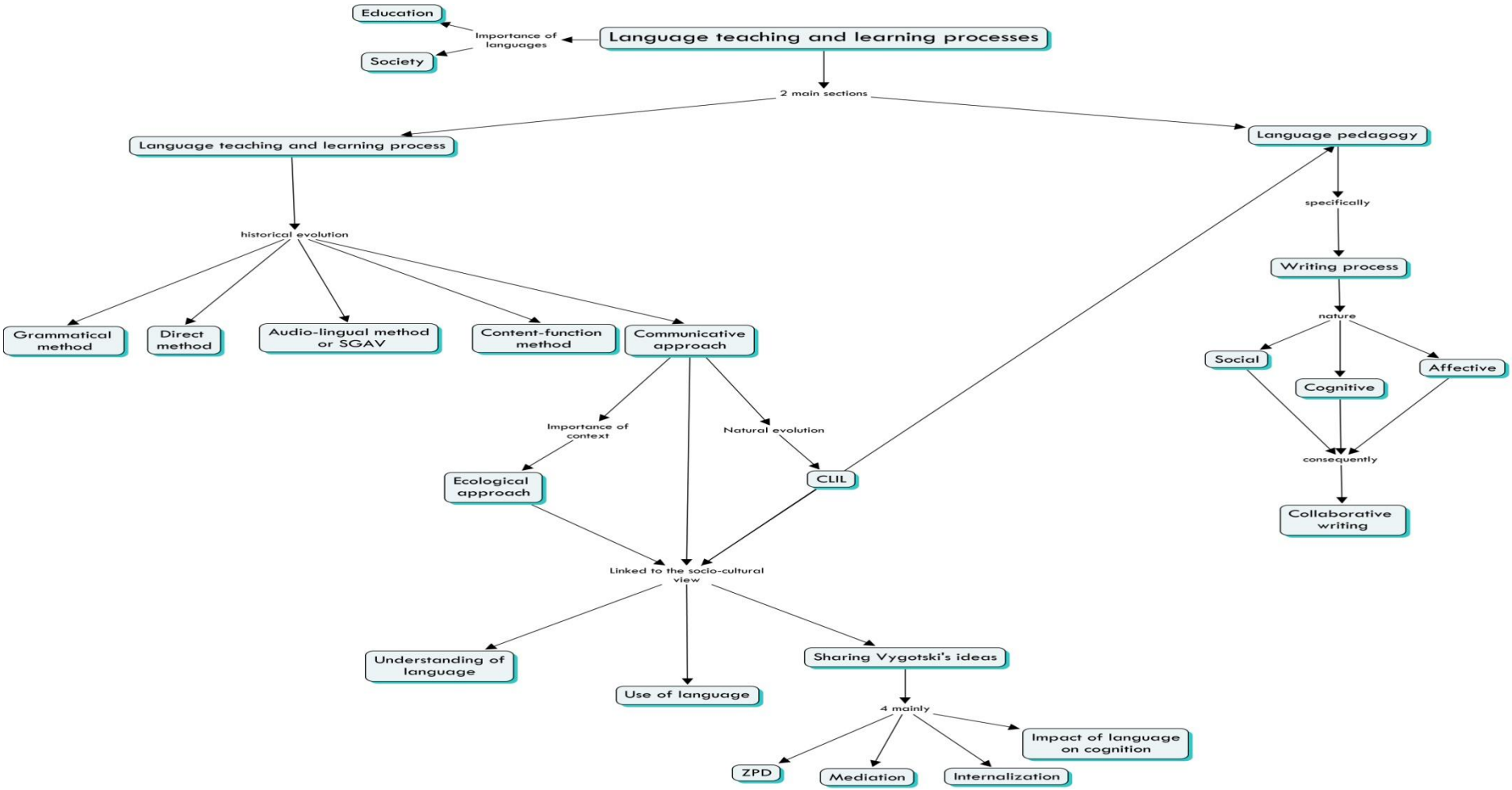


**Figure 2.0. Main ideas of the chapter**

## 2.1. Teaching and learning foreign languages

In order to contextualize and justify the epistemological view of the current study, this section summarizes the development of language teaching and learning views. However, only notions concerning foreign language teaching and learning processes will be summarized.

The grammar method was the main approach regarding foreign language teaching and learning processes during the 18th and 19th centuries. The aim was to establish the adjustment systems between the mother tongue and the foreign languages. In order to achieve that aim, the grammar method is centred on translation and grammatical explanations. It was believed that learning vocabulary and grammar would lead the learner to understand or learn the language; that is, it is believed that grammatical models are universal and that all languages follow the same patterns.

However, in the 20th century, languages are considered to be communicative tools for economical, political and cultural development (Hernández, 1999). As a result, a new way of understanding language emerged, the direct method. The direct method seeks to find the links between words and reality (Hernández, 1999). Therefore, each learner will acquire language rules through experience (Sanz, 2003).

Conductist theories from the 40's and 50's influenced views such as the audio-lingual methods. From this position, language learning is the result of rigid and linear repetitions of linguistic structures (Sanz, 2003). Consequently, language learning and teaching spaces become areas to manipulate elements and structures to achieve grammatical accuracy. Tape recorders and language laboratories started to be used as suitable tools for memory training and phonetic- systematization (Sanz, 2003).

Similarly, but based on neo-behaviourist psycho-linguistic frameworks, the Global Audio Visual Structure (SGAV henceforth) methodology was developed during the 60's and 70's. SGAV methodology takes into account the context and the communicative situation; static images and slides started to be used as visual aids to contextualize the oral message.

Together with the cognitivist psychological theories the content-function method was developed in order to confront some of the shortcomings observed in previous theories.

In 1971, and demanded by the Council of Europe, Jan van Ek (1975) determined the threshold level for foreign language learning and teaching; it referred to the minimum competences and knowledge to communicate in a language. This view changed the way of understanding language and special emphasis was placed in functional and social aspects; as a result, the communicative approach was developed.

The basics of the new approach are attributed to Wilkins, Chomsky, and British linguists. Even if some aspects of conductist views remained, the communicative approach brought cognistivist's and social interaction's ideas together. From the communicative approach, as Martínez (2009) asserts, language is something other than a system to express meaning; moreover, interaction and communication are basic functions of language. As a consequence, the aim of language teaching and learning processes should be taking into account not only linguistic knowledge but also affective, socio-cultural, strategic, and metacognitive aspects (Delmastro, 2010). Hence, the learning-teaching process is dynamic and it is considered to be the cognitive and emotional change occurred as a result of active participation. In addition, it is necessary to understand language teaching and learning spaces as psychosocial areas (Vez, 2004) to interact and negotiate meaning (Williams and Burden, 1997).

The characteristics of the current social model also underline the need for the communicative approach. That is, language is not only a subject but it is also a tool to gather, work on and organize knowledge and to communicate that knowledge. Language is, consequently, an instrument to develop thoughts. As stated in the first chapter, knowledge is not definitive, it is relative and transitive. Language, thus, is also dynamic and changeable. Learning a language is therefore, more than developing some competences. It is also learning new social and cultural behaviours and developing a new way of being. As Oxford and Crookal (1989) mention, learning a second or third language is learning to be a new person. Language will be a part of individual's social essence (Williams and Burden, 1997).

To sum up, with the communicative approach it is believed that learning a language demands working on cognitive, social and communicative skills. Thus, language learning spaces should be areas that stimulate language use. In this approach interactions turn out to be one of the main aspects. In the same vein, it is believed that learning happens as a consequence of the interactions occurring between students, teachers and tasks (Williams and Burden, 1997), and context gains maximal importance in the process. Communicative approaches consequently, demand emphasizing the social nature of

language. As Williams and Burden (1997) claim, in order to emphasize the social nature of language, language should be used in real situations, that is, taking into account the affective, social, cultural and political context.

In his ecological approach, Bronferbrenner (1987), like Williams and Burden (1997), stressed the importance of context. Bronferbrenner's ecological approach explains the development of human behaviour (Frías-Armenta, 2006). That is to say, Bronfrenbrenner describes a way to understand the complex interactions of the individual with the environment or context (Villalba, 2003). Bronfrenbrenner (1987) claims the environment is a group of ecosystems organized in different layers. Diverse actors constitute each layer and hold the rest of the ecosystems. Bronferbrenner (1987) defines as microsystem, mesosystem, exosystem and macrosystem the hierarchical ecosystems in the ecological environment.

The microsystem refers to the closest environment, that is, family, teachers and peers. The mesosystem, however, refers to the relationship between the agents in the microsystem (school, neighbourhood etc.). The individual is not in contact directly with the agents placed in the exosystem, but the acts happening there have a direct impact on the individual (government, province etc.). Cultures, sub-cultures and diverse human organizations are located in the macrosystem.

Van Lier (1998; 2004) adapted Bronfrenbrenner's ecological view to the classroom. Van Lier (2004) considers the interactions happening in the context as basic elements in the teaching and learning processes. The author (van Lier, 1998; 2004) claims that the classroom is a multi-layered ecosystem. As a result, it is necessary to analyze more than teacher-student or student-student interaction (Carretero, 2004). Moreover, it is necessary to analyze, on the one hand, individual relationships within the context, i.e. family and institution, and on the other hand, the personal state. Van Lier (2004) defines the whole situation as chaos and specifies different ecosystems using Bronfrenbrenner's terms.

The macrosystem and exosystem are placed in the macro framework of the ecosystem. The curriculum is placed in that macro-system, that is, tasks and contents designed for a long term period. Short-term tasks are on the other hand located in the mesosystem. The microsystem is formed by the decisions to be taken or tasks designed in order to adjust students' needs. The next figure [Figure 2.1.] shows the ecological view:

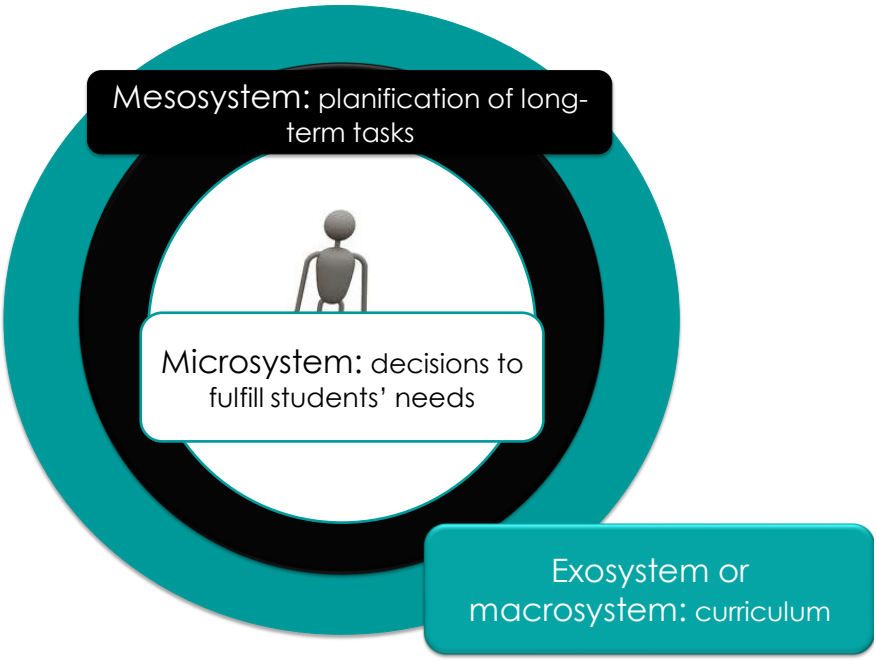


**Figure 2.1. . Ecological view in the classroom**

Therefore, the individual is an active organism, and as van Lier (2004) mentions, language – mother tongue or foreign language - is the tool to interact with the rest of the ecosystems. Consequently, social interaction becomes a compulsory factor in teaching-learning processes (van Lier, 2004). Thus, language and content cannot be divided.

> "The inseparable connection between language and education lies at the core of the ecological approach of language learning" (van Lier, 2004: 3).

From the ecological approach, language learning is the result of using different resources in social interaction but inside a certain context (Carretero, 2004). Hence, language is a tool to construct meaning and it is argued that language is developed while taking part in social tasks. In the development of the classroom ecosystem, van Lier (2004) reinforces two concepts: emergence and affordance. Emergence is characterised by the development of linguistic competence, and affordance, on the other hand, is on the base of the relationships between the person and the physical, social and symbolic environment. Both concepts are necessary to develop the contextual relationship. In the same way, it will be necessary to develop communicative competence.

As can be seen in both ecological and communicative approaches, learners are expected to develop the communicative competence (Sanz, 2003). In order to develop communicative competence Hymes (1966) argues that linguistic, sociolinguitic, sociocultural and strategic processes and knowledge are needed.

Hymes (1966) asserted that communicative competence is related to the need to communicate and the need to achieve knowledge and skills to interact. These needs are moreover, placed in a certain community and therefore, located in a specific context. Communicative competence could be defined as the syntactic, lexical and social knowledge of language. Saville-Troike (1994) agrees with Hymes on the fact that explaining social and cultural knowledge allow the interpretation of the linguistic forms. Communicative competence consequently, requires knowing why and how use language in different situations (Zhan, 2010). In order to achieve communicative competence Warschauer and Meskill (2000) propose integrating content and language:

> "This can be achieved through student collaboration on authentic tasks and projects while simultaneously learning both content and language" (Warschauer eta Meskill, 2000:6).

That idea could be also found in the essence of Canadian programmes (see Genesee, 1987; Swain and Lapkin, 1982 for example). Nowadays, several programs where language and content are worked on together could be found worldwide (Meriosou-Storm, 2007; Pedrosa, 2011). In that regard, research on language teaching and learning processes has shown that achievements are quite low when languages are worked on as objects, that is, students develop limited competence (see Cenoz, 1991; Celaya and Ruiz de Zarobe, 2010; Hüttner and Rieder-Bünemann, 2007; Lasagabaster, 2008 or Várkuti, 2010, for instance). However, when languages are worked on together with curricular contents students' language competence is higher (Ackerl, 2007; Dalton-Puffer, 2007; Ruiz de Zarobe, 2008; Wesche, 2002). Moreover, students' learning is more meaningful (Bertaux, 2000; Genesee 1987; ISEI-IVEI 2005) and motivation towards the classroom (Brinton, Snow and Weshe, 1989; Marsh, 2000; Lasagabaster and Ruiz de Zarobe, 2010; Coyle, 2011) and towards the language (Coyle, 2011; Lasagabaster, 2008) increases.

Languages could be learnt easier when they are used in real situations (Merisou-Storm, 2007). Consequently, the key to learning a language rests on the options for using it (Navés and Muñoz, 2000). That is, the important thing is not what we know but if we

know how to use it. And that is where Content and Language Integrated Learning (CLIL henceforth) approaches gain a valid importance. Different terms have been used to determine the concept: content through a foreign language (Met, 1991); content-based instruction (Brinton, Snow and Wesche, 1989), bilingual content teaching (Genesse, 1987), teaching content through a foreign language (Kohonen, 1992), foreign language enriched content instruction (Anderson, Allen and Narvaez, 1993), integration of language and content (Mohan, 1979) or content based language teaching (Met, 1998). Three have been the main reasons to choose CLIL in the present research:

- Even if the research is placed in a foreign language learning context, the general term will be used understanding that the approach refers to any language (Coyle, 2007; Eurydice, 2006).

- The concept expanded in anglophone and francophone fields (Pedrosa, 2011) is linked to innovation, modernity, efficiency, efficacy, improvement and related to concepts with positive connotations (Dalton-Puffer, Nikula and Smit, 2010).

- While some of the concepts emphasize language or content, CLIL aims at finding the balance between both (Coyle, 2007; Nikula, 1997).

CLIL's foundations could be found in the European context (Coyle, 2007) around the 90's (Mehisto, Marsh and Frigols, 2008). Lorenzo (2007) claims that CLIL has solved some of the imbalances found in language teaching-learning processes. Moreover, Coyle (2011) asserts that CLIL's potential and flexibility create the alternative approach for overcoming those imbalances. Hence, CLIL could be considered as the natural development of communicative approaches (Pérez-Vidal, 2009).

CLIL offers a real context for language development (Järvinen, 2009; Navés and Muñoz, 2000). That is, an additional option to experiment with languages, in the end, an option to use languages in a natural way and with a real objective in the educational field (Coyle, Hood and Marsh, 2010; Coyle, 2011; Dalton-Puffer and Smit, 2007; Marsh, 2000). In the same way, the European Commission (2003) claims that CLIL gives the option to use the language while learning, and not keeping it for a future. Moreover, as far as input and exposition are concerned, from a CLIL approach the exposition to the target language is higher in terms of quality and quantity (Marsh, nd).

CLIL is an approach with a dual focus (Moate, 2010) where language, in this case a foreign language, is used to learn the language as well as curricular content. This joint

role or focus will give the approach an added value owing to the fact that language is used to learn while using the language.

Research studies carried out have shown that results of using CLIL are positive both for content (Järvinen, 2009) as well as for language (Baetens-Beardsmore, 2008; Elorza, 2011). The difference between learning through the first language and using a CLIL approach could be understood in terms of finding synergies between linguistic and content objectives (Hazzete, 2004). Using a CLIL approach does not mean sacrificing a discipline but finding the integration of both axes benefiting from interdisciplinary aspects.

Mortimer and Scott (2003) assert that even if content will define learning outcomes and tasks, language will create chances to understand content. These linguistic objectives will guarantee that students will be able to use the language without mastering the language. Furthermore, CLIL could help students with different levels, interests and skills developing language competence (Dalton-Puffer, 2007). Therefore CLIL has gained importance due to its characteristics, of which the following can be highlighted:

- Student-centred learning.
- Different learning styles are taken into consideration.
- Process and task-centred learning.
- Encourages autonomous and interactive learning.
- Peer and group dynamics are used.
- Tasks requiring meaning negotiation are used.
- Inquiry oriented learning.
- Use of comprehension strategies.
- Peer tutoring.
- The use of different materials and resources are fostered.
- Practice and reality.

When languages and content are integrated, however, different approaches can be observed (Brinton, Snow and Wesche, 1989). Grin (2005 in Coyle, 2007) mentions that more than 216 CLIL experiences could be described depending on the aspect underlined. Met (1999) places all the experiences in a continuum from content based to language based experiences. Coyle (2008) however recommends finding the balance between both ends if real integration wants to be achieved. The author (Coyle, 2007) states that there is not a common framework to integrate all the experiences claiming that each experience should be understood "in situ" and should be understood inside the context in which is being carried out (Coyle, 2009). Lasagabaster and Ruiz de Zarobe (2010) mention that there is not a framework that could help to explain the differences between the experiences. As CLIL experiences increase, research on CLIL has also augmented. However, results raise as many issues as they solve (Ruiz de Zarobe, Sierra and del Puerto, 2011 in Coyle, 2011). As a consequence, the need for further research should be considered.

Regarding different educational levels, it needs to be stated that most of the experiences are being carried out at primary and secondary level. As far as tertiary level is concerned, experiences are not numerous (Coleman, 2006). However, Ramos (2010) mentions that CLIL could be an appropriate framework to deal with the requirements of the European Higher Education Area.

Research studies on the topic carried out in secondary education have shown that CLIL approaches could increase the development of students' lexical, gramatical and communicative skills (Ackerl, 2007; Lasagabaster, 2008; Llinares and Whittaker, 2010; Ruiz de Zarobe, 2008 and Várkuti, 2010, for example). Consequently, a CLIL framework could be considered as more efficient than traditional programs for developing foreign language skills (Hüttner and Rieder-Bünemann 2010; Várkurti 2010). In addition to language skills, Ruiz de Zarobe (2008) indicates that CLIL impacts positively on the development of content. Furthermore, CLIL can create a natural context in the classroom. In fact, Llinares and Whittaker (2010) show that there are more spaces for interpretation and expression.

With regard to primary education and based on Eguiguren's (2006) findings, it could be stated that early exposure to a foreign language is as effective as a CLIL experience. The author compared groups at the age of 10 and did not find differences between those who were involved in a CLIL experience and the ones who began learning English at early ages. Similarly, Elorza (2011) following up the project called "Eleanitz-English"

(1991-2010), concluded that early age is an effective stage to introduce a third language. In fact, analysis has shown that as a consequence of early exposure students achieve a decent level by the end of compulsory education. Elorza (2011) has also asserted that learning a subject through a foreign language does not negatively impact on either the academic level or on the acquisition of Basque as L1 or L2.

Even if results and conclusions from primary and secondary education could be extrapolated to higher education, research on tertiary education is still needed. Regarding higher education, several studies have analyzed the influence of the teacher's discourse (see for example Dafouz and Nuñez, 2010; Pedrosa, 2011), many others have focused on students' writing progression (Loranc-Paszylk, 2009, for example) or oral discourse comprehension skills (Hellekjœr, 2010, for example). However, research is needed in this field; and even more in the context of future teachers.

Conclusions of research studies carried out in all educational fields have shown that any CLIL approach should be placed in a given context to which it has to adapt (Sagasta, Pedrosa, Barnes, Narzabal and Madinabeitia, 2009). In other words, in order to facilitate the implementation of CLIL experiences it is necessary to deal with the questions of why and how inside a context (Coyle, Hood and Marsh, 2010). At the same time, it must be placed inside a holistic linguistic project (Sagasta et al., 2009). Furthermore, the linguistic project should take into account the 4Cs framework developed by Coyle (1999).

Based on Mohan's "Knowledge Framework", Coyle developed the 4Cs framework with four principles: content, cognition, communication, and culture. The interaction produced by the four principles relates the framework to the social and ecological view of the classroom (Pedrosa, 2011).

Coyle (2005; 2007) refers to content as the skills needed to construct knowledge. The construction of knowledge requires in turn, cognitive involvement. Language, as a communicative tool, also becomes necessary. Furthermore, in today's society a global view has become essential in order to develop cultural awareness (Coyle, 2005). The author claims that content is the "road", which determines the learning process. Once content is defined, it should be linked to language, that is, to communicative purposes. The communicative purposes will lead to the development of the cognitive competences required. As far as culture is concerned, Coyle (2005) shows that it is not a separate topic but a topic related to communication, cognition and content.

CLIL and 4Cs framework require a reconceptualization of language teaching and learning processes (Coyle, 2008). This reconceptualizacion will actively involve the student. In addition, teachers' active participation is also encouraged and all this will promote a progress away from grammar based learning and a focus on the "natural use of the language".

All in all, it can be stated that the socio-cultural theory, the communicative approach, the ecological approach and CLIL described in the present research share the way language is understood and some Vygotski's ideas.

Language, from a socio-cultural perspective, is a multifaceted tool. That is, language is the instrument to access knowledge, to construct knowledge and to demonstrate knowledge (Moate, 2010). As Moate (2010) mentions, CLIL approach represents the change in the understanding of language. In the same way, socio-cultural approaches admit that language is changed dynamically. The ecological approach considers language also as a complex dynamic system (Järvinen, 2009).

Zuengler and Miller (2006), from a socio-cultural view, emphasizing the social nature of language, define language as a resource to participate in society. Lightbown and Spada (1999) consider that in addition to knowledge construction, language itself is developed through social interaction. By the same token, in second or third language learning contexts, Lantolf and Apple (1994) indicate that higher levels of language competence are achieved when there is interaction. This social essence of language is also stressed in the communicative approach as well as the ecological view. In the same vein, CLIL's objective is to create meaningful spaces to construct knowledge and to interact.

In short, the four approaches understand language as a tool for the construction of knowledge and as a social and dynamic tool. In addition to these characteristics, all four approaches are framed around Vygotski's ideas: Zone of Proximal Development (ZPD henceforth), internalization, mediation and the impact of language on cognition.

From the socio-cultural theory the ZPD is considered the distance between what a person can do alone and with help. The ZPD is, therefore, a dynamic field created through interactions. In this regard, the characteristics of the communicative approach encourage the active participation of the students' in interactions so the dynamic nature of the ZPD is guaranteed. As far as the ecological point of view in concerned, van Lier (2004) offers an extension of Vygotski's concept. In other words, from the ecological approach the

individual is an active agent in interaction with the ecosystem and, therefore, the immediate context, that is the microsystem, can affect the ZPD. In a CLIL context, according to Mehisto (2008), the ZPD can be redefined in terms of content and metacognition.

> " In CLIL, the ZPD is the distance between the actual developmental level as determined by individual processing and application of content and language knowledge, and the level of potential development achievable through the collaborative processing and application of content and language knowledge with (an) adult(s) or peer(s). The ZPD is the distance between the actual management of one's own learning and the potential level of self-management of learning when working with (an) adult(s) or peer(s)" (Mehisto, 2008:109).

Internalization derived also from Vygotski's ideas is also a shared principle regarding the socio-cultural approach, communicative language learning-teaching process, the ecological approach and CLIL. The main implication of internationalization could be explained as providing support to develop creative strategies, to adapt strategies and to assimilate the learning task (Choul, 2008).

Vygotski (1978) mentions that internalization is a reconstruction of an intra-psychological operation carried out in the inter-psychological level. In addition, internalization is the convergence between thoughts and mediation. In other words, Lantolf and Throne (2006) define internalization as:

> "The process through which cultural artefacts, such as language, take on a psychological function is known as internalization" (Lantolf and Throne, 2006: 203).

However, the process of internationalization is a process of transformation, which causes changes in the structures and functions. This transformation, is also a negotiated process. Through this process the relationship between the individual and his or her social environment is reordered (Winegar, 1997). In short, all views agree on defining internalization as changes happening in the ZPD owing to the interactions with the context.

Mediation has become an essential term of second and third language learning-teaching processes. The socio-cultural theory considers tasks that demand active participation and

social mediation as necessary in second/third language learning processes. Learning, therefore, is a collaborative achievement and not an individual achievement. Similarly, Vygotski (1987) refers to social instruction as one of the key aspects. Also Lantolf and Throne (2006) mention the use of language, organization and structure are basic elements of mediation. These are also present in the interactions claimed by the ecological and communicative approaches. CLIL approaches also provide the opportunity to create spaces for mediation.

Finally, all these approaches take into consideration the impact of language on cognition. Mercer and Littleton (2007) assert that learning and development are the result of a joint activity. Language plays an important role between the intra-psychological and inter-psychological planes. In fact, according to Vygotski's ideas, language allows the two-way relationship between those two planes (Moate, 2010). Lantolf and Apple (1994) claim that languages have a dual function. On the one hand, the communicative function, which guarantees social interaction; and on the other hand, the internal or cognitive function which is derived from the first but emphasizes the impact of languages on cognition. Pozo (2003) links both functions highlighting that the construction of knowledge is closely related to the ability to use communication systems, due to the fact that without them knowledge could not be constructed. According to the author (Pozo, 2004), the world could only be discovered and shown through language. Edwards (1997) also reinforces the importance of language:

> "Words, sentences, ideas, and so on, can be said to represent the world in some way. That is to say, they are descriptive – they can be used to categorize and refer to things, activities, processes, both in the world "outside" of us, and in the "inner" world of consciousness and mind" (Edwards, 1997:1).

As a result, knowledge can only be constructed through language, and language needs to be used strategically in order to reconstruct and communicate that knowledge (Pozo, 2004).

Pozo and Postigo (2000) claim that systematic use of language is only taught in subjects where language is explicit. Other areas of the curriculum, however, very rarely integrate procedures to structure and use language.

## 2.2. Writing processes

Language learning-teaching processes contains all the inter-relationships and interdependences happening in micro-processes and ecosystems. As a result, language is the central object (Dolz, Gagnon, and Mosquera, 2009). In this context, what to teach and how to facilitate acquisition or the learning process become essential elements (Dolz, Gagnon, and Mosquera, 2009).

Written language should be understood in its dual nature; as an object to be learned as well as a tool to learn. In addition, written language pedagogy has been developed from several perspectives. Casanny (1990) states that there are four approaches: grammatical, functional, the approach focused on the process, and content based approach. From the grammatical point of view, the writing process is related to grammar, spelling and syntax (Iglesias, nd). As for the functional view, writing is a communicative tool to achieve specific objectives and to understand texts. The approach focused on the process, however, emphasizes the writing process as a cognitive process. The content based view emphasizes the knowledge of content as the source of the writing process. However, Cassany (1990) claims that all the different approaches are ingredients of the writing processes.

Vygotski (1987) states that writing processes are particular functions of oral interactions; therefore, this will require an interaction considered by the author as the algebra of language. The written language forces consequently, the transformation of cognitive processes in the absence of face to face communication and an immediate communicative situation (Vygostki, 1987). Written language pedagogy, therefore, should be considered as the complex interactions that occur in the writing process.

> "The configuration of intervening factors becomes even more complex in some educational contexts in which learning-to-write and writing-to-learn are inseparable due to the educational and linguistic reasons" (Manchón, 2011: 5).

Hyland (2011) believes that there are three ways to understand the writing process: one is focused on the writer, the second one on texts, and the third one on the reader. According to the author, understanding the writing process as a process centered in the

writer will imply learning to write by writing productions. This model aims at problem solving rather than communicating.

Hyland (2011) refers to the second way of understanding as a model based on texts. Therefore, writing is the process of creating a textual product. That is, the writing process is the result of an activity. From this point of view there are two options: to understand the text as an object or as a discourse. Understanding the text as an object, writing is a system of signs independent of the writer's intentions. If the text is understood as an autonomous object, communicative situations are not taken into account. Besides, understanding the text as a discourse implies understanding writing as a social action. This model emphasizes communicative approaches and text genres are developed.

Understanding writing as centred in the reader strengthens the communicative approach and the fact that meaning is created as a result of the interaction between writer and reader. The writer is in Hyland's (2011) opinion part of a community.

> "the writer is neither a creator working through a set of cognitive processes nor an interactant engaging directly with the reader, but a member of a community" (Hyland, 2011: 27).

The process of writing is, therefore, considered as a social practice, which is developed inside a cultural context. Thus, understanding writing in a holistic way means placing language in the intersection between learning to write and writing to learn (Byrnes, 2011). In addition, the process of writing is formed by social, cognitive and affective processes which are inseparable from each other (Abdulwahel, 2011; Camps, 1997).

Camps (1997) justifies that the three aspects should be emphasized. Firstly, it must be admitted that writing is the result of a process. This process requires placing in a context which is not shared by writers and readers. Secondly, the interactive nature of written communication needs to be mentioned. That is, the author argues that all texts are responses to previous texts and consequence of discursive experiences (Camps, 1997). Finally, rejecting the dichotomy between oral and written language is recommended. Camps (1997) claims that the differentiation between oral and written language is due to the complexity caused by external factors.

Cassany, Luna, and Sanz (1994), following Flower and Hayes's model, determine the sub-processes in the writing process. Even if the model is neither linear nor fixed, it can be explained as follows: the planning is done taking into account the communicative

situations, that is, subject, audience and purpose. In the planning, organization and creativity are also necessary. To do so, however, knowledge placed in the long-term memory related to the writing, subject and audience are activated. The planning will lead the student to the composition. At the end, students should check the adequacy of the text, rewrite it and reread it. Students will move from different sub-processes onto others. In order to do it five types of knowledge are necessary according to Hyland (2011):

- Knowledge related to content, that is, concepts, ideas and knowledge of the subject.
- Knowledge related to the system, i.e., syntax, vocabulary and knowledge of the structure.
- Knowledge about the writing process to prepare and carry out the task.
- Knowledge of textual genres.
- Knowledge of the context, where the reader's knowledge and cultural perspectives must be taken into account.

Similarly, Mata (1998) summarizes some of the difficulties students' face when writing. First of all, students may find difficulties at the beginning of the text (what to write, how ...). This will affect the author's opinion, the future planning and reviewing among other things. Secondly, difficulties in terms of knowledge about the subject. Thirdly, self-regulation difficulties. Mata (1998) suggests that students may have difficulties selecting and controlling strategies and processes. Finally, students will face difficulties finding appropriate cognitive strategies.

The impact of the first language on foreign or second languages writing process is significant. Consequently, writing skills and strategies are transferrable between languages (Kobayashi and Rinnet, 2010) and several sub-processes are also the same (Silva, 1993). However, it is necessary to develop specific criteria for foreign or second languages (Myles, 2002). And that, as Kern (2000) mentions, is necessary because cultural variables should be taken into account.

Silva (1993) analyzed seventy-two empirical works comparing writing processes in first and second or foreign languages. As a result, the author concluded that there are similar

processes that occur in all languages. However, in some cases there may be differences in the planning, drafting, reviewing and structuring. In terms of planning, writing in a foreign language implies paying more attention to producing ideas than planning itself. However, the production of ideas is more difficult and less successful. The process of writing is more difficult, and more time is needed. Review is shorter and lighter as stated by Silva (1993). As regards to the structure, the author found differences in length, structure and number of mistakes. However, Cumming (2001) asserts that more control is needed when writing in a foreign language but Raimes (1991; 1998) claims that it could be strengthened by instruction.

## 2.3. Collaborative learning in foreign language learning and teaching

The social nature of language emphasized by the socio-cultural theory, the communicative approach, the ecological approach and CLIL imply collaborative processes. An overview of collaborative learning follows, while chapter four delas with it expressly.

This model of learning was developed in the 70s. Johnson, Johnson and Stanne (2000) consider collaborative learning as a generic concept to refer to a way to guide and organize class tasks. From the perspective of learning it is confirmed that collaborative learning affects ~~in~~ cognitive and emotional aspects positively. In Martínez's (1996) words, the interdependence of collaborative learning encourages students to take an active role in reconstructing knowledge.

Skon, Johnson and Johnson (1981), Cuseo (1990) or Johnson, Johnson and Stanne (2000) conclude in different studies that collaborative learning has a positive impact on students' academic learning process. Furthermore, Johnson, Johnson, Stanne and Garibaldi's (1990) work concludes that students develop high-level thinking. Also, intercultural awareness and tolerance increase as Slavin (1990) concludes. In addition, Johnson and Johnson (1989) demonstrate that interpersonal skills are also developed.

Even if the history of collaborative learning is long, collaborative learning in language learning and teaching processes started alongside the communicative approach (Martínez, 1996). Focusing on second and third languages, Hirst and Slavik (1990) state

that collaborative learning guarantees the development of communicative language competences. Trujillo (2002) adds that social skills and cognitive development are also fostered by collaborative learning. Therefore, collaborative learning in the classroom is considered as a model for communicative interaction and, consequently, as a basic principle of communicative language teaching-learning processes (Martínez, 1996). Using collaborative learning in second or foreign language teaching and learning processes has five main benefits:

- Options to use language naturally increase through the use of language in groups or in pairs.
- It creates opportunities for students to use language naturally.
- Lexical units, structures and functions of language are practiced through interactive tasks.
- It provides an opportunity for students to develop learning and communication strategies.
- It increases student motivation and achieves a positive emotional atmosphere in the room.

Collaborative writing follows the same rationale as collaborative learning, that is, a model to promote social interaction among students (Yong, 2010). The term could be defined as a group of two or more students who carry out the responsibilities of the procedure to create a document (Bosley, 1989). However, with the advance of technology, it seems necessary to redefine collaborative writing. Baltazar Paz (2005) defines collaborative writing as the process where a set of people (community) using on-line communication and through a set of software tools (Blogger, WordPress, wiki, etc..), make individual contributions to create a specific document, by means of the same standards, methodologies and the same pre-established objective. Knowledge and experiences of different authors are combined in the same document. A common text, therefore, will reflect the nature of the different authors.

As Yong (2010) states some advantages are found in the process: students can observe the way members think and as a result of observing opportunities to scaffold cognitive strategies and writing styles increase; collaboration increases confidence and last but not

least, teachers can meet the needs of collaborative writing, while observing the interactions happening.

Research into collaborative writing in foreign language learning-teaching processes started in the early 90s (Elola and Oskoz, 2010). Practical and theoretical evidence has emphasized the importance of using this strategy (Shehadeh, 2011) but as several authors indicate (e.g. Storch, 2005, Storch and Wigglesworth, 2007) more research is needed.

Bustos, Tirado, and Miranda (2007) emphasize that this type of writing in foreign language promotes reflective thinking encouraging participants to develop knowledge about language. In the same vein, the potential of collaborative writing increases when students are encouraged to solve a problem (Elola and Oskoz, 2010). To do this, students need to know that writing in a collaborative way does not mean writing by accumulation. What's more, Pozo and Pérez-Echevarria (2009) claim that it is essential to understand the aim of the text. Gollin (1999) argues that training is required for collaborative writing.

Studies on collaborative writing in first language have shown that collaborative writing requires reflection (Higgins, Flowes and Petraglia, 1992) and that increases cognitive conflict (Morgan, Allen, Moore, Atkinson and Snow, 1987). In the case of second or third languages, collaborative writing is considered a strong method; it helps students achieve grammatical accuracy (Storch, 1999), develop vocabulary and discourse, and obtain knowledge about language (DiCamilla and Anton, 1997; Hirvela, 1999, Storch, 2002, Swain and Lapkin, 1998). In addition, it increases opportunities for scaffolding (Donato, 1994) and creates spaces to reach the ZPD (Nyikos and Hashimoto, 1997).

In the context of second and foreign languages, according to Yong (2011), language development and production improve when the group understands the meaning of team and the value of the group. Accordingly, the author (Yong, 2010) found the following features when students in higher education write collaboratively in a foreign language:

- High interaction: the greater the commitment of members is, the more successful collaboration is. Accordingly, the authors saw the need for teachers to stress the importance of the interaction in the classroom.

- Negotiation: this is a feature that is associated with interaction. Negotiation requires changes and restructuring of interaction in several ways: personal, interactive and procedural.

- Cognitive process: cognitive processes are basic in the process of collaborative writing; students must negotiate to reach consensus.

- Shared skills: the group is reinforced by sharing skills. Sharing skills increases the opportunities to access the ZPD.

- Emotional factors: the development of positive feelings between the members is required. If feelings are positive, consensus on the written text is likely to be achieved.

- Use of the first language: students use their mother tongue when writing collaboratively in a foreign language. The author emphasizes that the mother tongue can be helpful for cognitive functions.

- Revision: processes of drafting and revision increase.

These characteristics foster "collective scaffolding" (Donato, 1989; 1994). Regarding collective scaffolding Kuiken and Vedder (2002) have analyzed the role of group interaction in second language writing. In addition to linguistic and syntactic aspects of text analysis, metacognitive strategies used by students were analyzed. Researchers noticed that there is a direct relationship with strategic metalinguistic awareness of second language and the quality of texts written.

Storch (2005) also studied the collaborative writing process and its product. Similarly, students' beliefs about collaborative writing were also analyzed. The author found that texts written in pairs were shorter, but better than those written individually. The author concluded that the students found it an enriching experience and in this regard, Storch (2005) stated that the development of ideas through collaborative writing increases opportunities to get feedback. Storch and Wigglesworth (2007) also compared individual and collaborative texts in a foreign language and confirmed that partnership provides the opportunity to practice the language and discuss the language.

Shehadeh (2011) also concluded that university students positively value collaborative writing in a second language. Shehadeh (2011) saw a positive impact on collaborative

writing. Students expressed that their confidence and writing skills increased through collaborative writing, as well as oral skills.

# Chapter 3. ICT and web 2.0 tools in education: the use of wikis

**Contents**

The first objective of this chapter is to analyze the presence and impact of Information and Communication Technology and web 2.0 resources on education and on foreign language teaching and learning processes. Secondly, the chapter aims to explain the use of wikis in education as well as in foreign language teaching and learning.

## 3.0. Introduction

All generations have faced technological revolutions. Today's generation however, has dealt with a deeper change; not only instrumental but also cognitive. That is to say, the current generation has faced the complexity of living surrounded by cultural objects organized in an immaterial liquid state (Area, 2011a).

As pointed out in the first chapter, Information and Communication Technology (ICT onwards) and web 2.0 resources have played a primary role in the new societal configuration. These resources have strengthened the social nature of knowledge and have had an impact on education. One of the main challenges for education therefore, is finding an appropriate way to integrate and use these tools meaningfully. That is, identifying significant variables to promote meaningful teaching and learning spaces.

To outline the key ideas of this chapter, a conceptual map is presented below [Figure 3.0.].

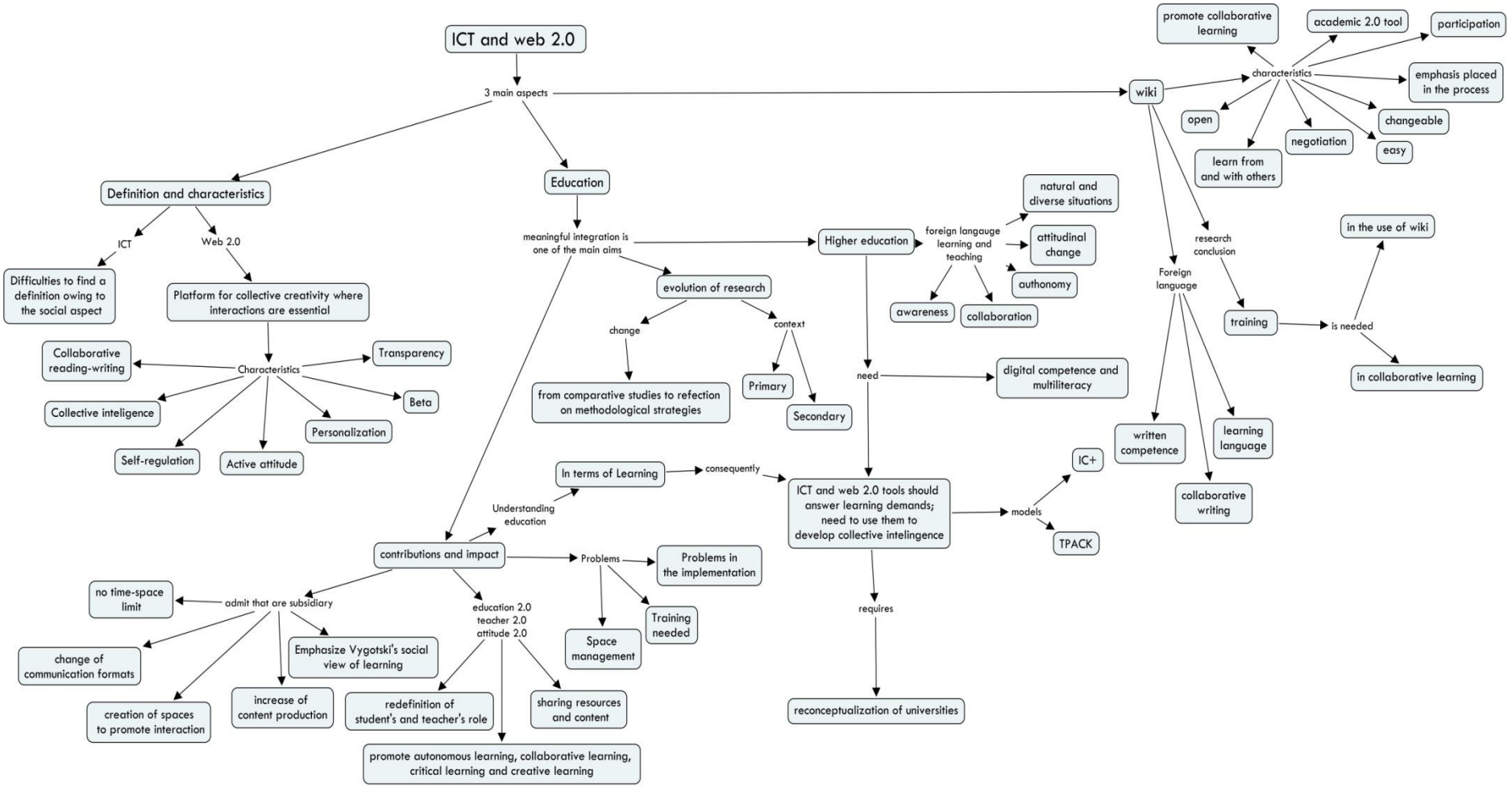


**Figure 3.0. Key ideas of the chapter**

## 3.1. ICT and web 2.0 resources

Although ICT has reached most areas in society, there are difficulties in providing a standardized definition. Many technical definitions (e.g. Commission of the European Communities, 2001) can be found but its social aspect is not mentioned. The term could be considered ambiguous and polysemous or something more than that: Lorente (nd: 28) states that ICT refers to a "melée of concepts and knowledge". However, most of the resources and tools named as ICT today are part of the so-called web 2.0 universe. These resources differ from other technological tools due to the fact that they have created a new social and philosophical model.

Pavía (2010) defines web 2.0 as a platform for collective creativity where interactions, content production and new applications are created at the same time. As can be observed in Pavía's definition, web 2.0 is more than a technical reality; it is a new socio-technical reality (Martín Bernal, 2009). Alexander (2006) argues that it is also a new economic and educational reality. In this new situation, user-user and content-user interactions have led to an exponential growth in knowledge construction.

Consequently, web 2.0 can be defined as an interactive network based on active participation, information exchange and collective construction of knowledge (Pavía, 2010). Ribes (2007) adds to the definition the chance to modify content as well as form, or both simultaneously. The web based on participative architecture therefore provides the user the control of data which can be edited without any technical knowledge (Marín and Cabero, 2010). Due to the social characteristic of the term, Davis (2005) claims that more than a technology, web 2.0 resources should be considered as attitudes.

As opposite to web 1.0's limited content production and unidirectionality, the development of web 2.0 has fostered a new way to understand the web. That is, the web is understood as a public place where users can publish content without installing any software. Digitalization consequently, has enhanced accessibility, simplicity, and functionality. Furthermore, web 2.0 has promoted an exponential increase of multimodal micro-content (Area, 2011c) production. Accessibility has led to an increase in participation and interaction, creating spaces to share knowledge and promote collaboration. In addition, the social nature of web 2.0 has strengthened the characteristic of "continuous beta", that is, a web which is in constant development and

open to public participation. Parker and Chao (2007) summarize web 2.0 resources' characteristics in the following quotation,

> "The added advantage of reducing the technical skills required to use their features, allow users to focus on the information exchange and collaborative tasks themselves without the distraction of a difficult technological environment" (Parker and Chao, 2007:57).

Area (2011b) has characterized web 2.0 as an open space that contains a huge amount of information, creates interactive spaces, and expands the possibilities for multi-modal representation and expression, a puzzle created by interconnections, and as an artificial ecosystem for cultural experiences. However, experts have already started speaking about its third version, named as web 3.0 or the semantic web. It seems that the third version will enable technologies which understand and process natural language (Calderón, nd).

## 3.2. ICT and web 2.0 resources in education

Integrating ICT and web 2.0 tools in education is nowadays a primary objective (Oblinger and Oblinger, 2005). Taking into account that these resources should be complementary (Cebrián, 2005), public and private entities have increased their endeavours in recent years (Eskola 2.0 or Ikasys in the Basque Autonomous Community). In fact, ICT and web 2.0 tools could help education meet the demands of the Knowledge Society, and, in reference to the Knowledge Society, Area (2011a; 2011c) argues that the school should be the mediator in the new liquid culture.

Transferring the general philosophy promoted by ICT and web 2.0 tools to the learning-teaching process, Goñi (2009) and Esteve (2009) stress that web 2.0 is a new way of understanding education as: collaboration and participation are promoted, knowledge is constructed among users, the traditional hierarchy of education disappears, student autonomy is strengthened, and the role of teachers changes. In this new scenario participation and interaction are key factors. Therefore, as Rodríguez Izquierdo (2010) mentions, the use of ICT and web 2.0 tools in education require a pedagogical justification.

A new educational space has been created as a result of various socio-technological contributions. Among these contributions the following can be underlined: the disappearance of time-space limits, changes in communication formats, guarantee of interactive spaces creation, an increase in content, and a strengthening of the socio-cultural and constructivist view of social learning. In other words, Vygoski's view of social learning is reflected in collaborative task and co-construction of knowledge. In addition, new concepts such as education 2.0 (Marín and Cabero, 2010), teacher 2.0 (Peña, Córcoles and Casado, 2006), culture 2.0 (Sánchez, 2008), and attitude 2.0 (Muñoz and Moreno, 2009) have arisen. This new vocabulary means that the potential of these technologies and resources has been institutionally understood and socialized.

Fandos and González (2007) reflect on the opportunities created by ICT and web 2.0 tools in the educational field. According to these authors, new opportunities may be arranged in four groups: autonomous and self-regulated learning, collaborative work, the creation of new spaces for learning, and new alternatives for learning. However, arguably the main change can be found in the way learning is conceived. In fact, learning is now perceived as the key to understanding education.

Together with those benefits, some drawbacks or issues such as integration problems and training and management problems should also be mentioned: a lack of infrastructure, of training, of understanding integration from a global perspective, or problems of information management. Thus, as Cabero (2007) indicates, being able to access high amounts of information does not guarantee the construction of knowledge. Along the same lines, Castells (2008) mentions that technology is not useful without training.

As a result of these changes and contributions, Muñoz and Moreno (2009) summarize the significant characteristics of traditional education and the 2.0 education [Table 3.1].

| Traditional teaching-learning process | 2.0 teaching-learning process |
|---|---|
| Traditional classroom: students must attend classes in order to receive the information. | New areas of work: students can study at university or at home. |
| The teacher is the only source of information. | The teacher is a guide. Teachers will guide students through the learning process. |
| Content is focused on the teacher's knowledge. | Content is focused on the construction of collective knowledge. Students also have knowledge. |
| A unique opinion. | Different points of view. |
| Individual work. | Collaborative work. |
| The information is unidirectional: teacher-student. | Information exchange and collective intelligence: information exchange in different directions. |
| Poor use of resources. | The user decides which tool to use. |
| Oral and written transmission of knowledge. | There are different ways of interaction that allow transmission of information and knowledge. |
| Passive learning: students listen. | Research, creativity, development. The student has an active role in the process. |

| | |
|---|---|
| Participation is not fostered. | Students' active participation is required. |
| Time-table need to be respected. | Permanent training. |

**Table 3.1. Differences between the traditional model and the 2.0 teaching-learning process.**

The current educational view could be placed between these two models; that is, some of the traditional learning postulates are still maintained, but teaching-learning processes are getting closer to the 2.0 model. In this way for example, although more and more spaces for expression, collaboration and discussion are being created, evidence found is not enough.

In the same vein, constant emphasis has been placed in the importance of ICT and web 2.0 tools in higher education (Esteve, 2009). What is more, in 1998, UNESCO considered these resources as basic elements because they are necessary for innovative practices and innovation in the curriculum. Reinforcing this idea, Piattini and Mengual (2008) state that these resources are essential to fulfill the mission of the universities. Besides, Navarro (2009) argues that this requires a re-conceptualization of higher education systems and several authors claim that the new situation is delicate (Castañeda, 2010) or even critical (Dias and Goergen, 2006; Martínez and Prendes, 2003) for universities.

As far as research regarding ICT and education is concerned, its origins can be found around the 60s and 70s (Area, 2005) but studies have increased in recent years. However, as Coll (2011) mentions, empirical evidencefound is not enough. Meta-analysis studies made on this subject (Area, 2005; Bartolomé, 1996; Cabero, 1991; 1994; Castaño, 1994; Gallego, 1996; Martínez, 1994; Medina, 1995) have established different classifications. Five main research lines could be found: the presence of ICT in educational institutions (Area, 2005; Castaño, 1994; Cabero, 1998 and Gallego, 1996; the impact of ICT on the learning process (Area, 2005; Clark and Sugrue, 1988; Cabero, 1998 and Gallego, 1996); studies that measure attitudes and options (Area, 2005; Clark and Sugrue, 1988; Cabero, 1998 and Gallego, 1996); the use of ICT in schools and classrooms (Area, 2005; Castaño, 1994; Cabero, 1998 and Gallego, 1996); teachers' training (Castaño, 1994 and Gallego, 1996).

Although the aformentioned studies concerntrate mainly on ICT (and especially computers), some pointers for research concerning web 2.0 resources can be found. For instance, research should not be focused on comparative studies; the role of the teacher, curricular changes or curriculum should be taken into account or context should be emphasized. Relating to higher education, although few studies have been undertaken

(Baelo and Canton, 2010; Nagler and Ebner, 2009), new lines of research have been developed which consider these notions.

Many studies in higher education (see Area, 2002; Chasco, González and López, 2003; López, Pérez, Mayor and Vicente, 2003, for example) have taken on-line courses and virtual campuses as research objects. These studies conclude that as far as Spain is concerned, most on-line campuses are still in the expansion phase. However, these studies do not indicate what may be considered good practice. Other studies (see Barro, Fernández, Rodeiro, Ruzo, Canay and Franco, 2004; Barro and Burillo, 2006; Uceda and Barro, 2007) have measured yearly changes in student-computer ratio, although there is a lack of research into the use of technologies. In addition, many other studies have measured users' beliefs and knowledge concerning ICT and web 2.0 resources.

Some studies (Gallego, Gámiz and Gutierrez, 2010 or Marín and Cabero, 2010, for example) are mainly based on opinions and not on real skills. However, studies have concluded that even if the computer has become an essential element, students' knowledge of web 2.0 tools is very limited (Marín and Cabero, 2010). A possible reason for this lack of knowledge can be found as Baelo and Canton (2010) claim in the limited use teachers make of these resources. However, students believe that 2.0 tools can facilitate learning (Alcalá de Henares University, 2009, in Marín and Cabero, 2010), but training is required (Gallego, Gámiz and Gutierrez, 2010). Also, as explained previously and in terms of learning, research in the field should be directed at analyzing the use of these resources in the learning process.

Given this background, developing so-called digital competence is necessary. However, in higher education what this encompasses is as yet unclear. That is, the definition of the term has been delimited in primary and secondary education by different decrees (1631/2006 Spanish Royal Decree for example) but it is not developed in tertiary education. Internationally, the OECD in the DeSeCo (Definition and Selection of Competencies, 2005) project defined the concept as a basic skill for all citizens. The Parliament and the Council of Europe (2006) as well understand this competence as an essential aspect to be integrated in all educational projects. In the European Digital Agenda for 2020, the Council of Europe (2010) states that every European citizen should achieve digital competence. In the United States (ISTE, 2000; NEASC, 2001) this competence is also considered a key aspect. As far as higher education is concerned, the Tuning project (2007) is the only document mentioning the digital competence.

For this reason, and in the absence of a specific framework (Ala-Mutka, 2011), several authors (Adell, nd; Alvarez, 2007; Futurelab, nd; ISTE, 2007; Mir, 2009; Serrano, 2009; Villalain, 2010 for example) have defined digital competence. A review of the literature shows that all authors agree that this competence is multi-dimensional. Area (2008) argues that all the different dimensions proposed by the different authors can be classified in two dimensions: on the one hand, the instrumental or technological dimension, and on the other, the cognitive dimension

Consequently, in order to develop the cognitive dimension, it is first of all necessary to develop the instrumental dimension, i.e., the use of basic ICT. Ala-Mutka (2011) considers also the instrumental dimension as the first step to developing digital competence. What's more, many authors (Area, 2009b; 2011c; Area and Pessoa, 2012 and Cope and Kalantzis, 2010, for example) have started underlining the need for multiliteracies in addition to the instrumental and cognitive dimensions. In general terms, multiliteracy includes three other aspects: social attitudinal dimension, axiological dimension and emotional dimension.

Area (2009b) claims that the social attitudinal dimension requires the development of positive attitudes towards the use of ICT and web 2.0 resources. The axiological dimension requires as Area (2009b) mentions the need for critical analysis and incorporation of ethical values. The emotional dimension on the other hand refers to feelings and affective factors (Area, 2011c; Area and Pessoa, 2012). As a result, training should take all five dimensions into account (Marín and Cabero, 2010; Marín, Vázquez, Llorente and Cabero, 2012). Therefore, technological resources should be understood as horizontal social spaces, multifunctional areas for action and reflection, and as spaces to facilitate autonomous and collaborative learning.

Several authors (Cacheiro, 2011; Cox, Webb, Abbott, Blakely, Beauchamp and Rhodes, 2003; Marqués, 2000; Valdez, McNabb, Foertsch, Anderson, Hawkes and Rassck, 1999) have described and analyzed pedagogical models such as the IC+ model (interactive constructive model or on-line matrix) or TPCK model (Technological Pedagogical and Content Knowledge) to integrate ICT and web 2.0 resources in education. All descriptions agree on the need to base integration on socio-cultural principles, that is, active, constructive and self-regulative models (Posada, 2010). Moreover, ICT and web 2.0 resources should be understood as elements to construct external and internal knowledge. Coll, Mauri and Onrubia (2008) claim that ICT and web 2.0 resources should be understood as psychological instruments to adjust help and scaffold learning. As a

consequence, and especially so in teacher training studies, an approach that helps to sensitize students towards the use of technology should be developed (Ruiz, Rubia, Anguita, and Fernández, 2010)

Thus, the integration of ICT and web 2.0 resources should follow several steps. Area (2009) recommends the following 5 steps [Figure 3.1.].

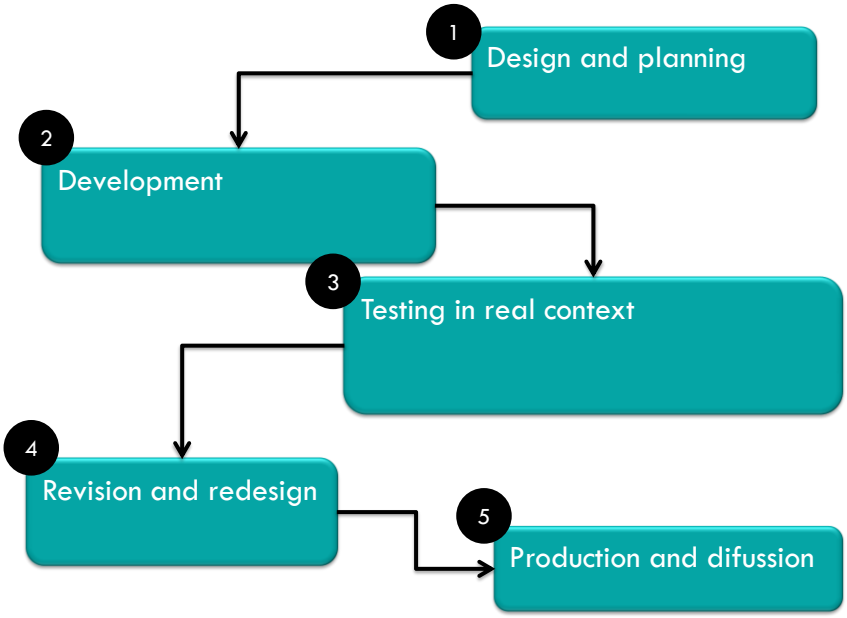


**Figure 3.1. Steps to follow in the integration of ICT and web 2.0 resources**

Design and planning are part of the first step. Area (2003; 2009) recommends taking into account, apart from epistemological and scientific considerations, the characteristics of the potential users, such as previous knowledge or ways of learning. Opening different communication channels as mails, chats, or forums is also recommended (Area, 2003; 2009). The design must show flexibility and plan activities that encourage interaction in terms of competences (Cacheiro, 2011). Once the material is designed and developed, it should be tested in real contexts.

### 3.2.1. ICT and web 2.0 resources in foreign language teaching-learning processes

As Leloup and Ponterio (2004:3) state "*foreign language teachers have long been leaders in the use of technology in the classroom*". In the same way, Computer Assisted Language Learning (CALL onwards) could be considered as an example of using ICT in language teaching-learning processes. However, innovation arising from this field could be understood as the application of technological resources looking for social interaction (O'Dowd, 2011) and shared reconstruction of knowledge, among others.

In this regard, Ibrahim (2010) summarizes the impact of ICT and web 2.0 resources on language learning-teaching processes. The author, in accordance with Leloup and Ponterio (2004), claims that due to ICT and web 2.0 resources the opportunities to use language naturally have increased. In addition, these chances are given in terms of input and output (Vlachos, nd).

Student attitude towards languages may also be affected by these resources when students control their learning (Ibrahim, 2010). In terms of autonomy, each student can choose their personal learning strategies and styles. The author adds that all this encourages an ecosystem focused on students. Cummins (2000) also summarizes the possible impact of ICT in language learning and teaching strengthening collaborative learning:

> "IT (Information Technology) also has considerable potential to promote language learning in a transformative way when it is aligned with a pedagogy oriented towards promoting collaborative relations of power in the classroom and beyond" (Cummins, 2000: 539).

Moreover, it is important also to create real and meaningful spaces to use these resources. Creating opportunities for socialization in language learning-teaching processes (Vlachos, nd) also leads to the formation of a new framework for the development of language skills (Cummins, 2000). In terms of language, students will be aware of the form and the use of language and have the opportunity to make a critical analysis. Therefore, in addition to the general benefits, ICT and web 2.0 offer new opportunities for language learning-teaching processes (Alvarez, 2012).

Experiences embedding CLIL approaches and ICT and web 2.0 applications can also be found. Pérez (nd) states that ICT and web 2.0 resources and CLIL experiences share some common criteria [Table 3.2.].

| ICT and web 2.0 resources constructivist use | Characteristics of CLIL |
|---|---|
| Learner-centered methodology is guaranteed | Learner-centered methodology is guaranteed |
| Respond to diversity | Response to different learning styles and paces |
| Interactive and participatory nature | It promotes interactive and autonomous learning |
| Learner autonomy is encouraged | Coordination and support are guaranteed |
| Collaborative environment | Cooperative and collaborative teaching-learning process is encouraged |
| Ensure access to diverse materials and media | Diverse materials and resources can be used |
| Task and process based learning | Largely promotes task and process based learning |

**Table 3.2. ICT and web 2.0 applications and CLIL: common criteria. Based on Pérez (nd).**

As can be seen in the table above [Table 3.2.], ICT and web 2.0 tools and CLIL share various criteria. Both are based on processes and tasks in order to promote the active participation of students and to respond to different learning styles. They both encourage and facilitate autonomous learning and ensure the creation of collaborative spaces. With regard to materials and resources, while CLIL approaches allow the use of multiple materials, ICT and web 2.0 resources ensure the access to these materials.

ICT and Web 2.0 applications provide in the same way the development of Coyle's (1999) 4Cs framework for CLIL. In terms of content, ICT and web 2.0 resources offer possibilities to search, select and reconstruct information in an autonomous or collaborative way. The creation of knowledge requires the involvement of the cognitive processes and these resources provide high level interactions. In reference to communication, ICT and web 2.0 resources', characteristics of synchronicity and asynchronicity increase opportunities to use language in natural environments. As far as the cultural aspect is concerned, these resources ensure access and participation within different cultural settings.

## 3.3. Wikis

As has been stated throughout the chapter the net offers, among other things, spaces for interaction, collaborative learning and creation of knowledge in a dynamic way. In this expansion, wikis could be considered one of the most academic tools (Barberá, 2009) and the most representative product of the on-line culture (García, 2010). In the context of the European Higher Education Area, Mancho, Porto and Valero (2009) state that wikis are a way to meet the needs arising from the new educational paradigm.

Furthermore, García (2010) claims that wikis show a philosophy based on decentralized participation and collaborative knowledge construction.

Over the past years, there has been an increased interest at all educational levels towards wikis (Augar, Raitman and Zhou, 2004; Peña, Córcoles and Casado, 2006, Schneider, 2004; Stahl, 2008). As far as higher education is concerned, the use of wiki has also been expanded in recent years (Parker and Chao, 2007). However, despite the increasing interest and need, significant research on the use of wikis is still required (Bower et al., 2006).

A wiki can briefly be described as an on-line and open collaborative word processor (Area, 2009c). Lamb (2004) characterizes wikis using 4 main principles:

- Versatility: anyone can change anything.
- Simplicity: wikis are web pages that use simple language.
- Contact: easy to connect different pages that can be created in a wiki.
- Endless: the content never ends.

Authors such as Barton (2004) or Leuf and Cunnignham (2001) add to these four principles proposed by Lamb, the reflection promoted by external contributions. As can be observed in the following figure [Figure 3.2.] wikis permit all participants (authors and the audience at the same time) to construct knowledge anywhere and at any time in a collaborative environment (Parker and Chao, 2007).

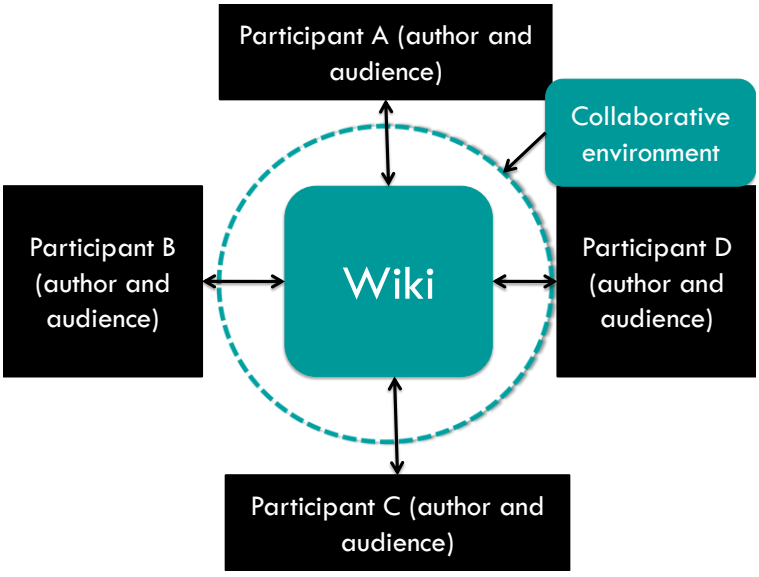


**Figure. 3.2. Wiki environment**

Ease of use is one of the most notable features of wikis (Castaño, Maíz, Palacio and Villarroel, 2008). On the one hand, the user does not need to know programming language and on the other hand, the editor maintains the aesthetics and functions of word processors. In addition, as a result of the natural collaborative environment created, wikis could be considered work spaces for participation and collaboration. While constructing a wiki, users develop information management and digital skills, that is, competences related to information search, analysis, management, acquisition, and summarizing are developed.

As previously mentioned, it was soon observed that wikis have a big potential in education. Boulos, Maramba and Wheeler (2006) consider that the wiki has an enormous potential to implicate users (students) in the active construction of knowledge. Wikis used in the educational field differ from general ones owing to the fact that they respond to educational needs and could be examples of knowledge sharing. In addition, educational wikis offer the opportunity to get feedback in the context, create interaction and sense of community, increase social presence, and the opportunity to elaborate oncontent by means of dialogue (Bergé, Collins, and Dougherty, 2000; Gunawardena, 1995; Muirhead, 2004; Palloff and Pratt, 2001; Scardamalia and Bereiter, 1994).

Most wikis have a clear commitment, i.e., problem, project or task, and that will always be a shared task (Barberá, 2009). Within this situation, the user becomes writer and reader at the same time so a shared goal should be agreed. However, Elgort, Smith and Toland (2009) argue that developing a positive attitude towards collaboration is essential.

Based on experiences in the field of education, Bower et al. (2006) rate the following wiki models highly: creative-collaborative works; reviewing tasks; content-specific dictionaries; information sharing tasks; micropedias; frequently asked questions forum; consensus documents; problem solving wikis, and projects. Barberá (2009) adds the idea of peer-assessment. As a result of using wikis in educational fields students feel that knowledge is created to be shared or as Godwin-Jones (2003) states:

> "The goal of a wiki site is to become a shared database of knowledge, with the knowledge base growing over time" (Godwin-Jones, 2003: 15).

Pedagogically, Area (2009c) believes that wikis offer a wide range of educational opportunities such as facilitating collaborative work among students; creating spaces for

project-based learning; increasing students' motivation and involvement; requiring analysis for knowledge construction; and publication of projects. In short, the following advantages can be highlighted: wikis encourage collaborative writing; wikis encourage negotiation; wikis promote collaboration and create opportunities to learn from others; and wikis emphasize the process excluding product-based learning.

However, it must be remembered that as in all social interaction, the partakers may also be passive (Gimeno and García, 2009). As far as education is concerned, passive reading is considered a legitimate activity, but in order to develop critical thinking or collaborative writing active student participation is needed. Meaningful learning processes will be ensured by interaction, which will also lead to the democratization of learning (Barberá, 2009). Passivity is one of the problems that could be found when developing a wiki. Mancho, Porto and Valero (2009) describe other problems such as lack of security, low motivation or negative attitudes and reticence created by the transparency of publications. Chen (2008) claims that negative attitude towards collaborative writing could also be considered as a drawback.

Research on wikis has shown that in order to integrate wikis meaningfully into the syllabus training is necessary (Davis, 2004; Guzdial et al., 2002; Lambert, Kalyuga and Able, 2009). This training needs to focus on the tool and on collaboration. Promoting collaboration among students creating non-competitive spaces and ensuring identity is also necessary (Guzdial et al, 2002; Raitman, Ngo, Augar and Zhou, 2005) even if users tend to create a hierarchy (Vratulis and Dobson, 2008). It can be concluded that in order to provide collaborative learning spaces, a wiki model coherent with the tasks must be selected (Tonkin, 2005). Studies have concluded that the main difficulties while working with wikis appear in collaboration (Wheeler and Wheeler, 2009).

Wikis provide a space in which the constructivist model is fostered as it allows students to build their own learning through interaction (Martín and Alonso, 2009). Sharing of knowledge through interaction can provide a real space for scaffolding far away from the "copy and paste" model. Literature on the subject, has shown that socio-cultural theory and 2.0 tools share common principles such as collaboration, responsibility, interaction, shared construction of knowledge, teachers as guides and a holistic and social view of learning. Wikis emphasize the idea of Vygotski's social learning. Parker and Chao (2007), embrace Higgs's, McCarthy's and Notari's sentiments in the following:

> "Social constructivists believe that we learn by social and communal activities. Meaning is shaped and knowledge constructed through discussion with peers and teachers, and through reflection (Higgs & McCarthy, 2005). The collaborative nature of wikis mean that they enact knowledge building on the community rather than on the individual learner. Wikis are one of the success stories in the world of social-constructivism since they can be rapidly deployed and students can be very quickly operational (Notari, 2003)" (Parker and Chao, 2007:59).

Likewise, García (2010) has stated that wikis provide a triple interaction (subject and object, object and group, and subject and group) as part of the socio-cultural view of learning-teaching processes. However, Notari (2006) indicates a need for guidance to achieve high levels of interaction and successful collaboration. In addition, the virtual space for collaboration requires students understanding what learning through wikis means (Hazari, North and Moreland, 2009) and getting closer to the know-how model. Hence, this model of learning demands a space to develop personal and group competences.

### 3.3.1. Wikis in foreign language teaching-learning processes

Farabaugh (2007) states that wiki-based processes are helpful in enhancing collaborative learning as well as language learning. This is because the process is based on creation, review, negotiation, synthesis, and promotes collaboration through variety of communication channels and diverse content. As Twu (2010) claims, using wikis in language learning-teaching processes can foster the development of the writing competence, collaborative writing and raise language awareness. However, Wheeler and Wheeler (2009) indicate that true collaboration happens only when texts are written with the aim of being published.

Wikis also promote interaction and collaborative learning in language learning-teaching processes (Twu, 2010). Using wikis in language learning-teaching processes demands three main cognitive processes (Davidson, 2008; Xiao and Lucking, 2008): input, output and feedback. These three processes are also essential in foreign language learning (Ellis, 1995; Krashen, 1988). These individual cognitive processes are however

developed by means of social processes. Long (1983) mentions for example that the input will become comprehensive when there is a social negotiation. In short, wikis can promote the development of intra- and inter-psychological processes in language learning-teaching processes. Besides, as wikis allow feedback collaborative areas are automatically created. Furthermore, the constant communication required will lead to the development of writing and reading skills (Mak and Coniam, 2008; Morgan and Smith, 2008) or communicative competence (Stacey, 2008).

As far as the development of communicative competence is concerned, students will use different strategies such as cognitive, compensation, affective, and social strategies. All these strategies can also be found in the creation and development of a wiki (Gimeno and García, 2009) as shown in the following table [Table 3.3.].

| Strategies | Strategies used in the creation and development of a wiki |
|---|---|
| Cognitive strategies | Practicing, reasoning, reviewing structures of the input and output |
| Compensatory strategies | Overcome the limitations of writing |
| Affective strategies | Auto-motivation, reduction of anxiety, regulation of emotions |
| Social Strategies | Collaboration, empathize, asking |

**Table.3.3. Strategies used while creating and developing a wiki**

Gimeno and García (2009) claim that developing a wiki in language learning processes offers students opportunities to realise why competences are needed and to control linguistic attitudes, set objectives and develop positive feelings towards the achievements. In this aspect, Williams and Burden (1997) consider that interactions foster motivation.

As far as motivation and attitudes (topic developed in the fifth chapter) are concerned, several authors (Hazari, North and Moreland, 2009 and Twu, 2010, for example) recommend measuring and analyzing attitudes towards ICT in general but attitudes towards wikis in particular. Research done *on* wikis in the field of learning languages has shown that a lack of motivation and negative attitudes towards wikis can impact negatively on collaborative writing (Kessler, 2009; Wheeler and Wheeler, 2009; Wang, Ertmer and Newby, 2004).

# Chapter 4. Collaborative learning and Project Oriented Learning

**Contents**

The aim of this chapter is to stress the importance of collaborative learning. Firstly, differing definitions of the term are put forward and discussed. Secondly, in the context of the current technological revolution, ICT mediated collaborative learning is analyzed. Thirdly, links between collaborative learning and CLIL approaches are shown. The last section examines Project Oriented Learning.

## 4.0. Introduction

Collaborative working has become a basic element in innovative teaching-learning processes (ITESM, nd), and research into collaborative learning as a central object has increased in recent years (Onrubia, Colomina, and Engel, 2008). Furthermore, collaborative skills are now key competences in the Knowledge Society (UNESCO, 1998; OECD, 2002). As a result, collaboration is nowadays a fundamental element in the educational field which historically has been understood as an individualized process (Mercer, 1997). Duran (2009) also asserts that the education system comes from an individualist and competitive tradition. That is, the author argues that interaction between students has had no place until recently. Moreover, the importance of collaborative learning can also be linked to the development of socio-cultural approaches.

The following conceptual map outlines the main points of this chapter [Figure 4.0.]:

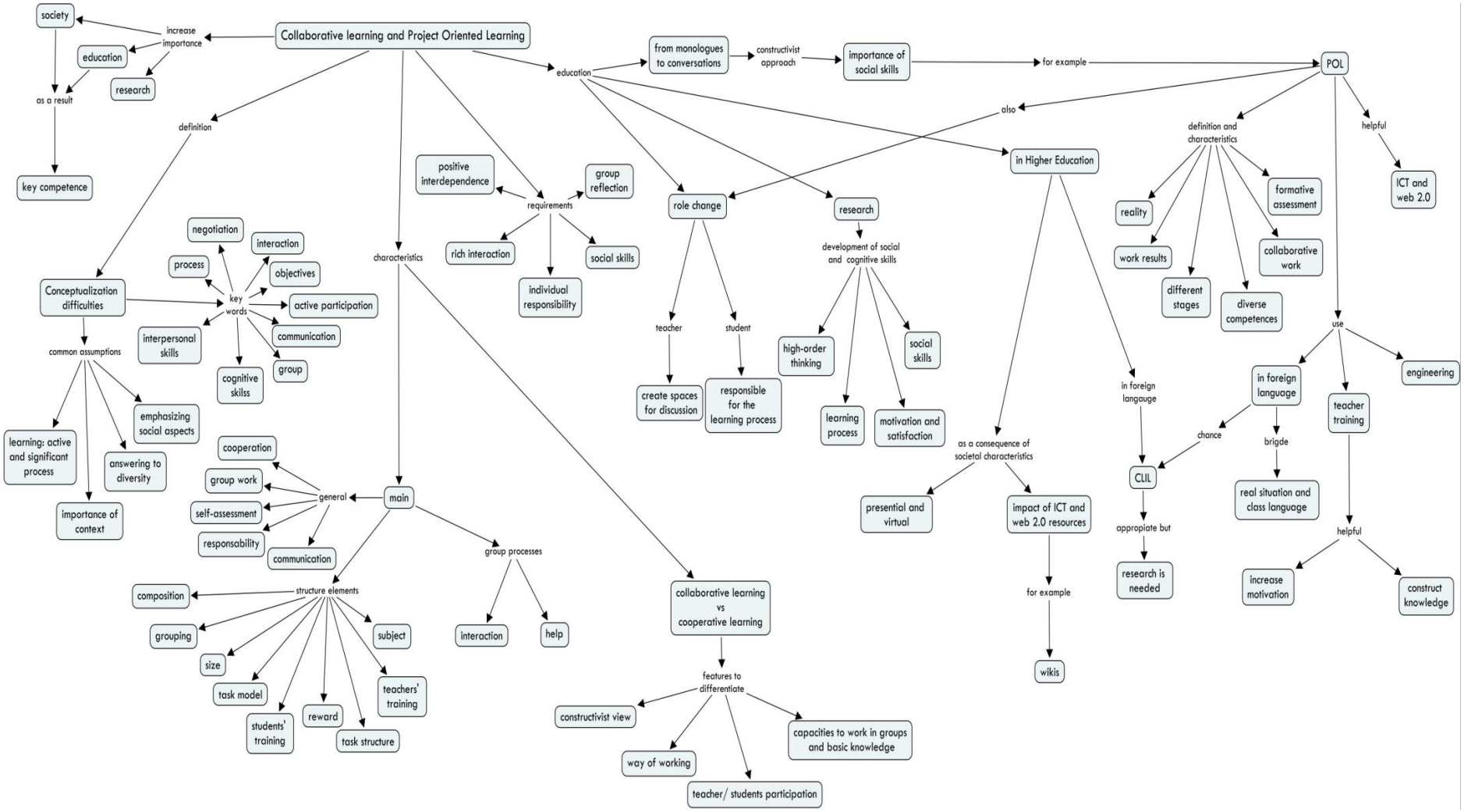


**Figure 4.0. Main points of the chapter**

## 4.1. Collaborative learning

The origins of collaborative learning can be found in the 70's (Rodríguez, Escudero, Fernández and Sabirón, 2000). Since then, diverse authors (Bruffee, 1993; Dillenbourg, 1999; Panitz, 1997; Lucero, 2005, for example) have tried to conceptualize and define the principle of collaborative learning. However, recent reviews have shown that there are differences in understanding the term (Johnson and Johnson, 1989; Kulik and Kulik, 1991; Slavin, 1995). Moreover, authors such as Lara (2001) or Panitz (1997) state that collaborative learning is a philosophy more than a learning model because it responds to the needs of today's globalized world.

An analysis of different definitions suggests that collaborative learning refers to a set of tasks or processes carried out in groups (Dillenbourg, 1999; Gokhale, 1995). Within each group, students share their knowledge to solve a problem setting a common goal (Driscoll and Vergara, 1997; Gokhale, 1995). In collaborative learning processes knowledge is constructed by means of discussion and negotiation between the group members (Alvarez, Ayuste, Gros, Guerra and Romaná, nd; Guitert and Simérez, 2000) in a progressive way (Velázquez, 2008); that is, interactively (Salinas, 2000). Constructing knowledge, however, requires students to participate actively (Alvarez et al., nd) and to be responsible for the learning process of all group members (Lucero, 2005; Onrubia, Colomina and Engel, 2008; Panitz, 1997). In this situation, collaboration, communication and negotiation become keywords (Gros, 2000) and the development and application of social and cognitive skills such as active listening, conflict management and negotiation are required (Slavin, 1995).

However, Smith and MacGregor (1992) claim that the difficulties found in defining the concept could be attributed to the fact that collaborative learning is

> "…an umbrella term for a variety of educational approaches involving joint intellectual effort by students, or students and teachers together" Smith and MacGregor (1992:1).

Similarly, collaborative and cooperative learning have been used as synonyms (Alvarez et al., nd; Zañartu, 2003). However, the present study premises that there are differences between the two concepts. Zañartu (2003) mentions that they are both related to the constructive approach but while collaborative learning derives from a socio-cultural perspective, cooperative learning is linked to Piaget's ideas. Dillenbourg,

Baker, Blaye and Malley (1996) and Gros (2000) claim that cooperative learning requires the distribution of work and each student is responsible for specific aspects of the end result. Nevertheless, Roschelle and Teasley (1995) state that collaborative learning is the result of negotiating and sharing meaning and knowledge. Collaboration, therefore, involves coordination and making an effort to maintain a common approach.

Teachers and student participation is another difference between these two approaches. Panitz (2001) asserts that in cooperative learning the teacher's role is essential to structure the learning process. As for collaborative learning, students are responsible for their learning, designing the interaction and making decisions that will affect learning. That is to say, the amount of structuring by the teacher is high in cooperative learning and low in collaborative learning (Bruffee, 1995; Sotomayor, 2010). Bruffee (1995) states that in collaborative learning students are required to develop a high level of autonomy, responsibility and creativity. As a result, higher education could be the best space for collaborative learning.

Another difference, as Bruffee (1995) claims, is that collaborative learning requires superior basic knowledge and better group work skills than cooperative learning [Figure 4.1.].

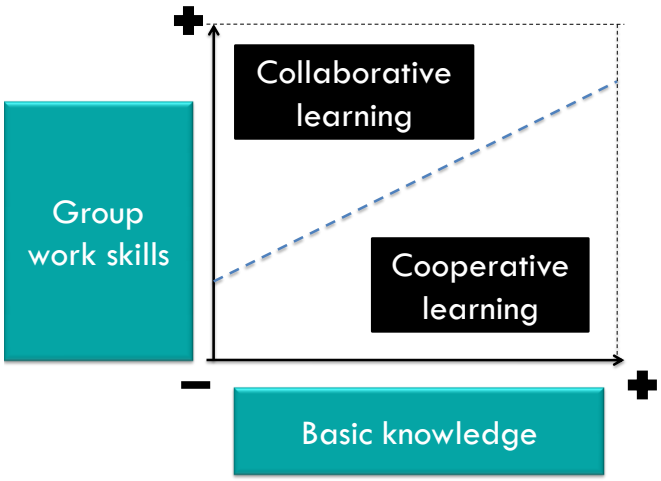


**Figure 4.1. Collaborative learning vs. Cooperative learning (Based on Bruffee, 1995)**

Moreover, Collazos, Guerrero, and Vergara (2001) assert that collaborative learning could be understood from three different approaches; collaborative learning as a psychological process; as a pedagogical method or as a social contract. From a socio-

cultural approach collaborative learning is understood as a psychological process where learning is believed to be an active, social, and meaningful process. In this notion diversity is respected and the importance of context is strengthened.

Collazos, Guerrero, and Vergara (2001) recognize that individual learning can be a complement of collaborative learning. Indeed, research comparing collaborative learning and individual learning has concluded that the learning process is deeper through collaborative learning (Johnson and Johnson, 2009; Rodríguez et al., 2000). Millis (1996) claims that as a result of learning collaboratively, students learn more while developing also higher levels of reasoning and critical thinking.

Even if there are some difficulties in agreeing on a common definition for collaborative learning, self-assessment, cooperation, responsibility, group work, and communication are considered to be common features. Johnson and Johnson (1989) and Millis (1996), in accordance with the characteristics of collaborative learning, state that students feel part of a learning community owing to the fact that they take responsibility for own and for team learning. In the same way, student confidence and self-esteem increase because active listening and learning to accept others' contributions are demanded; that is, through communication. As a result, students develop the ability to accept different ways of thinking, to use creativity to find solutions, and to pose critical questions. Johnson and Johnson (1989) and Millis (1996) claim also that through collaborative learning students regulate their learning and students learn how to assess themselves and the group.

In addition, several conditions need to be fulfilled. Johnson, Johnson and Holubec (1999) propose five conditions: positive interdependence; rich personal interactions; individual responsibility; development of social skills; and group self-reflection. Positive interdependence could be linked to the significant exchange of ideas (Vinagre 2006). To achieve this positive interdependence it is necessary to set group objectives, support the group and distribute resources and complementary roles. This would lead - as Kohonen (1992) asserts - to the development of learning.

> "since all members … share a common goal, they are motivated to work together for mutual benefit in order to maximize their own and each other's learning. This creates a positive interdependence among the learners: they perceive that they can reach their goal best when others in the same learning group also do as well as possible" (Kohonen, 1992: 33-34).

Johnson and Johnson (2009) associate the interdependence and the group. The authors argue that positive interdependence deals with the fact that an event that affects a member of the group will affect all of them. In addition to the conditions described above, collaborative learning requires taking into account structure and procedural elements which will stress the importance of the social aspect of learning and the re-conceptualization of the teaching-learning processes (Peña, Pérez and Rodón, 2010).

As far as structure is concerned, characteristics such as composition, grouping criteria, group size, test model, collaborative learning training, task structure, the existence of a reward, teachers' experience in collaborative learning, and the subject could all impact on the process of collaborative learning.

Regarding composition, studies have shown that heterogeneous groups are more appropriate (see Kagan, 1999; Marcos, 2006; Webb, 1991) due to the fact that as Johnson, Johnson and Holubec (1999) claim, in heterogeneous groups cognitive conflict can be created more easily. In addition to the combination of different ability levels, teachers must ensure a minimum of cohesion in the groups (ITESM, nd). Group size is also an important element in collaborative learning. According to research studies (Kagan, 1999 for example), groups should comprise 3 or 4 students. In order to work effectively and motivate students, however, open and reliable spaces should be created (Johnson and Johnson, 1989).

The test model can also influence collaborative learning. Research has shown that when the teacher is the one carrying out the test the effect is greater (ITESM, nd) due to the fact that students perceive it in a natural way. Students however, must be trained in this type of learning.

The design of the task is also an important element; students should feel that all group members are necessary to carry out the task. Reward has also been considered an important element although findings have been contradictory.

As far as teachers are concerned, training is also seen as key element. As well as that studies have concluded that although positive effects of collaborative learning could be found in any subject, scientific and mathematical fields seem the most suitable subjects for collaborative learning (ITESM, nd).

Thus, these structure elements will create different interactional processes. Rodríguez et al. (2000) mention three different types of interactions: exchanging opposing ideas,

collaboration, and parallel task. The authors describe the differences between them as follows. Collaboration is carried out when tasks are shared. In this case, information is multidirectional. When exchanging opposing ideas on the other hand, individual voices are easily detected. The last type of interaction, parallel task, refers to a situation where tasks are carried out independently with some short interactions. These three types of interaction can be placed on a continuum according to the number of interactions happening. Rodríguez et al. (2000) assert that usually the following distribution is found: 28.8% of the time students work in collaboration, 57.1% exchanging opposite ideas, and 11.5% in parallel tasks. Helping and supporting group-mates is another process found in collaborative learning (Webb, 1991).

Traditional learning-teaching processes have considered the teacher responsible for the group of students. In collaborative learning on the other hand, teachers and students share authority (Collazos, Guerrero and Vergara, 2001). Collaborative learning, therefore, opens up new challenges for teachers' and students' roles. However, it is necessary to mention that several studies (Panitz, 1997, for example) have found that both teachers and students refuse to accept these changes.

Concerning the students, far from the passivity shown in traditional models (Chaupart, Vitalia and Marín, 1997) the new model requires students to be responsible for their own learning process and self-regulation is indispensable.

> "In collaborative endeavors, students inevitably encounter differences, and must grapple with recognizing and working with it" (Smith and MacGregor, 1992:2).

In this new role, students determine and define the learning objectives and also which problems might be significant (Collazos, Guerrero and Vergara, 2001). In this situation, students will learn more from peers than from teachers (Santamaria, 2005). Students must also consider learning from a social point of view; that is, students should be ready to collaborate and to learn from others.

As far as teachers are concerned, collaborative learning requires teachers to get away from knowledge transmission models, and to create spaces to discuss and share knowledge. Moreover, teachers must guide students' learning experience and work as facilitators trying to strengthen the relationship between the theory, the real world and the experiences that students live (Mukkonen, Lakkala and Hakkarainen, 2005).

> "Collaborative learning represents a significant shift away from the typical teacher centered or lecture-centered milieu in college classrooms. In collaborative classrooms, the lecturing/ listening/note-taking process may not disappear entirely, but it lives alongside other processes that are based on students' discussion and active work with the course material. Teachers who use collaborative learning approaches tend to think of themselves less as expert transmitters of knowledge to students, and more as expert designers of intellectual experiences for students - as coaches or mid-wives of a more emergent learning process" (Smith and MacGregor, 1992: 1).

Hence, Collazos, Guerrero and Vergara (2001) assert that teachers should take three different roles: instruction designer, cognitive mediator and instructor. According to these authors, teachers should adapt their role according to the stage in the process. Even if at the first stage teachers are instruction designers, when carrying out collaborative learning teachers will take the three roles together.

As instruction designers, teachers will define the academic goals taking into account the initial criteria and students' previous knowledge. Teachers should also design specific tasks and define assessment criteria. Van Til and van der Heidjen (1996) and Johnson and Johnson (1994) claim that teachers should also determine the group size, composition, organization, and classroom materials and resources. The role of cognitive mediator is also essential in collaborative learning (Barrow, 1985). That is, teachers should help students to develop higher order thinking and reasoning on the one hand, and, to be autonomous on the other. Teachers should contribute to the acquisition of knowledge by scaffolding the process. As instructors, teachers should train students in social skills and teamwork. That is, teachers should help students to develop awareness towards group-work and strengthening relationships (Bellamy, Evans, Linder, McNeil and Raupp, 1994).

In this way, collaborative learning could be placed in the core of socio-cultural approaches. That is, collaborative learning is based on the interactions (Collazos and Mendoza, 2006) carried out in the learning process and on the opportunities for scaffolding created by means of constant processes of negotiation (Coll and Solé, 1990). As a consequence, cognitive intra-psychological aspects of learning become inseparable from social and interpersonal aspects. Furthermore, the socio-cultural theoretical framework has been used as a framework for collaborative learning

(Zañartu, 2003; Godsen, 1994). Collaborative learning is based on dialogue, negotiation of meaning, and explanations. As a result, the construction of knowledge is the result of the interaction created by those participating in the dialogue. Learning is therefore, a dialogic and dialectical process.

Together with the research on socio-cultural approaches research on collaborative learning has increased in recent years (Rodríguez et al., 2000). There are two types of reasons to justify this increase; on the one hand, theoretical reasons, i.e., the importance of the socio-cultural framework as mentioned above, and on the other hand, practical reasons such as the success of collaborative techniques. However, owing to the personal and external factors implied in the process it is difficult to generalize the effects of collaborative learning.

Knight and Bohlmeyer (1990) claim that four generations can be distinguished in collaborative learning research: comparative studies between classical learning structures, comparisons between different collaborative methods, analysis of collaborative dynamics, and qualitative analysis of the dynamics of collaborative groups.

Research studies carried out across different generations have concluded that the effectiveness of collaborative learning may be reflected in students' cognitive and affective development. In terms of cognition, conclusions from diverse studies show that collaborative learning fosters the development of higher-order thinking (Cenich and Santos, 2005; Chiang, Yang and Chu, 2005; Gokhale, 1995; Johnson, Johnson, Stanne, and Garibaldi, 1990; Lou, Abrami, Spence, Poulsen, Chambers and d'Apollonia, 1996) and the improvement of the learning process (Cuseo, 1990; Eggen and Kauchak, 1999; Johnson, Johnson and Stane, 2000; Skon, Johnson and Johnson, 1981). Regarding emotional aspects, research studies support the idea that collaborative learning increases motivation and satisfaction (Sheridan, 1989; Warmkessel and Carothers, 1993) and improvement of social skills (Johnson and Johnson, 1989; Leidner and Jarvenpaa, 1995; Lemare and Rubin, 1987).

However, a variety of external factors or elements impact on collaborative learning and these could affect the success or failure in the learning process. Saez (2010) determines eight categories that can cause the failure of the process: lack of teaching the principles of collaboration, lack of experience and previous knowledge, lack of training teachers and students in collaborative learning, no organized planning or presentation of tasks;

lack of commitment and dedication, technological problems, problems of understanding role change; and lack of experiencing social presence in collaborative learning.

## 4.2. Collaborative learning in today's society

Tertiary education seems to be an appropriate space for developing collaborative learning. Furthermore, the current model of higher education has enhanced the implementation of different models such as blended or on-line collaborative learning. Thus, as has been stated, the development of ICT and web 2.0 resources has emphasized the social construction of knowledge (Gros, 2004) and therefore, has offered new opportunities and ways to develop collaborative learning.

Moral (2009) summarizes the positive and negative effects of using ICT and web 2.0 resources as collaborative tools emphasizing emotional aspects. The author claims that through ICT or web 2.0 resources the user has more options to communicate socio-emotional content, less time is necessary to keep information confidential, equal status of participants is promoted, self-esteem is increased, and the environment for social relations is bigger. As for negative aspects, the author asserts that negotiation and joint resolution may be more difficult, that interpersonal relations, and identity can be reduced, and that participants' may be less honest.

Furthermore, several authors (Koschman, 1996; Sotomayor, 2010) state that ICT or web 2.0 tools-based collaborative learning could be presented as a new discipline leading to the creation of a new learning model. Koschman (1996) calls the new model Computer Supported Collaborative Learning (CSCL hereafter). Gros (nd) asserts that research in this area is increasing although there are difficulties in controlling external factors. Moreover, these studies are set in an interdisciplinary space where content, learning and technology are merged (Ruiz, Anguita and Jorrín, 2006).

Interaction is the key here (Barberá and Badia, 2004; Cabero, 2004) or to be more exact, the process carried out by the students while interacting is essential (Stahl, Koshcmann and Suthers, 2006). CSCL is therefore defined as a strategy to construct knowledge while interacting in groups (Barberá, 2001). However, CSCL follows the same philosophy and pedagogical model as face to face collaborative learning. Nevertheless, Prendes (2004) states the differences between the two models can be found in the following aspects: context, time-space, culture, students, and communication. However, as

shown in the following table [Table 4.1.] the purpose and mediation are common features of both models.

| Characteristics | Face-to face | Virtual |
|---|---|---|
| Context | Defined | Diverse |
| Time-space | Fixed | Flexible |
| Culture | Identification | Diversity |
| Students | Homogeneous in general | Heterogeneous |
| Communication | Synchronous | Asynchronous |
| Purpose | Knowledge construction | |
| | Cooperate | Task |
| Mediation | Collaboration | |
| Collaboration | Social | New model of social collaboration |

**Table. 4.1. Difference between face to face collaboration and CSCL**

As shown in the table, context is a defined space in face to face collaboration while it is diversified in virtual spaces. As far as time and space are concerned, the context defines the synchronous state in face to face collaboration while the diversification and flexibility of virtual spaces fosters asynchronous communication. In terms of culture, homogeneity among the participants in face to face collaboration differs from the heterogeneity that could be found in virtual spaces. Knowledge construction is the main aim in both models but different socialization models can be found.

Given the differences, it is important to choose the technological application for collaborative learning according to the learning objectives agreed. Oliver and Hannafin (2000) recommend selecting the technological application using the taxonomy in the next table [Table 4.2]. The authors have identified resources to ensure the active participation of students depending on tasks.

| Task | Resource/ tool |
|---|---|
| Planning, setting objectives | Planning resources |
| Discussion sessions/ Receive feedback | Mailing, distribution lists and videoconferences |
| Search or find information | Bookmarking, searching engines |
| Coherent organization of information | Conceptual maps, applications to create charts, diagrams and tables |
| Construct knowledge | Web pages, collaborative work editors, on-line text processing applications |
| Manipulate information, check and measure external and internal factors, create hypothesis | Simulations and micro-worlds |

**Table. 4.2. Oliver eta Hannafin's (2000) taxonomy**

The present study considers the wiki as a cultural device to develop collaborative learning and writing. The wiki is the resource to connect individual skills and social skills. As explained in the previous chapter, the main feature of wikis is to create learning spaces for the promotion of collaborative learning. According to García (2010) wikis are useful owing to the fact that they promote the understanding of key concepts and the negotiation of meaning, and catalogue important contents. In addition, the

communicative and constructive process for collaborative learning can be be seen as a cycle. Interactions among users will create the following cycle [Figure 4.2] (Walthall, Devanathan, Kisselburg, Ramani, Hilerman and Yang, 2011).

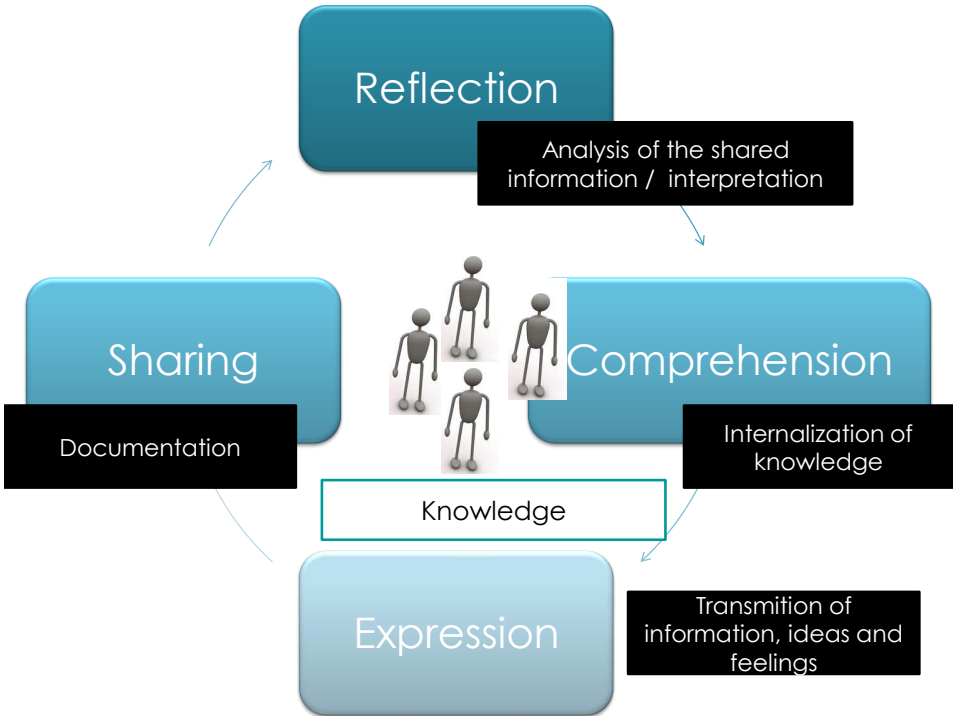


**Figure.4.2. Interactive cycle. (Based on Walthall et al., 2011)**

In order to explain the cycle shown in the picture, it can be stated that the cycle starts when knowledge is shared. The group analyzes and interprets the shared knowledge but as a wiki is an asynchronous communication tool, the group has time to reflect. After reflecting, members of the group acquire that knowledge but each member of the group reconstructs that knowledge creating new knowledge and expressing new ideas. This statement means that a new cycle will begin sharing that new knowledge. The cycle provides creating spaces for communication and collaboration. Moreover, it can be applied to any discipline.

As far as foreign language learning is concerned, collaborative learning-teaching processes have generated enormous interest in recent years (Vinagre, 2006). In addition to social interaction, this way of learning may aid the process of learning a foreign language (Barson, Frommer and Schwartz, 1993; Müller-Hartmann 2000; van Handle and Corl 1998; Vinagre, 2005; Vinagre and Lera 2005). Several studies have shown that collaborative learning mediated by digital resources can reduce anxiety while learning a language (Kern, 1995; Sullivan 1993). However, several authors (Diez-

Bedmar and Pérez-Paredes, 2009, for example) believe that the use of these resources has been mainly instrumental.

Pratt and Sullivan (1994) claim that this way of learning improves oral skills. Warschauer (1996), however, focuses his work on the development of writing skills. Warschauer (1996) agrees with Ushioda (1996) in emphasizing that it increases motivation. Collaborative learning has also been used as a way of promoting communicative interactions in foreign language learning processes (Martínez, 2009).

However, as for CLIL approaches and collaborative learning, only a few research studies can be found analysing the effect of collaborative learning in CLIL. Escobar and Nussbaum (2008) analyzed the learning process of using collaborative tasks in CLIL classrooms. The research concluded that students maintain the hierarchical vision of the teacher's instruction and use strategies to create a common dialogue. Evnitskaya and Aceros (2008) analyzed the impact of the didactic contract on the teaching and learning process in general, and on language learning processes. Horrillo (2009) measured the time spent on collaborative exercises on-task and off-task. Fuentes and Hernández (2011) concluded that interactions in collaborative tasks in CLIL classrooms are really complex.

However, collaborative learning is an essential aspect of CLIL approaches (Fuentes and Hernández, 2011). In CLIL approaches nonetheless, cooperative learning has been a feature of education for longer and has been the subject of more research. The reason could be the academic stage where research has been undertaken: most studies have been carried out in primary and secondary education and as previously mentioned, collaborative learning requires autonomy, responsibility and high levels of creativity.

## 4.3. Project Oriented Learning

Project Oriented Learning (POL hereafter) could be a vehicle for carrying out collaborative learning. Furthermore, several authors as Ellis and Hafner (2008) or Ward and Tiessen (nd), speak about Collaborative Project Oriented Learning. POL was developed in the 70s in Denmark (Kolmos, 2008). Due to the positive results of research studies and the link that the approach maintains with the contemporary social and cultural perspective (Donnelly and Fitzmaurice, 2005; Gülbahar and Tinmaz, 2006; Park

Rogers, Cross, Sommerfeld, Trauth-Nare and Buck, 2011) its implementation has increased.

Kolmos (2008) claims that POL combines three basic approaches: learning, content and socialization. The author summarizes the view of learning as a process organized around problems, and carried out through projects. A project is understood as a complicated task, unique and contextualized which requires an open approach (Algreen-Ussing and Fruengaard, 1990) Regarding content, it is necessary to mention that contents are interdisciplinary. Moreover, as POL is based on interactions, the social aspect is underlined.

POL can therefore, be defined as a reality based on a social learning process which is developed over a certain period of time. This process also requires the development of interdisciplinary competences. Helle, Tynjälä and Olkinuira (2006) refer to vertical and horizontal competences. The development of vertical competences refers to the competences related to knowledge construction linked to the academic area. Horizontal competences on the other hand are related to general competences. As far as the final product is concerned, Papanikolau and Boubouka (2010) assert that the final product should be related to reality. Park Rogers et al. (2011) assert that POL,

> "aims to situate the learning of basic disciplinary concepts within the context of real world problems that students find relevant to their everyday life" (Park Rogers et al., 2011: 897).

Along these lines, Mioduser and Betzer (2007) list the characteristics of POL approaches:

- The project derives from a real situation and aims at achieving a result.
- To reach the result different stages must be completed.
- The development of different competences is required.
- The development of collaborative skills is necessary.
- Formative assessment.

Given these characteristics, the aim of POL is to develop competences related to group work and communication (Yukawa and Harada, 2009) through experience and what is more, to apply the new knowledge constructed. Through these objectives, the student

becomes an active agent in the learning process (Mioduser and Betzer, 2007) associating the reality outside and inside the class (Middleton, 2005).

Mioduser and Betzer (2007) indicate that the cycle that POL follows encourages the students to constant analysis, synthesis, action, and reflection. Because of the open space offered by POL (Papanikolau and Boubouka, 2010) students are directed to carry out complex cognitive tasks. As a result, Papanikolau and Boubouka (2010) state that students should have experience, self-regulation, and high metacognitive control.

While designing the task Thomas (2000) recommends considering five criteria and these criteria will define the nature of the project. Firstly, the author states that the project must be central and not peripheral to the curriculum. Secondly, the project should be based on a problem or a "driving question". These problems or questions lead students to understand the main concepts. Thirdly, the author mentions that the project through research should promote knowledge construction and reconstruction. Fourthly, students need to be aware that they are responsible for the projects, and, finally, the author asserts that the project needs to be real.

Barron, Schwartz, Vye, Petrosino, Zech, and Bransford (1998) underline that there are some principles that should be taken into account in the design process. These authors believe that learning-objectives are essential because these will determine how and why the project should be done. Secondly, contrast should be ensured. That is, comparing two or more examples will give students the opportunity to explore different dimensions that could not be observed in a single example. Thirdly, they recommend designing spaces for formative self-assessment and revision. Fourthly, the authors recommend considering the organization of the room because this will ensure social participation.

POL's characteristics require the development of a student-centred learning model (Donnelly and Fitzmaurice, 2005); that is, students should control their learning process. However, as Frank and Barzilai (2004) state there are a number of difficulties associated with POL:

> "Teachers' content knowledge, students' lack of experience in this new approach and their preference for traditional-structured approach; their preference for learning environments which require less effort on their part; and problems arising from time stress. Students struggling with ambiguity, complexity, and unpredictability are liable to sense frustration

> in an environment of uncertainty, where they have no notion of how to begin or in which manner to proceed" (Frank and Barzilai, 2004: 43).

Therefore, the tutor's or teacher's role is crucial in the design phase. Donnelly and Fitzmaurice (2005) indicate that teachers should guide students at the beginning of the project. In addition, detailed specifications must be provided. A guide, the objectives, and the assessment process should also be specified. The authors also suggest that the project should be tested before implementation. Frank, Lavy and Elata (2003) describe the teacher's role in POL as follows:

> "... lecturing to passive students is replaced by encouraging motivation, tutoring, providing resources, and helping learners to construct their own knowledge" (Frank, Lavy and Etala, 2003: 280).

The students' role is also changed when POL processes are carried out. Biggs (1999) claims that in POL experiences students construct knowledge through interaction. To fulfil this objective, students need to be in charge of the project management and the learning process. Donnelly and Fitzmaurice (2005) consider that students should go through the different stages involved in interacting and managing the project: planning, researching, drafting, rewriting, and ending.

Therefore, students should plan the process in accordance with the instructions provided by the tutor. Planning should be based on research concerning the area of knowledge, and, after reviewing the research students should write the first draft. It may happen that after reading the draft students will have to go back to the planning or research process. Once the draft is finished students will have to rewrite it and assess if the objectives of the project are met.

Most research on POL has been carried out in the field of engineering (see Bresnen, Edelman, Newell, Scarbrough and Swan, 2003; Chinowsky, Brown, Szajnman and Realph, 2006; Du, de Graaff and Kolmos, 2009). However, different practices in diverse disciplines (Faculty of Education at the University of Mondragon for example) have been carried out (Sagasta and Bilbatua, 2005).

With regard to the different disciplines, DeJong (1999) refers to the potential impact of using POL in teacher training studies. According to Dejong, POL experiences in teacher training studies can lead to knowledge construction and can increase motivation towards learning. As far as foreign language learning-teaching processes are concerned, Moss

and van Duzer (1998) claim that POL experiences can create a bridge between the use of the foreign language in class and in real situations. This will also encourage students to use language to communicate in real situations.

Similarly, the latest research concerning POL has been related to the area of ICT and web 2.0 applications. Papanikolau and Boubouka (2010) argue ICT and web 2.0 resources offer many advantages to POL. In fact, according to the authors, these resources can help students to organize the project. Several studies have shown (see Blumenfeld, Soloway, Marx, Krajcik, Guzdial and Palincsar, 1991; Edelson, Gordin and Pea, 1999 and Sidman-Taveau and Milner-Bolotin 2001) that ICT helps the development of POL experiences, ensuring a real view of the context. Papanikolau and Boubouka's (2010) empirical study carried out with 82 students concluded that in e-learning spaces it is essential to design aspects to develop metacognitive knowledge. Among these variables, the authors mention stages, the role of students, the level of interactions and the order of the tasks.

Focusing on the process of learning a foreign language and ICT, webquests have been the tools most used for POL. However, research in this area should be directed at analyzing the effect of other ICT and web 2.0 resources in POL. In fact, Sidman-Taveau and Milner-Bolotin (2001) assert that although preliminary results are positive, it is necessary to analyze the increase of motivation and the real development of competences in the foreign language.

# Chapter 5. Attitudes towards languages and ICT

**Contents**

This chapter examines the impact of attitudes on teaching-learning processes. Attitudes towards the two research objects, language and ICT, are also analysed. What is meant by attitudes and how they can be defined is outlined before focusing on linguistic attitudes and attitudes towards ICT. More space has been devoted to attitudes towards languages as this has been studied in greater depth than attitudes towards ICT.

## 5.0. Introduction

The importance of motivation, attitudes and affective aspects in teaching and learning processes has intensified in recent years. The reason for this increase could be - as Arnold (2000) argues - a determination to discover the root of negative student reactions when confronted with new methodologies and innovative materials. In addition, another reason could be the emergence of interest in holistic education, where both cognitive and affective factors are considered (Lozano, García-Cueto and Gallo, 2000). In fact, Gardner and MacIntyre (1993) assert that the responses to any situation depend on these emotional variables. Moreno (1998) adds that emotional variables ensure the beginning, the maintenance and the end of the responses.

Emotional factors in general and motivational components in particular, encourage individual behaviour (García and Domenech, 1997). Motivation is not a single process (Nuñez, 1996) but a complex and extensive process. Although discrepancies can be found in defining the term, motivation can be understood as the group of processes that combines activation, correction and durability of the behaviour. However, Dörnyei (2001) puts forward some doubts about the concept itself.

> "The term motivation presents a real mystery. (…) there are also some serious doubts whether "motivation" is more than a rather obsolete umbrella term for a wide range of variables that have little to do with each other" (Dörnyei, 2001: 7).

In the context of learning-teaching processes the "learning behaviour" driven by motivation is one of the main aspects (García and Domenech, 1997). In addition, Pozo (1996) adds that it is an adjustment-mechanism and as Williams and Burden (1997)

claim it is necessary to be motivated to learn. However, we should bear in mind that different kinds of motivation are found at the same time in each individual. As a result, motivation is a transient state which could be considered as the outcome of the relationship between the individual and the environment. Due to the complexity of the concept and the diverse relationships and interactions found among its components, this study concentrates solely on one of its constructs, that of attitudes.

There are two principal reasons for selecting attitudes as main variables. Firstly, motivation has been studied mainly from two different points of view: motivational psychology and social psychology. The former links motivation with mental processes, while the latter considers that the action is the result of a general context, that is, the social and interpersonal context is taken into account. Secondly, several studies have highlighted the close relationship between motivation and attitudes (Donitsa-Schmidt, Inbar and Shohamy, 2004, Dörnyei, 1998). Attitudes, as motivation, are formed by different constructs and each one has different functions. In addition, as Baker (1992) claims, attitudes are created-conceptual abstractions which reflect reality.

The following conceptual map summarizes the main points of this chapter [Figure 5.0].

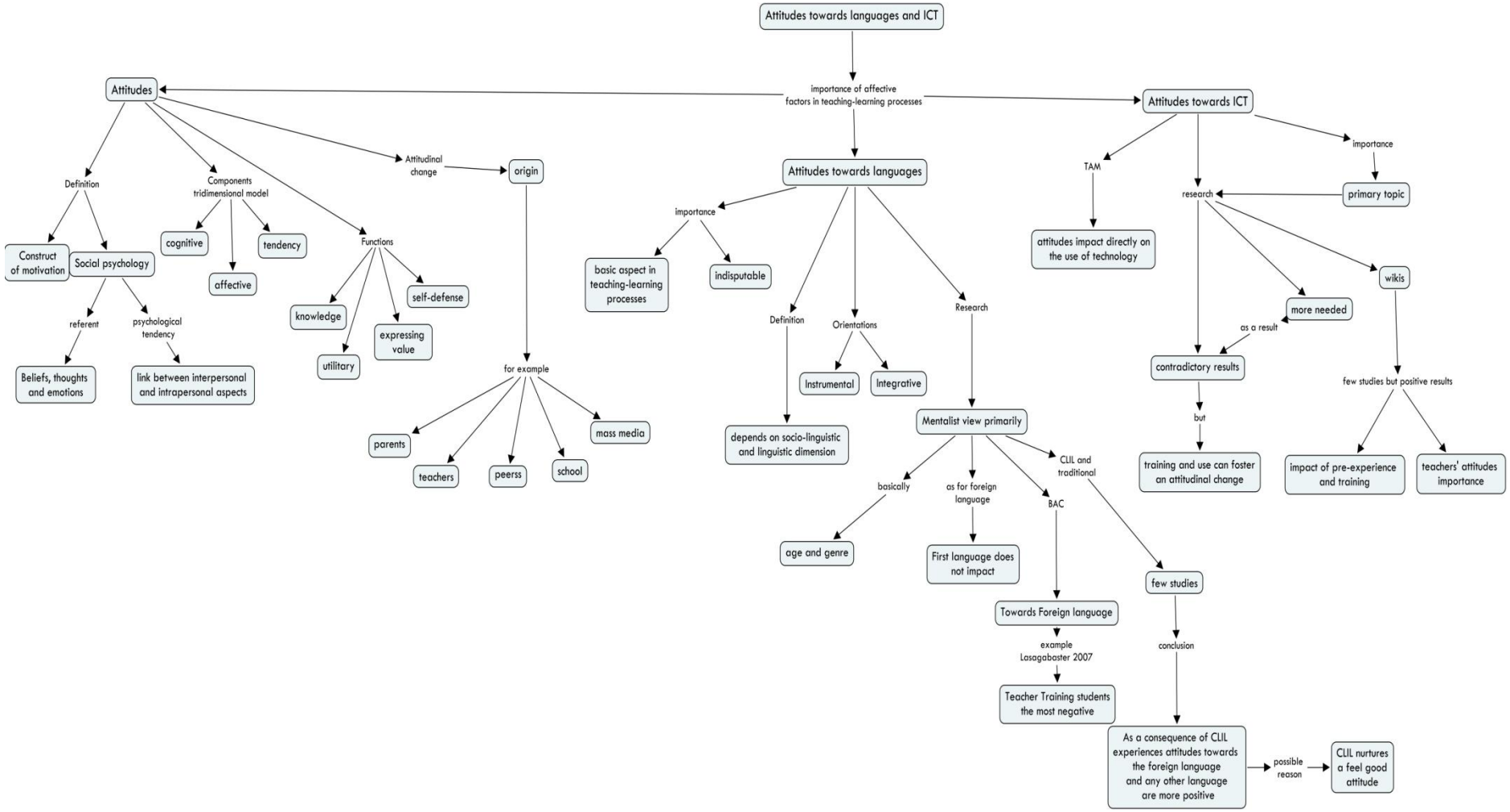


**Figure 5.0. Summary of the main points**

## 5.1. Attitudes

Lasagabaster (2003) states that the concept of attitude was first used by Spencer in 1892. However, as the same author claims, it was Allport in 1935 who recognized the importance of it and gave the term a distinctive place in social psychology. Oskamp (1991) believes that its importance is relevant due to the fact that attitudes are based on human practices. In addition, Baker (1992) asserts that the use of the term in everyday life has increased its importance.

Many definitions of the concept can be found, however, the discrepancies observed reflect semantic disagreements and differences between the generality and specificness of the term (Baker, 1992). Several authors have attempted to define the term from different epistemological fields although there are two main schools of thought: the etymological point of view and social psychology. Concerning the etymological view, the meaning of the term comes from the arts. As regards social psychology, Ajzen's (1988) definition could be considered essential. Ajzen (1988) defines the term attitude as the willingness to answer favourably or unfavourably to an object, person, institution or event.

Attitudes therefore, have a referent (Auguoustinos and Walker, 1995) which can be specific and tangible or intangible and abstract (Lasagaster, 2003). The "willingness to answer" stated in Ajzen's formulation has also been discussed by several researchers. Gardner (1985), for example, considers individual's beliefs and thoughts as origins of this willingness. Conn (2001) claims on the other hand that attitudes are a mixture of beliefs and emotions that will lead the individual to respond positively or negatively in front of a stimulus. Eagly and Chaiken (1993 in Morales, 1999) or Sarabia (1992) define attitude as a psychological tendency. Moreover, Huguet and Madariaga (2005) link the psychological and interpersonal fields by claiming that attitudes are the expression of internal values. Baker (1992) combines different aspects and states that attitudes are hypothetical constructs.

> "In its general sense, an attitude is a hypothetical construct aiming at explaining the direction and persistence of human behaviour" (Baker, 1992: 10).

The statements show that on the one hand, attitudes are linked to individual and intra-psychological assessment processes and on the other hand, the importance of the social

aspect is recognized as it is reflected in the inter-psychological sphere. Attitudes, however, are hypothetical constructs formed by different components.

Baker (1992), Fernández de Paz (2001), and Sarabia (1992) agree that attitudes are constructed by three main variables: cognitive, affective, and behavioural. The combination of the three components creates the tridimensional model of attitudes (Hovland and Rosenberg, 1960; in: Marín, 1990).

As Lasagabaster (2003) states the cognitive variable refers to personal ideas, perceptions, and beliefs. Specific features are assigned to the object as a consequence of the cognitive component (Salazar, Montero, Muñoz, Sánchez, Santoro and Villegas, 1992). The second component, the affective component, is linked to emotional aspects developed in front of a stimulus (Marcano, Marcano and Araujo, 2007). The behavioural component is related to the action (Marcano, Marcano and Araujo, 2007). That is, the effect or action carried out as a consequence of a stimulus and as a result of a specific context or situation (Lasagabaster, 2003) which is neither simple nor direct (Baker, 1992). Baker (1992) asserts that the three components create a single construct of a higher level of abstraction, i.e., attitude. The following figure [Figure 5.1] summarizes the tridimensional model.

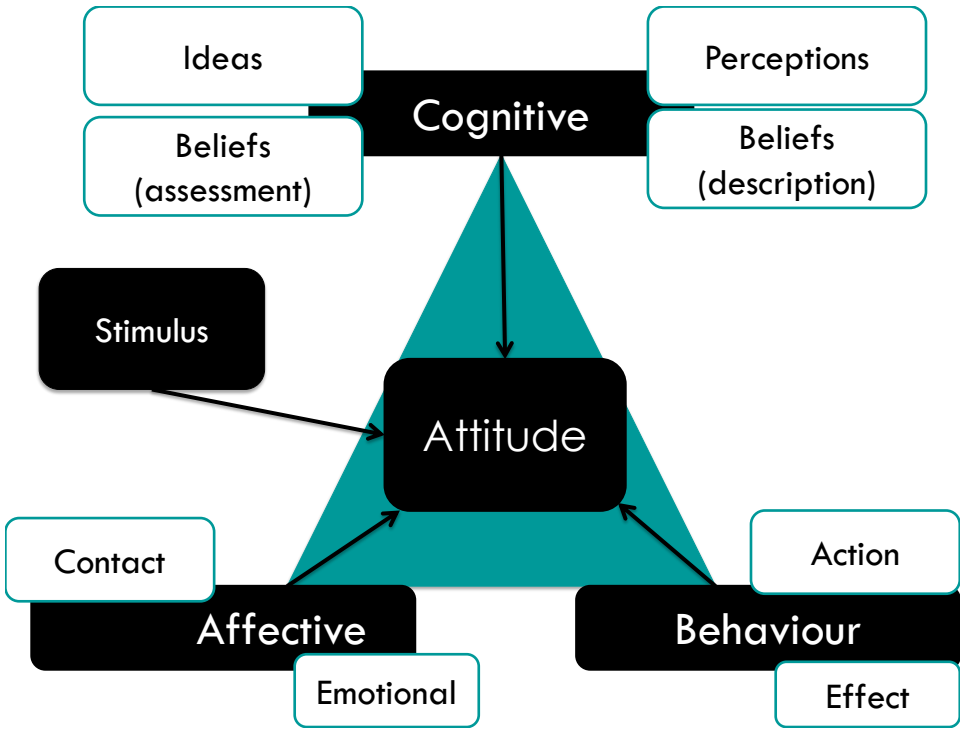


**Figure 5.1. Tridimensional model of attitudes**

Researchers however do not reach a consensus regarding the interdependence level of the tridimensional model. Some authors consider that there is high interdependence between these components (e.g. Breckler, 1984 in Lasagabaster, 2003; Hewstone, Manstead, and Stroebe, 1997; Marcano, Marcano and Araujo, 2007). This approach emphasizes that a change in one of the three components will have a direct impact on the other two. There are also those (Oskamp, 1991) who claim that the components of the tridimensional model are independent.

As far as the functions of attitudes are concerned, different views have also been developed. Katz (1960), Salazar et al. (1992), Augoustinos and Walker (1995) or Morales (1999) for example, have assigned different functions to attitudes [Table 5.1].

| Author | Functions assigned |
|---|---|
| Katz (1960) | Knowledge |
| | Instrumental |
| | Value-expression |
| | Ego-defensive |
| Salazar et al. (1992) | Cognitive |
| | Economic |
| | Adaptive |
| | Protector |
| Augoustinos and Walker (1995) | Placement of the individual in a social context |
| | Transmission mechanism of ideas and beliefs |
| | Expression |
| Morales (1999) | Object assessment |
| | Social adaptation |
| | Value-expression |

**Table 5.1. Functions assigned to attitudes**

Katz (1960) states that even if individuals may have the same attitude towards a referent, functions may differ. Knowledge and instrumental functions can change owing to new situations and new knowledge; but on the other hand, value-expression and ego-defensive functions are difficult to change (Katz, 1960). Functions, in the same way, have important implications in attitudinal changes (Baker, 1992).

> "It is an implicit or explicit assumption (of language) that attitudes can or should change" **(Baker, 1992:97).**

Deprez and Persoons (1987) indicate that attitudes are created during childhood and therefore, it is not easy to change attitudes in adulthood. Donitsa-Schmidt, Inbar and Shohamy (2004) agree, stating that attitudes are developed in childhood as a result of a socialization processes and due to their relationship with cognition and affectivity. As Lasagabaster (2003) claims, attitudes are created in the first stage of socialization. Parents play a decisive role in this stage because children imitate and identify parents' actions. In addition, values related to these actions are also influential in creating

attitudes. In the second stage, attitudinal imbalances are created by factors such as school, peers or media (Lasagabaster, 2003). Thus, the creation and change of attitudes, using Bronfenbrenner's terminology, are developed through the interactions in the microsystem, mesosystem, exosystem and macrosystem.

In learning contexts, Dörnyei (2000) maintains that there are four factors that can influence attitudinal changes: parents, teachers, peers and school. Even though the author refers to language learning processes, the statement could be extrapolated to general processes.

Hence, as Dörnyei (2000) states, parents' influence is undeniable. Gardner (1985), referring to languages and focusing on the socio-psychological theory, asserts that parental influence is inevitable because parents are the main intermediary between the student and cultural environment. Furnham and Heaven (1999) maintain that parental socio-economic status could be a predictive factor; as parents from high socio-economic backgrounds show positive values and beliefs and as a result, their offsprings' chances of achieving positive academic results increase.

Teachers too play an important role in the creation and transformation of attitudes (Dörnyei, 1998; 2000). Clark and Trafford (1995) indicate that both teachers and students consider the student-teacher relationship as one of the most important variables that influence attitudes. Lasagabaster (2003) points out that teachers' willingness and commitment are important for creating or maintaining positive attitudes. Dörnyei (2000a) asserts that peers are the third most significant factor due to the fact that students are part of a social unit. As a result of participation in this social unit, students may change their attitudes.

Schools are considered the fourth factor behind attitudinal change, as pupils spend a great deal of time in educational establishments. Lasagabaster (2003) adds a fifth factor to the four above, TV or mass media. Mass media is one of the most common means of creating and modifying attitudes (Lasagabaster, 2003; Moya, 1999). The aesthetic power, strength, credibility and similarities shown by the mass media can also influence attitudinal changes. Expanding on this fifth factor, ICT could be considered influential.

However, the creation or modification of attitudes may be affected by many and very different factors (Lasagabaster, 2003). Attitudes therefore, can be changed as a consequence of individual or social causes (Baker, 1992).

## 5.2. Attitudes towards languages

As an introduction to this section, it should be mentioned that many education authorities have designed educational policies recommending early foreign language(s) teaching. As a result, students begin learning foreign languages earlier (Lasagabaster and Sierra, 2009). This global trend has led to foreign languages gaining an important role in all education systems (Coleman, 2006; Knell, Haiyan, Miao, Yanping, Siegel, Lin and Wei, 2007; Nunan, 2003; Uribe, Gutierrez and Madrid, 2008). Equally, it is more common to find two or more languages in the curriculum (Lasagabaster and Huguet, 2007). Alongside this development language attitudes have become essential variables in the process of language learning.

As a result of the study carried out by Gardner and Lambert (1972) four decades ago and evidence from diverse research studies (Arratibel, 1999; Gardner, 1985; Gardner, Masgoret, Tennant and Mihic, 2004; Lasagabaster, 2003; Masgoret and Gardner, 2003), it is indisputable that attitudinal and motivational factors, that is, emotional factors, play an important role in the process of learning second or third languages.

In addition to empirical evidence, the origins of language attitude research may be found in Lambert's studies published in 1955. However, in 1945, Arsenian also stressed the importance of language attitudes (Uribe, Gutierrez and Madrid, 2008). Furthermore, Baker (1992) states that research attitudes are important indicators for learning about the thoughts, beliefs, desires and wishes of a community. Sadait (2010) emphasizes the idea that awareness of the impact of languages on cognition also influenced the increase in interest in language attitudes.

Regarding the nature of linguistic attitudes, several authors as Białystok (1978) explain that they are personal factors; however, Janés (2006) considers that the origins of attitudes are in social aspects although they are specified in individual behaviours. Therefore, attitudes depend on socio-psychological factors (Gardner, 1988).

As far as personal aspects are considered, Dörnyei (2001; 2006) states that in second or third language learning contexts there are five factors that determine the language learning process: personality, skills, motivation (as a consequence of attitudes), learning strategies and learning styles. The learning context is a necessary aspect to add to these

factors (Dörnyei, 2001). Motivation and attitudes are one of the most important factors that determine the success or failure in foreign language learning (Gomez-Martínez, 2008; Lasagabaster, 2011; Saravia and Bernaus, 2008; Sasaki, 1993). Gardner (1985), Lightbown and Spada (2006), and Starks and Paltridge (1996) also mention that language learning is linked to attitudes.

> "Motivation… refers to the combination of effort plus desire to achieve the goal of learning the language plus favourable attitudes toward learning the language" (Gardner, 1985:10).

Moreno (1998) defines linguistic attitudes as a social manifestation of individuals, distinguished because they are focused and refer to both the language and the use of language in society, including different linguistic varieties. Hence, the concept is developed in two different dimensions; sociolinguistic on the one hand, and linguistic on the other (González Riaño and Huguet, 2002; Lasagabaster, 2003; Richards, Platt and Platt, 1997).

In addition, Manzaneda and Madrid (1997) emphasize that the definition of linguistic attitudes becomes even more complicated when it refers to attitudes towards foreign languages. In fact, attitudes towards foreign languages could exceed Hovland and Rosenberg's (1960, in Marín, 1990) tridimensional model. Thus, the term is a complex phenomenon (González, 2003), and cognitive, emotional, and behavioural factors are mixed up with external independent and dependent variables.

Gardner and Lambert (1972) determine two different orientations for linguistic attitudes: instrumental on the one hand, and integrative on the other hand. Regarding instrumental orientation Gardner and Lambert (1972) maintain that positive attitudes are a result of social recognition and economic benefits. Therefore, instrumental orientation derives from pragmatic and practical reasons. Integrative orientation however, shows positive attitude towards the community. That is, integrative orientation shows the desire to be integrated in the community (Lasagabaster, 2003). In Krashen's (1981) opinion, subjects with integrative orientation look for the development of linguistic aspects that will support their integration in the target group.

As far as research is concerned, Lasagabaster (2003) argues that there are two main approaches; conductivist on the one hand, and mentalist on the other. Conductivist approaches identify subjects' behaviour, that is, the use of language in the interactions happening in real situations (Bierbach, 1988; Appel and Muysken, 1986). Although

behaviour can be easily observed, it is impossible to predict attitudes. From the mentalist point of view, however, attitudes are considered to be intra-psychological states which could create different responses (Bierbach, 1988; Appel and Muysken, 1986). In other words, behaviour is understood as a pre-condition of attitudes (Shuy, 1983).

As Janés (2006) states, most researchers have studied attitudes from a mentalist point of view due to the fact that from a conductivist approach accuracy of the data is not completely reliable. Baker (1992) also coincides with Janés (2006) indicating that the relationship between attitudes and behaviour is imperfect.

Different authors, Saville-Troike (1989) or Lasagabaster (2003), have categorized studies related to linguistic attitudes. Both authors' categorization is summarized in the following table [Table 5.2.].

| | Lasagabaster (2003) | Saville-Troike (1989) |
|---|---|---|
| 1 | Attitudes towards English as lingua franca.<br>Attitudes towards language in contact and loans. | Attitudes towards a language |
| 2 | Attitudes towards races and minority groups and their language.<br>Attitudes towards different social groups' status and their use of the language. | Attitudes towards language stereotypes, users and functions. |
| 3 | Attitudes towards foreign languages and their impact on language learning processes. | Research on the impact of linguistic attitudes on specific areas. |

**Table 5.2. Summary of research lines on attitudes**

As the present research deals with foreign language learning processes, studies in the third group in the above table are analysed below. International and national research on the topic has shown that irrespective of the language, there have been two main independent variables associated with linguistic attitudes: age and gender.

As far as age is concerned, research studies conclude that the age when students start learning a language (in traditional teaching-learning processes) impacts on the attitude subjects show towards the language (see Karahan, 2007; Uribe, Gutierrez and Madrid, 2008). The effect of age was also found in the development of attitudes towards first and second languages (see Baker, 1992; Gardner and Smythe, 1975 in Lasagabaster, 2003). However, some other studies show that age is not a significant variable (see Muñoz and Tragant, 2001). McDonough (1981) argues that the change in attitudes may happen because of attitudinal orientations. The author believes that younger students, up to 11-12 years old, have integrative orientation but once this limit is exceeded, the subjects' orientation becomes more instrumental. Muñoz and Tragant (2001) agree with McDonough (1981) arguing that older students show instrumental orientation.

With reference to gender, there are studies that conclude that women show a more positive attitude towards second languages than men (see Byram and Esarte-Sarries, 1991; Kachoub, 2010; Karaham, 2007; Mills, Pajares and Herron, 2007; Sunderland, 2000; Uribe, Gutierrez and Madrid, 2008; Wright, 1999). However, other studies do not reach this conclusion (see Hyland, 1997). Studies carried out in immersion programs show that there are no differences depending on gender. According to these studies no significant differences are found between women and men in attitudes towards the second language (see Baker and MacIntyre, 2000). In a ten year period longitudinal research Heining-Boynton and Haitema (2007) state that there is a decrease in positive attitudes towards languages in both, male and female, although generally positive or neutral attitudes are maintained.

Parental influence also is a significant variable (eg Donitsa-Schmidt, Inbar and Shohamy, 2004; Huguet, 2001) regarding students' linguistic attitudes. Donitsa-Schmidt, Inbar and Shohamy (2004) conclude that parents' attitudes towards languages impact on the development of extrinsic motivation.

Self-perception and linguistic skills have also been related to attitudes towards languages. Elorza (2011), Loredo, Fernández, Suarez and Casares (2007), Malallah (2000), and Sarabia and Bernaus (2008) conclude that students' achievement levels and self-perception have a direct impact on attitudes and motivation towards languages.

Studies carried out in communities with more than one official language have shown that students with a minority language as mother tongue show a more positive attitude towards this language than the others (González Riaño and Huguet, 2002; Huguet, 2007; Loredo et al., 2007). As far as foreign languages are concerned, it is concluded that mother tongue is not a significant variable (Huguet, 2007; Safont, 2007).

In terms of socio-professional background, Loredo et al. (2007) conclude that the higher the status is, the more positive attitudes are shown. Travelling to or visiting an English-speaking country impacts positively on students' attitude towards English (Loredo et al., 2007; Safont, 2007).

Several studies have also examined the relationship between language attitudes and language learning-teaching processes. Graham (2004) for example, examined the relationship between attitudes and achievement levels and stated that students that show negative attitudes towards a language do not relate language achievement to variables such as effort, ability and the use of personal strategies, but to the difficulty of the task.

Furnham and Heaven (1998) indicate that the social status impacts on attitudes towards languages and therefore, on overall academic achievement. Yang and Lau (2003) studied the development of attitudes towards English from secondary education until the end of higher education. The authors did not find any significant variation. However, students who participated in the study indicated that it is important to teach English in secondary and higher education and to strengthen the communicative approach.

Karahan (2007) asserts that attitudes towards languages can be learned and therefore, the teacher's role is essential. Consequently, apart from students' beliefs and knowledge, teacher beliefs and knowledge also impact on their teaching (Dooley, 2005b, Ellis, 2004; Woods, 1996). Moreover, Sotés, Oroz, and Vilches (2005) state that teachers' attitudes during the teaching-learning process also affect the creation, change and maintenance of student attitudes. In addition, up to a point, teachers could be more decisive than parents or contextual variables (Lambert and Tucker, 1972). Clark and Trafford (1995) found that the student-teacher relationship has the biggest effect on attitudes towards L2 (LX). In relation to future teachers, Dooley (2005a) argues that they are the ones who seem to be ready to change their attitudes towards languages.

As far as the Basque Autonomous Community (BAC henceforth) is concerned, Perales (2001) categorized research studies related to linguistic attitudes in three groups: studies carried out by official institutions, research on adult education and studies on primary, secondary and higher education.

Lasagabaster (2007) summarizes the main conclusions arising from studies carried out on the third group. The author concludes that age is not a significant variable regarding attitudes towards Basque or Spanish. Furthermore, students with Basque as mother tongue show more positive attitudes towards the minority language than students with Spanish as the mother tongue. The author continues by saying that even if the mother tongue is not Basque, students who use Basque have a more positive attitude towards the Basque language than those who do not use it. Moreover, students who have had Basque as an instructional language show more positive attitudes towards Basque than those whose instruction language was Spanish.

As Lasagabaster (2007) states the sociolinguistic context plays an important role; that is, the more Basque language is spoken, the more positive attitude students show. Similarly, Madariaga (1994) supports that the context is one of the most important variables concerning attitudes towards Basque.

Regarding attitudes towards English, González (2003) concludes that both, monolingual and bilingual students, show a positive attitude towards English. As an important outcome the author emphasizes the fact that neither monolingual nor bilingual students show negative attitude towards English speakers. However, in the study carried out by Lasagabaster (2007) measuring attitudes towards Basque, Spanish and English, the most negative attitude shown by students turned out to be towards English while the most positive attitudes was towards Basque. Nevertheless, it should be mentioned that not a large number of subjects showed negative attitudes towards English. However, students with Spanish as the mother tongue showed more positive attitudes than students with Basque as the mother tongue.

Lasagabaster (2007) found that gender was not a significant variable regarding attitudes. The same author, however, in a study carried out some years earlier (Lasagabaster, 2005) concluded that the most positive attitude towards Basque was found in female students, aged 17-19, highly proficient in languages and coming from an area where Basque was the main language.

As for age, Lasagabaster (2007) concludes that the age when foreign language is introduced does not impact on attitudes. Nonetheless, Cenoz (2001) took three age groups (9-10 years, 13-14 years and 16-17 years) as a sample and concluded that the youngest students showed the most positive attitudes towards English while the eldest were the ones showing the most negative attitudes. According to the results, teachers and grammar-based approaches could be the main reasons for the negative attitude shown by the 16-17 age group students. In fact, stories and oral communication are the main strategies used in infant schools. Similarly, Cenoz (1991) and Sagasta (2001) mention that attitudes towards foreign languages are one of the main factors impacting on language achievement.

In relation to orientations, Lasagabaster (nd) argues that concerning Basque, students with Basque as L1 show significantly more positive integrative and instrumental orientations than students with Spanish as L1. In the case of Spanish, on the other hand, students with Spanish as L1 show more positive integrative and instrumental orientations. In the case of English, students with Spanish as L1 show more positive integrative and instrumental orientations. Analyzing multilingualism, however, students with Basque as L1 show more positive integrative orientation.

Most of the studies observed are characterized, as Baker (1992) claims, as bivariate. As a result, the author proposes the use of more sophisticated research methodologies. That is, analyzing the effects of different variables organized in groups [Figure 5.2].

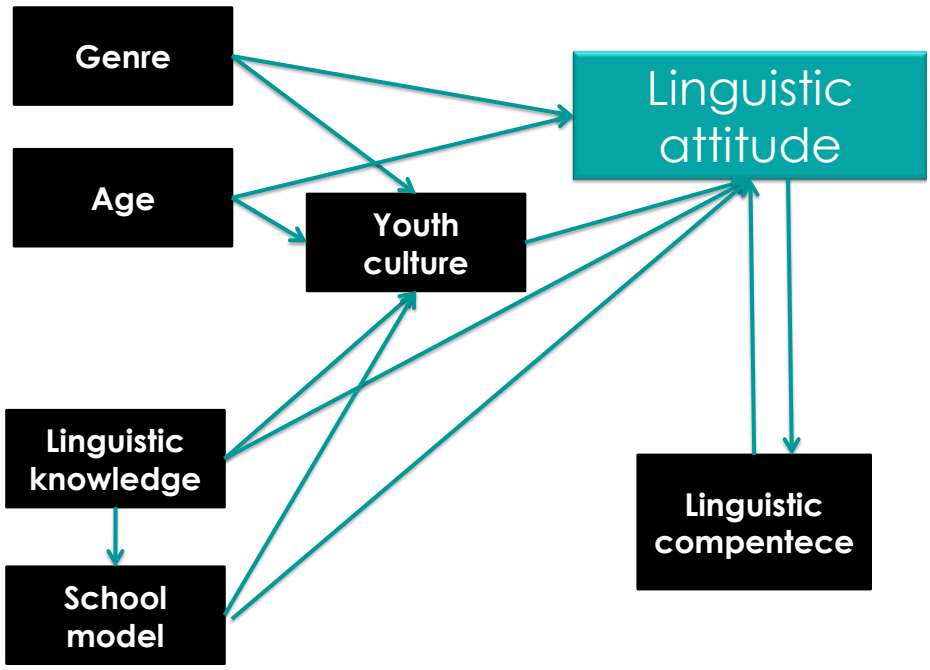


**Figure 5.2. Model to analyze linguistic attitudes (Baker, 1992: 50)**

As shown in the figure, Baker's model (1992) proposes that gender, age, linguistic knowledge, school model and youth culture have a direct impact on attitudes towards languages. In addition, some of these independent variables, gender, age, linguistic knowledge and school model, also impact on linguistic attitudes in an indirect way by means of youth culture. Linguistic competence on the other hand, maintains a cause-effect relationship with attitudes.

The majority of research on attitudes towards languages have been placed in traditional foreign language learning and teaching contexts. Moreover, little evidence can be found in CLIL contexts regarding attitudes.

> "In some countries, such as Germany and the Netherlands, CLIL has been developing over a period of years, but to our knowledge the measurement of students' attitudes and comparison with students' attitudes vis-à-vis regular programmes – where English is only taught as a subject- has been largely overlooked" **(Lasagabaster and Sierra, 2009: 4).**

In this scope, Lasagabaster and Sierra (2009) conclude that secondary students taking part in CLIL programs show more positive attitudes towards Basque, Spanish and English than students enrolled in traditional lessons. Lasagabaster and Sierra (2009) link linguistic attitudes to gender and socio-cultural level. According to the authors, in traditional models, girls and students from a high socio-cultural level show a more positive attitude towards the foreign language. As for CLIL classrooms, gender is also a significant variable with females showing more positive attitudes. The authors conclude that students in CLIL classrooms learn foreign languages easier and in a more meaningful way. As a general conclusion, the authors state that CLIL programs could be useful to maintain students' interest and motivation. However, more longitudinal research in this field is needed.

The impact of CLIL programs on attitudes towards first languages was analysed by Merisuo-Storm (2007). The author concludes that students enrolled in CLIL classrooms show more positive attitudes towards the first language. In terms of gender, no significant differences were found between males and females in CLIL classrooms, but some differences were found in traditional classes.

Similarly, when the impact of immersion and non-immersion models on attitudes has been analysed (see Baker and MacIntyre, 2000) the results are the same. That is, no significant differences were found regarding gender in immersion models while differences were found in non-immersion models. Females held more positive attitudes towards languages in non-immersion programmes. In addition, Merisou-Storm (2007) emphasizes teachers' motivation as an important variable. Moreover, the author stresses that the motivation and interest of teachers to carry out the program impacts on students' attitudes.

Therefore, it can be underlined that students enrolled in CLIL programs develop more positive attitudes towards the foreign language and other languages in the curriculum. This conclusion may be justified in Marsh's (2002) words because CLIL nurtures a feel-good attitude. In the same way, Coyle (2011) states, talking about Great Britain, that two thirds of the students enrolled on a CLIL program show a positive attitude towards CLIL. Furthermore, 84% of the students showed willingness to learn languages through CLIL, recognizing that they have more opportunities to use the language. The author reflects on the impact that CLIL has on the development of attitudes, and states that the results of research show the need to transform language learning-teaching processes.

> "This study suggests that young people are generally positive about using their modern language skills but unable to sustain motivation for developing those skills in the language classroom. (…) it reaffirms the urgent need to transform learner experiences in the language classroom" (Coyle, 2011: 2).

## 5.3. Attitudes towards ICT

Although attitudes towards ICT have not been studied as much as linguistic attitudes, teachers' attitudes towards ICT (see Alba, 2005; Cabello and Anton, 2005; Cabero, 2005; Castañeda, 2006; Jegede, Dibu-Ojerinde and Ilori, 2007; Rodríguez, 2000), the attitude of university students (see Cox, 2008), and especially, the attitudes of future teachers towards ICT (Annaraja and Joseph, 2006; Gutierrez, Palacios and Torrego, 2010; Hernández, Hernández, de Moya, García and Bravo, 2010) have recently gained importance. However, Cox (2008) underlines that it is necessary to collect more empirical evidence.

As Marcano, Marcano and Araujo (2007) state, the meaningful use of ICT in teaching-learning processes depends on students' and teachers' attitudes towards ICT. In fact, the attitude that education stakeholders show towards ICT becomes an important variable in methodological innovation. Thus, individual variables, as in the case of languages, are of a great importance. In other words, the use of these technologies is reflected in cognitive, affective and behavioural aspects (Marcano, Marcano and Araujo, 2007).

The importance of these individual variables can be seen in the model designed by Davis in 1986. The author analyzed the factors that could affect the use of ICT. Based on Ajzen and Fishbein's psychological theories Davis designed the Technology Acceptance Model (TAM henceforth) (Davis, Bagozzi and Warshaw, 1989). The model reflects that students' attitudes towards ICT have a direct impact on the use of ICT [Figure 5.3.].

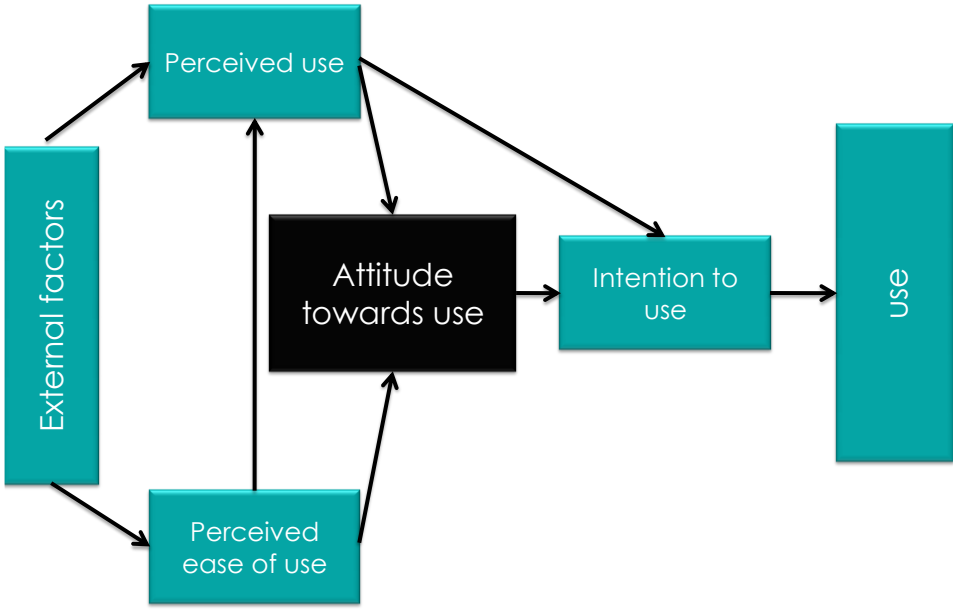


**Figure 5.3. Technology Acceptance Model**

The aim of this model is to determine the impact of external factors on intra-psychological aspects such as beliefs, attitudes and intentions (Davis, Bagozzi and Warshaw, 1989). The model explains that external variables, such as an external stimulus, impact on the use of technology. Moreover, cognitive responses have a direct influence on the attitude of the students towards ICT as affective responses (Davis, 1993). This affects directly in the intention to use and thus, in the use of ICT.

Even if this model is widely recognized as the model to foresee and explain user behaviour (Legris, Ingham, and Collerette, 2003), use is not predicted in more than 40 to 50% (Park, 2009). Venkatesh and Davis (2000) argue that if other variables are included the estimation increases to 60 per cent. Park (2009) shows that missing factors are as follows: social impact, cognitive processes, and experiences. The TAM2 model was designed adapting the original model, replacing attitude with intention (Chuttur, 2009).

In terms of research, the first model, TAM, has been used more than the second, TAM2. Most of these studies have been carried out in the field of higher education in e-learning environments (see Lee, Cheung and Chen, 2005 and Selim, 2003, for example). Saadé, Nebebe and Tan (2007) also applied the model to multimedia objects and the main result of the study emphasizes the importance of attitudes.

In addition to this model, general research has also analyzed students' attitudes towards ICT. As explained in the first chapter, it is believed that all students entering university show positive attitudes towards ICT, and that they are familiarized with these resources. Several studies have shown that the students of today are adapting to the changes driven by new models of communication. In this adaptation, however, more than conviction, inertia seems to be the main cause (Gutierrez, Palacios, and Torrego, 2010).

As in research concerning linguistic attitudes, research on attitudes towards ICT has also been, using Baker's (1992) words, bivariate. In other words, a large number of studies have examined the relationship between gender and attitude (see Annaraja and Joseph, 2006), while others have linked skills and training to attitudes (see Ruiz, Anguita and Jorrín, 2006; Jegede, Dibu-Ojerinde and Ilori, 2007).

As far as general studies are concerned, significant differences between studies have been found. Gutierrez, Palacios and Torrego (2010) collected 863 questionnaires in teacher training studies, and concluded that students' knowledge about ICT is relatively poor and in many cases, students show a negative attitude towards ICT. Among this sample, students who use ICT on a daily basis do not see its potential in learning-teaching processes. Hernández et al. (2010) and Marcano, Marcano and Araujo (2007) on the other hand, assert that students have positive attitudes towards ICT and these are considered as essential elements of daily life and society by students.

Teacher training degree courses should include training to ensure that ICT is used in a meaningful way in future classrooms. Training teachers to use ICT in a socio-cultural way would lead to an attitudinal change with regard to ICT (Gutierrez, Palacios, and Torrego, 2010).

Research studies on teachers' attitudes towards ICT (see Ruiz, Anguita and Jorrín, 2006 or Jegede, Dibu-Ojerinde and Ilori, 2007, for example) conclude that training and use of ICT are essential to change vision, attitude, and educational practice. In terms of competences, Jegede, Dibu-Ojerinde, and Ilori (2007) conclude that there is a significant relationship between the two variables; that is, between attitudes and competence.

However, studies on attitudes towards specific web 2.0 resources are not abundant. In this scope, Hazari, North and Moreland (2009) assert that it is necessary to analyze teachers' and students' attitudes towards web 2.0 resources in general, and towards wikis in particular. In fact, these attitudes are directly associated with their use.

The few studies carried out analysing attitudes towards wikis show that in general, attitudes are positive. Guo and Stevens (2011) noted that teachers' attitudes towards these resources have a direct effect on the attitudes that students show towards these tools.

Pre-experience (Guo and Stevens, 2011) and training (Twu, 2010) are also important aspects. In fact, students that have previous experience in the use of these resources show a more positive attitude (Guo and Stevens, 2011). Twu (2010) adds that when previous experience is missing adequate training is necessary to create positive attitudes.

# Empirical research

# Chapter 6. Research design

**Contents**

The aim of this chapter is to describe the research context, the study sample, and the methodology and tools designed to answer the research questions.

## 6.0. Introduction

As seen in the theoretical framework the Knowledge Society requires students to develop certain competences according to the new societal model. The technological revolution has spurred a number of changes in the social, political and cultural spheres, and knowledge has been placed at the centre of all social processes. Emphasis has been given to constructivist and meaningful learning-teaching processes. As a result, learning as well as knowledge construction are understood as social and dynamic processes (chapter 1).

As far as language learning-teaching processes are concerned, due to the importance given to the context and interactions, communicative and ecological views can be considered as coherent approaches within the new education paradigm. Understanding language as a social and dynamic tool for communication, and therefore, as an instrument to construct knowledge, requires the use of approaches that create rich spaces for natural language use and interaction. Moreover, recent studies have shown that when language is integrated with content, development is holistic and meaningful. CLIL approaches can provide these spaces, tailored to delivering a balance between content and language (chapter 2).

As ICT and web 2.0 resources are the main driving force of the socio-technological revolution and, as a result, of the new social configuration, the use of these resources in learning-teaching processes seems essential (chapter 3). One of the values of these tools is in promoting collaborative work. Wikis, for example, can provide spaces for collaborative learning and work as mediators inside the complexity of the learning process. In addition, through collaborative learning and CLIL approaches several postulates of the current education paradigm are strengthened: active and meaningful student participation, importance of context, response to diversity and the importance of the social aspect of learning, among other things. Project Oriented Learning can be an example of collaborative learning as well as a real framework to develop it (chapter 4).

In addition to cognitive processes, emotional aspects have become increasingly important. In fact, positive attitudes towards the learning objects are necessary to achieve meaningful and social learning (chapter 5).

Three main questions arise from this theoretical framework. However, it needs to be stressed that the third research question is an exploratory question, that is, results arising from the third question are considered approximate and the need for deeper research is foreseen.

Hence, this study aims to answer the following questions:

**RQ.1.In a CLIL-POL context, how do first year higher education students' attitudes towards English and ICT develop?**

RQ.1.1.Does a CLIL-POL experience impact on students' attitudes towards English? Is that change, if any, sustained?

RQ.1.2.Does the use of a wiki as a collaborative writing tool in a CLIL-POL experience impact on students' attitude towards ICT? Is that change, if any, sustained?

**R.Q.2.Does a CLIL-POL context impact on first year higher education students' writing competence?**

R.Q.2.1.Does a CLIL-POL experience impact on students' collaborative writing competence? Is that change, if any, sustained?

R.Q.2.2.Do students' attitudes towards English and ICT impact on their collaborative writing competence over time?

**R.Q.3.How does the tutor influence the development of first year higher education students' collaborative writing skills?**

R.Q.3.1.Do the tutor's attitudes towards the CLIL-POL module impact on students' collaborative texts?

R.Q.3.2.Do the tutor's attitudes towards the use of ICT in the learning process impact on students' collaborative texts?

R.Q.3.3.Does tutor's ICT profile impact on students' collaborative texts?

The following conceptual map [Figure 6.0] provides an overview of the research:

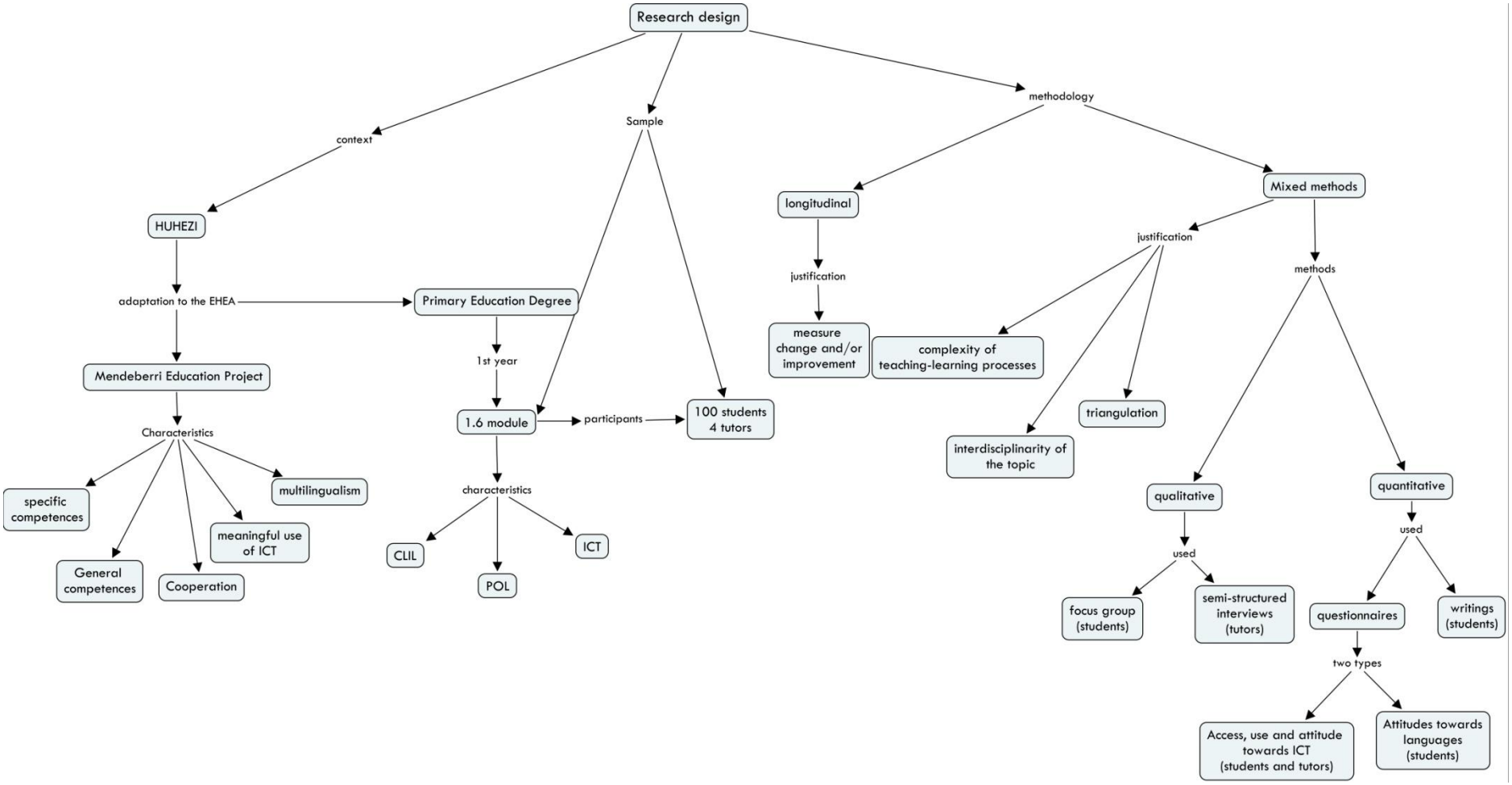


**Figure 6.0. General view of the research**

## 6.1. Research context

This research was undertaken at the Faculty of Humanities and Education (HUHEZI onwards) of Mondragon Unibertsitatea (MU henceforth). MU is made up of four faculties, all of which are organised along cooperative lines with a clear human vocation and commitment.

HUHEZI, as a Teacher Training school, was founded in 1976, and in 1980 it was integrated into the cooperative movement. In 1997, MU was founded and the Teacher Training School became the Faculty of Humanities and Education. Since 2009-2010, with the arrival of the EHEA, the faculty has offered three degrees (Infant Education, Primary Education and Audiovisual Communication), official masters, doctoral programs, ongoing training and advice.

Adapting to the EHEA and with innovation being one of its main characteristics, MU designed a pioneering education project, Mendeberri (New Century in English). The conceptual basis for this project can be found in a report coordinated by Jacques Delors entitled "Learning: the Treasure Within" (1996). The Mendeberri project has led to a new way of understanding and managing learning.

Another distinctive characteristic is that the education project is located in the core of the cooperative movement developed by J.M. Arizmendiarrieta. In fact, Arizmendiarrieta considered education as the basis for all changes in the social sphere. As important sources, Mendeberri assumes pedagogical strategies from Aalborg University in Denmark, Maastricht in the Netherlands, Monterrey Institute of Technology and Massachusetts Institute of Technology (Sagasta, 2005). Therefore, the main objective of the education project is to re-construct the education project introducing in addition to the specific technical knowledge, practical competences and values, with the purpose of responding to society's demands using all the potential of new information and communication technology (Mendeberri, 2001).

Design of the new education project started in 2000. It was considered that a world characterized by continuous changes required a complete education program and, therefore, the development of methodologies and areas that permitted interdisciplinarity were foreseen (Arregi, Bilbatua and Sagasta, 2004). The process was developed largely following three steps.

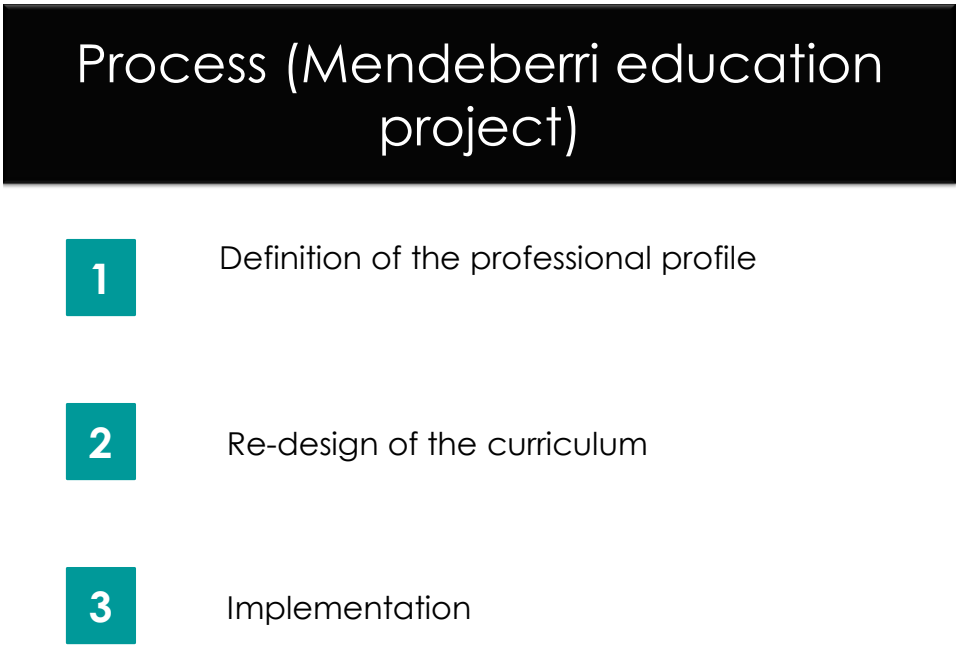


**Figure 6.1. Process followed**

As the first step, a common framework and definitions of the professional profiles for each degree were created with help of university experts, parents, schools, and former students (Sagasta, 2005; Sagasta and Bilbatua, 2005). Consequently, the curriculum was also redesigned and two main objectives were considered. On the one hand, the redesign was aimed at adapting to the demands of the professional profile, and secondly, at structuring contents in order to facilitate meaningful learning (Arregi, Bilbatua and Sagasta, 2004). Therefore, curriculum isolated subjects were organized in interdisciplinary subjects. The new arrangement, far removed from memory-based models, was organized in order to develop general and specific competences. Thus, Project, Problem and Case based learning methodologies were implemented and this encouraged students to recognize the complex relationship of knowledge (Egaña, 2010). In addition, the students' active participation was also considered so learning sessions, collaborative group learning spaces, follow-up sessions, and workshops were designed.

Mendeberri education project also supports the promotion of values, meaningful use of ICT and multilingualism (Aizega, 2004). Thus, Mendeberri education project includes participation and involvement of students and staff, solidarity, and supporting Basque language and culture (HUHEZI, 2008). Strategies and training related to meaningful use of ICT are promoted (Mendeberri, 2001). Additive multilingualism is the aim. In the BAC, as Cenoz and

Genesee (1998) state, additive multilingualism is using the minority language – in this case Basque – as the main language in the university-community and language of instruction; even if the majority language, Spanish and foreign language, English, are also used in the curriculum.

The project was piloted in one degree course in each faculty in 2001 (Sagasta, 2005). As both students and teachers valued the experience positively, the project was implemented in the other degrees (Sagasta and Bilbatua, 2005).

The setting for the current research is the first year of the Primary Education degree. In general, as far as the Primary Education degree is concerned, the degree aims at training creative, reasonable, and involved professionals to ensure the integral development of children. Future teachers will therefore, have to take into account children's familiar, social and cultural environment and must develop skills to understand children and know how to adapt to changing social needs (HUHEZI, 2009). Hence, the future teacher's role could be defined as researcher, manager and educator, and they will be expected to: construct an inclusive school and society, to monitor students integrally creating appropriate tasks, to work in groups, to design tasks for the school, key stage, year/grade and education project, to implement and assess dynamic and positive relationships with families integrating them in the curriculum, among others.

Regarding the first year of the degree, students are required to develop specific and general competences through different modules. As far as the two research objects of the present study are concerned - ICT and foreign language – space on the timetable is provided in different modules. Concerning ICT, during the first year resources such as MUApps (Google Apps for MU), Mudle (Moodle for MU), Publisher, Power Point, Movie Maker or wikis are used in different modules. As far as language is concerned, two modules (1.4 and 1.6) are specifically related to developing language competences, irrespective of any language related workshops in another module (module 1.1). Language is worked on throughout all the modules.

Work on languages starts at the very beginning of the degree when the linguistic project of the university is presented to the students. That is, specific emphasis is placed in developing students' awareness regarding the three languages used in the curriculum; Basque, Spanish and English. In addition, students attend workshops to reflect on language knowledge, use and attitudes as well as on linguistic identity.

As mentioned above, there are two modules related specifically to languages; 1.4 and 1.6. Concerning 1.4, it should be mentioned that three languages, Basque, Spanish and English, are worked on. Basque and Spanish are however the main languages (Sagasta, Pérez, Pedrosa and Garro, 2010) as these students need to achieve C1 level (CEFR, 2001) in these two languages and B2 in English by the end of the degree. The purpose of the module is, therefore, to provide tools and strategies to develop the three languages in harmony. Sagasta et al. (2010) argue that the module highlights how links, resources and strategies in each of the three languages can be transferred from one language to another. Throughout the module the following areas are worked on: language and gender, language attitudes and language register. The genres worked on in the module are expository and argumentative, both spoken and written.

Regarding English, the aim in module 1.4 is to encourage student motivation, make students feel the need for English, and assess students' language level (Sagasta et al., 2010). As a link to module 1.6, the English parts of 1.4 are worked on in a unit entitled "English language awareness".

Module 1.6, or "Education in Europe and the Global World. Quality and Good practice" is the setting for this research. The module is compulsory for Infant and Primary degree students and it was implemented for the first time in the 2009/2010 academic year. According to the criteria demanded by the EHEA, 40% of the content is developed in contact hours while 60% is carried out in non-contact hours.

In addition, the module is designed following a CLIL approach and it is based on Project Oriented Learning. Therefore, it presents a double purpose, developing knowledge of the field on the one hand, and developing language-related skills on the other. The main objective can be found in the following paragraph:

> "Being a (Infant and / or primary) teacher in our globalized (glocalized) society needs more and more reflection and knowledge about what is common and not between the different realities in our world. We need to know and share with others what they and we do in order to apply or make the necessary changes in our daily practice in our schools" **(Students' booklet, 2009).**

As far as content is concerned, the module aims at preparing students for the future, learning about different education systems; multiculturalism, multilingualism, good practice examples and quality in education. In terms of language, however, expository texts and projects are worked on both orally and in writing, using what students have worked on in in Basque and Spanish in module 1.4 as a base.

To achieve this dual objective the module is divided into four units of work and a project framing and linking all the units [chapter 4; POL]. The following figure [Figure 6.2] shows the structure of the module. As can be observed, each unit links to the following unit, and as previously mentioned, the units make up the project.

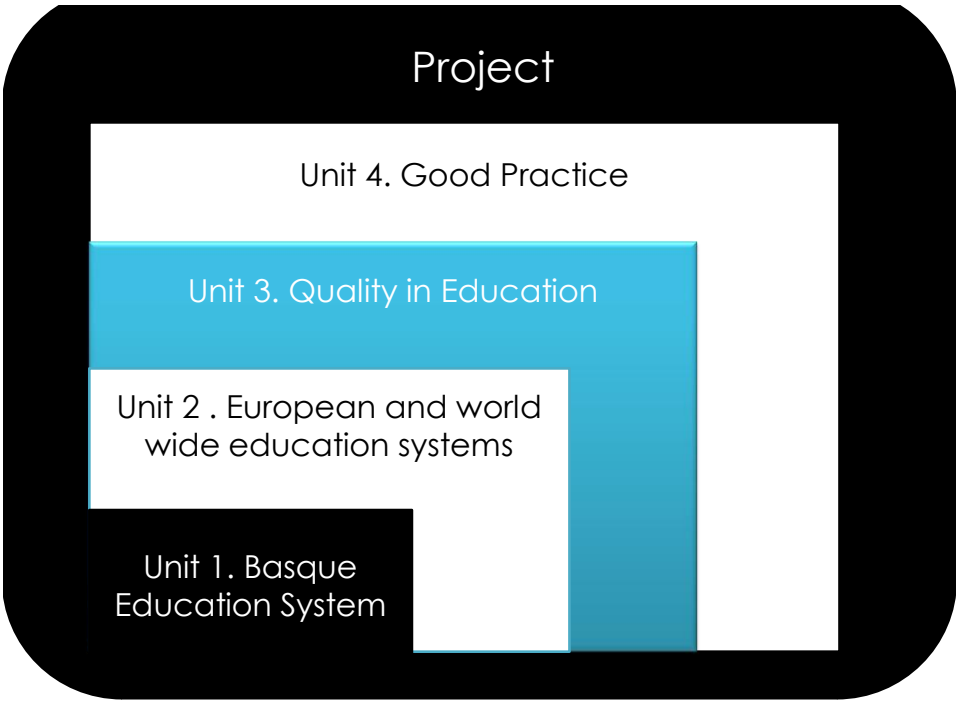


**Figure. 6.2. Units and project**

The module is designed using the different settings developed in the Mendeberri education project. These settings could be defined as follows:

- Collaborative learning: students work together in groups of 4/5 to share and exchange opinions, ideas or information. Students collaborate to define learning objectives and to carry out projects and to prepare presentations (Pedrosa, 2011).

- Follow-up sessions: The goal is to monitor and guide students in the development of the module. Reflection on challenges and difficulties is carried out individually and in small groups. Moreover, reflection on the learning-teaching process itself is also promoted by means of questions like, what have I (we) learned?, Have I (we) faced any difficulties or problems?, What can I (we) do to overcome these?, What can I (we) improve? (Mongelos, 2009).

- Workshops: Workshops respond to various specific needs and are practical sessions.

- Talks: Tutors or staff as experts in the subject offer conferences. These are important inputs for students to complete tasks (Pedrosa, 2011). In addition, students have the opportunity to ask questions if needed.

- Lectures: Tutor-centred periods that are only used in order to explain certain tasks.

As stated, four units make up the module. All the units follow the same structure; that is, the first task of each sequence is devoted to activating students' previous knowledge on the topic. In the next stage, students receive different inputs through readings, videos or talks about both content and language. The input enables students to develop different skills and share the knowledge constructed in small groups. Once knowledge is shared, students are directed to perform the last task in terms of output which will be developed through the re-construction of knowledge related to content and language.

The aim of the first unit is to learn the necessary vocabulary in English to talk and write about education systems and to learn about the structure and characteristics of the Basque non-university education system. The starting point of the module is familiar for the students due to their own experience and the work done in previous modules. As far as the competences to be developed, the following table [Table 6.1.] provides information and details about the first unit of work in the module.

| Unit 1: "Basque non-university education system" |
|---|
| Specific competences |
| • Learn basic language to talk and write about non-university education systems in English.<br>• Learn about the structure and characteristics of the Basque non-university education system. |
| General competences |
| • Group work<br>• Learning to learn<br>• Effective communication |
| Final task: Write a 180-200 words expository text about the non-university Basque education system, to be read by teachers participating in a European project |
| Contact hours (3 sessions: 7,25 hours) |

| Task | Setting- interaction |
|---|---|
| Presentation of the module and project | Teacher-centred |
| Workshop about wikis and creation of the group-wiki for the project | Workshop. Tutors guide the workshop and students work in small groups |
| Tasks to activate students' previous knowledge about the Basque education system and language to talk and write about education in English | Collaborative learning: groups of 4/5 students |
| Jigsaw reading on the Basque education system | Individual work |
| Sharing information about the reading done individually on the Basque education system | Collaborative learning: groups of 4/5 students |
| Project-work | Collaborative learning: groups of 4/5 students |
| Non-contact hours (10,5 hours) | |
| • Read the booklet concerning the module and project<br>• Read text related to the Basque Education System<br>• Use the wiki<br>• Final task<br>• Individual work on language | |

**Table. 6.1. Summary of the first unit**

Once students gain the basic language to talk and write about education systems in English the module moves onto European and world-wide non-university education systems. This unit of work has two main objectives. One is to learn how to write an expository text and the other, to learn about non-university level education systems in Europe and world-wide. The sequence is designed taking into account the Basque sociolinguistic context; therefore, bilingual and multilingual systems are presented to the students. Some details of the second unit are presented below [Table 6.2.].

| Unit 2: "Other European and world-wide education systems" | |
|---|---|
| Specific competences | |
| • Know how to write an expository text.<br>• Compare and contrast orally the characteristics of non-university education system.<br>• Learn about the organization of European and world-wide bilingual and multilingual non-university education systems. | |
| General competences | |
| • Group work<br>• Learning to learn<br>• Effective communication | |
| Final task: In small groups, write a 700-900 words expository text about other European or worldwide education systems for a group of teachers from the Basque Country. | |
| Contact hours (6 sessions: 14.5 hours) | |
| Task | Setting- interaction |
| Activating previous knowledge | Collaborative learning: groups of 4/5 students |
| Jigsaw reading about other bilingual/multilingual education systems | Individual |
| Sharing information on the readings | Collaborative learning: groups of 4/5 students |
| Prepare presentation of several characteristics of specific education systems | Collaborative learning: groups of 4/5 students |
| Presentations | Collaborative learning: groups of 4/5 students |
| Work on expository texts | Teacher-centred and Collaborative learning: groups of 4/5 students |
| Starting with the final task | Collaborative learning: groups of 4/5 students |
| Project work – Project Report 1 | Collaborative learning: groups of 4/5 students |
| Non-contact hours (21,75 hours) | |

| |
|---|
| • Read text related to bilingual/multilingual Education Systems<br>• Project work<br>• Final task<br>• Individual work on language |

**Table. 6.2. Summary of the second unit**

The third unit is focused on multilingualism and multiculturalism; and the aim is to introduce students to the multilingual and multicultural reality of the classroom. The following table [Table 6.3] summarizes information about the third unit.

| Unit 3: "Multilingualism and multiculturalism" | |
|---|---|
| Specific competences | |
| • Compare and contrast characteristics of different multilingual and multicultural education systems orally and writing.<br>• Learn about the characteristics of multicultural and multilingual contexts situations in Europe and world-wide. | |
| General competences | |
| • Group work<br>• Learning to learn<br>• Effective communication | |
| Final task: Individually, write a 700-900 words expository text about multilingualism and multiculturalism, intended for a group of teachers taking part in a European project. | |
| Contact hours (6 sessions: 14.5 hours) | |
| Task | Setting- interaction |
| Activating previous knowledge: world café | Collaborative learning: groups of 4/5 students |
| Talk about multilingualism and multiculturalism in the Basque Country | Talk |
| Video (Babel / Solo un beso) | Medium size groups |
| Sharing information about videos | Collaborative learning: groups of 4/5 students |
| Reading on multilingualism.<br>Work on the reading | Individually<br>Collaborative learning: groups of 4/5 students |
| Cooperative Learning Session | Collaborative learning |
| Project work | Collaborative learning: groups of 4/5 students |
| Non-contact hours (21,75 hours) | |
| • Work on text related to multilingual and multicultural situation in the Basque schools<br>• Project work<br>• Final task<br>• Individual work on language | |

**Table. 6.3. Summary of the third unit**

The last unit is devoted to quality in education and good practice examples. The goal, therefore, is to get closer to the concept quality in education and to analyze good practice examples as seen in the following table [Table 6.4. ].

| Unit 4: "Quality and Good Practice" |
|---|
| Specific competences |
| • Know how to write a report on good practices.<br>• Understand the importance of quality in education.<br>• Identify good practice examples in education. |
| General competences |
| • Group work<br>• Learning to learn<br>• Effective communication |

| Final task: In groups, write a 700-900 words report about quality in education including good practice examples, to be read by a group of teachers taking part in a European project. | |
|---|---|
| Contact hours (8 sessions: 18 hours) | |
| Task | Setting- interaction |
| Activating previous knowledge: world café. Create a poster | Collaborative learning: groups of 4/5 students |
| Project | Collaborative learning: groups of 4/5 students |
| Presentation of the poster created in the world café | Collaborative learning: groups of 4/5 students |
| Talk on quality and good practice examples | Talk |
| Follow up session | Follow up session |
| Revision on report writing | Teacher-centred and collaborative learning: groups of 4/5 students |
| Project report2 | Collaborative learning: groups of 4/5 students |
| Video on Finland and Reggio Emilia | Medium size groups |
| Sharing information about videos | Collaborative learning: groups of 4/5 students |
| Reading "quality indicators"<br>Work on reading | Individual work<br>Collaborative learning: groups of 4/5 students |
| Analysis of good practice examples | Collaborative learning: groups of 4/5 students |
| Cooperative learning session | Collaborative learning |
| Project | Collaborative learning: groups of 4/5 students |
| Non-contact hours (25,8 hours) | |
| • Project work<br>• Final task<br>• Individual work on language | |

**Table. 6.4. Summary of the fourth unit**

The last tasks of the module revolve around presenting the project that has been developed reflecting on the work done during the module. With regards to the project, all units include timetabled periods for its development with two specific moments as check points (Project Report 1 and Project Report 2). The following figure outlines its development [Figure 6.3].

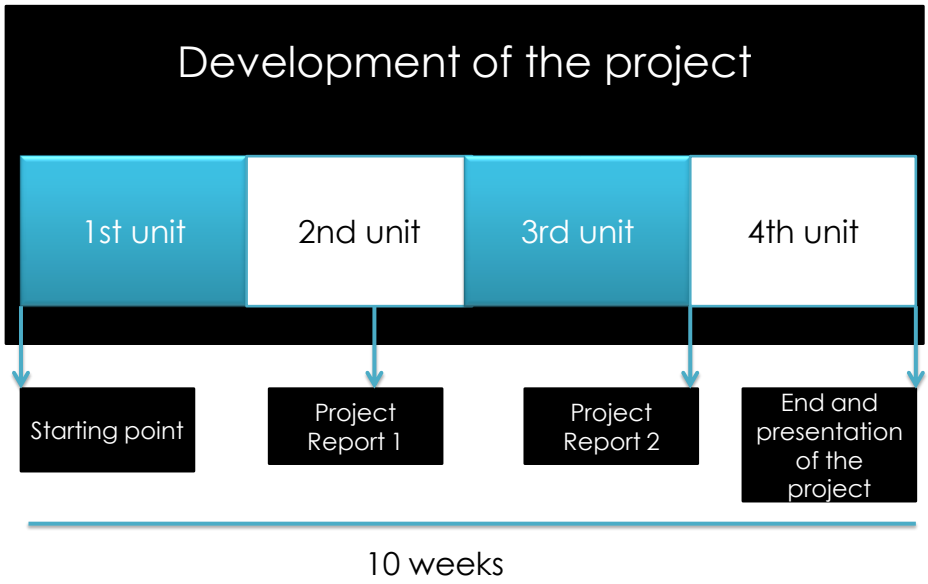


**Figure 6.3. Development of the project**

The project is the nexus of the four units. In the project, significant aspects of three different education systems are analyzed. Students are randomly assigned one European education system and one from outside Europe, as well as a real school from each system. In addition to these two, students choose another school in the Basque Country. Students examine three important features of these non-university education systems: organization; multilingual and multicultural situation; and good practice examples and quality. Students develop competences related to comparing and contrasting – both orally and in writing, group work, effective communication and learning to learn. They have to write a report and prepare an oral presentation, comparing their findings. Furthermore, students are required to use a wiki [explained in chapter 3] as a collaborative tool to develop the project.

## 6.2. Sample

The study sample consisted of students and tutors from the Primary Education degree (HUHEZI, MU) participating in the second cohort of module 1.6. The participants were 100 of the 102 students enrolled (2 had special planning and were therefore not included in the research), and all four lecturers involved in the degree module.

In this longitudinal study, not all students were able to complete all the tests and questionnaires, for personal reasons. The following table [Table 6.5] summarizes the percentages of the participants that completed the tests and questionnaires (explained at the end of the chapter).

| Tool | Percentage | Number of students (N) |
|---|---|---|
| General information | 88% | 88 |
| Questionnaire Languages 1 | 88% | 88 |
| Questionnaire Technology 1 | 86% | 86 |
| Questionnaire Languages 2 | 92% | 92 |
| Questionnaire Technology 2 | 92% | 92 |
| Individual writing 1 | 90% | 90 |
| Group writing 1 | 94% | 94 |
| Questionnaire Languages 3 | 94% | 94 |
| Questionnaire Technology 3 | 94% | 94 |
| Individual writing 2 | 64% | 64 |
| Group writing 2 | 34% | 34 |
| Questionnaire Languages 4 | 92% | 92 |
| Questionnaire Technology 4 | 92% | 92 |
| Individual writing 3 | 86% | 86 |
| Group writing 3 | 75% | 75 |
| Focus Group | 8% | 8 |

**Table.6.5. Percentage and number of students that completed tests and questionnaires**

68.4% of the students were between 18 and 20 years old, and the average was 19.94. Only 7 subjects were over 25. The research sample is relatively balanced in terms of gender, 46% male and 54% female. Concerning the specialism chosen by the participants, 33.3% were from General Primary education, 20.7% from Foreign Language, 27.6% from Physical Education and 18.4% from Special Needs Education as shown in the following figure [Figure 6.4.].

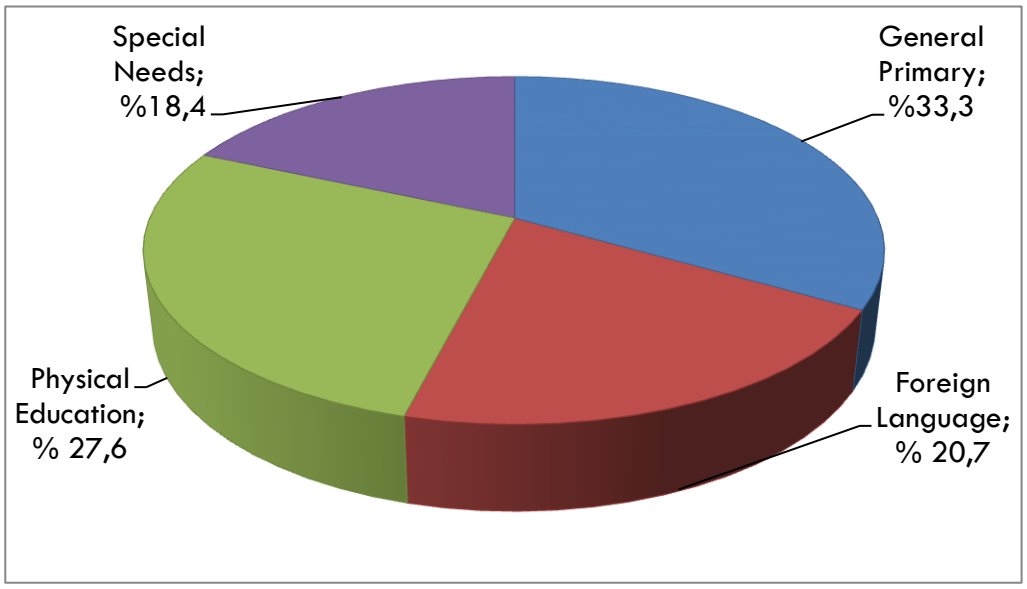


**Figure 6.4. Specialism**

Focusing on participants' sociolinguistic data, 58% of the sample had Basque as their mother tongue, 22.7% Spanish, 18.2% both Basque and Spanish, and 1% Basque, Spanish and French. The following table [Table 6.6.] summarizes how students perceived their proficiency in each language. It has to be said that only 7 students considered that their Basque was mediocre; 1 student declared their Spanish to be poor and 9 said it was mediocre. As for English, only 14 students thought their English was good. Regarding other languages, four students could speak French, one German, one Catalan and one sign-language.

| Self-perception level | Basque | Spanish | English |
|---|---|---|---|
| Very poor | | | %11.5 |
| Poor | | %1.1 | %26.4 |
| Mediocre | %8 | %10.2 | %46 |
| Good | %53.4 | %67 | %16.1 |
| Very good | %38.6 | %21.6 | |

**Table.6.6. Students' self-perception of competence in Basque, Spanish and English**

The majority of participants, 79.5%, came from cities with less than 100,000 inhabitants and 20.5% from bigger cities. 52.3% of subjects came from areas where mainly Basque is spoken and 47.6% from areas where Spanish is the main language. Regarding geographical area, 55.2% were from Gipuzkoa, 24.1% from Bizkaia, 18.4% from Araba, and 2.3% from Navarre.

47.6% of the sample had been to public (state) schools and 52.4% to private schools. With regard to medium of instruction at school, 96.5% had been taught in model D (Basque is the main language of instruction in model D, Spanish is only taught as a subject) %3.5 had been enrolled in model B (50% of curriculum is taught in Basque and 50% in Spanish). Only 14.8% of the sample had ever had lessons with English as the vehicular language.

Regarding use of Basque and Spanish, students spoke Basque more than Spanish with relatives in general, but with their fathers 52.3% communicated in Spanish or mainly Spanish and 36.4% Basque or mainly Basque. However, it is important to stress that Spanish was the pre-eminent language for interacting with the media.

As for how important Basque, Spanish and English are, the sample considered Basque the most important language followed by Spanish. This coincides with the attitudes shown, in that participants were more positive towards Basque than towards Spanish ($\bar{x}\Sigma$att_basqX = 38.16, s= 13.48, $\bar{x}\Sigma$att_spX = 26.42, s = 9,65).

As far as access to technology is concerned, data show that students' have good access. There were only two resources or tools to which the sample had limited access: electronic organizers and video-phones with 3G technology. Regarding frequency of use, the data was divided into three sections: mobile phone use, traditional web use, use of 2.0 resources. 61.6% of students used mobile phones to make calls more than once a day, and 12.8% once per day. Sending SMSs was also common practice in daily life, however very few participants used mobile phones to take and send pictures and movies. Analyzing traditional web use, the sample used the web to send and receive emails (27.9% several times per day and 8.1% once per day) and for free-time resources (25.6% more than once per day and 19.8% once per day). The use of web 2.0 applications was relatively low. The highest use is related to downloading and sharing MP3 files. Even if 29% of the sample visited blog or vblogs everyday; only 11.6% of the participants left comments on a daily basis. Also, 79.1% of the sample had never read rss feeds and 87.2% has never developed a wiki.

As far as the subjects who participated in the focus group are concerned, they were chosen using the natural group as the main criteria. That is, in the 2010/2011 academic year there were 4 groups with 23-28 students in each. Two members of each group were selected at random, so the focus group comprised 8% of the sample.

Data regarding the tutors was obtained using semi-structured interviews and questionnaires. It must be mentioned that I was one of the tutors taking part in the module, so a researcher from the University of Seville did the interview component with me before any of the interviews were analyzed. In order to preserve confidentiality, the tutors are designated as T1, T2, T3 and T4 throughout the research.

Regarding the academic profile of the teachers, two have a linguistic background (T1 and T2), while the other two possess a more technological profile (T3 and T4). However, their careers started in similar fashion, all four finding work in private language schools. What is more, three started work at the same language school (T1, T2 and T4). In addition, these three tutors are part of the same research group (BAHI-IALE- Innovation in the Teaching and Learning of Foreign Languages). All tutors are female, and the average age is 36 years (s = 9,38). While T3 is from Ireland, all four teachers currently live in the same sociolinguistic area. Further data regarding the tutors can be seen in the following table [Table 6.7.].

| | T1 | T2 | T3 | T4 |
|---|---|---|---|---|
| Academic Profile | English Philology and Md in Adult | English Philology, Md in Applied | Science and *master's* in applied science | Audio-visual communication and DEA(Md) in |

| | | | | | |
|---|---|---|---|---|---|
| | | Education and Secondary Education | Linguistics and a Phd in Education | and education | education |
| Professional experience | As FL teacher | Yes, 5 years | Yes, 15 years | Yes, 11 years | Yes, 6 years |
| | In CLIL | Yes, 3 years | Yes, 11 years | Yes, 4 years | Yes, 4 years |
| Training in CLIL | | From practice | From practice, readings and conferences | From practice and meetings | From practice, readings, conferences and research group |
| Training in ICT | | Basic and learned on Mds | Self-taught and some specific courses | Degree | Degree and some specific courses |

**Table. 6.7. Summary of tutors' data**

## 6.3. Research methodology: mixed and longitudinal

Owing to the nature of the research questions, mixed methods and longitudinal research were considered requisite methodological elements.

> "Mixed methods research seeks to combine both quantitative and qualitative traditions on the basis that research issues in education are often so complex that the insight of both approaches are required if we are to gain a good understanding" (Newby, 2010:92).

As research into teaching-learning processes becomes ever more complex, the number of researchers claiming the effectiveness of combining research methods increases (for example Creswell and Plano Clark, 2007; Gorald and Taylor, 2004; Knupfer and McLellan, 1996, Newby, 2010; Teddlie and Tashakkori, 2003). Moreover, not only does the nature of teaching-learning processes demand the use of mixed methodologies, but so does complex reality (Rodríguez Ruiz, 2005). Johnson and Onwuegbuzie (2004) indicate that more research is also becoming multidisciplinary, more dynamic and complex, and therefore, it requires the combination of different methods. This combination has been named as the "third methodological movement" (Gorald and Taylor,2004) and considered as "the paradigm whose time has arrived" (Johnson and Onwuegbuzie,2004). In Johnson and Onwuegbuzie's (2004) words, this new paradigm offers the possibility of combining statistics and interpretation. Teddlie and Tashakkori (2006) define mixed methods as follows:

> "Mixed methods research is defined as research in which the investigator collects and analyses data, integrates the findings, and draws inferences

> using both qualitative and quantitative approaches or methods in a single study" (Teddlie and Tashakkori, 2006: 15).

In this regard, Teddlie and Tashakkori (2003) mention that the combination of methods enables research questions to be confirmed and explained, and theory to be verified and created. Furthermore, several authors (Onwuegbuzie and Teddlie, 2003) consider that research methods should be placed in a continuum and propose that the distribution between methods should be named as explorative and affirmative.

Mixed methods recognize the importance of traditional quantitative and qualitative methods, but also consider that as the result of the third option more informative, more complete, more balanced and more helpful answers can be found (Creswell and Plano Clark, 2007; Johnson, Onwuegbuzie and Turner, 2007). Integrating quantitative and qualitative methods is supported by the fact that reality is not only quantitative, but qualitative too (Cohen, Manion and Morrison, 2011). Integrating methods ensures that the phenomenon will be fully investigated (Greene, 2008).

Mixed methods have both advantages and disadvantages. Among the advantages, help in understanding the phenomenon (Kidder and Fine, 1987), the option to complement quantitative results with qualitative information (Madey, 1982), and the possibility of achieving empirical precision with descriptive precision (Onwuegbuzie and Leech, 2005). Disadvantages include difficulties in carrying out quantitative and qualitative research or time restraints (Johnson and Onwuegbuzie, 2004).

Although mixed methods have increased in the last decade (Denscombe, 2008) mixed methods research is not new (Newby, 2010; Rodríguez Ruiz, 2005; Teddlie and Tashakkori, 2003). However, researchers have begun to reflect on how methods can be combined appropriately (Gorald and Taylor, 2004). In addition, mixed methods are located in a particular paradigm, the so-called pragmatism paradigm (Cohen, Manion and Morrison, 2011).

Pragmatism is a practice-oriented paradigm, where different versions of reality and truth are accepted (Denscombe, 2008). Mixed method's paradigm or pragmatism, therefore, is located in a given ontology and epistemology.

> "A mixed-method paradigm rests on an ontology that recognizes that phenomena are complex to the extent that single method approaches might result in partial, selective and incomplete understanding, and on an epistemology that requires pragmatic combinations of methods - in

> sequence, in parallel or in synthesis – in order to fully embrace and comprehend the phenomenon and to do justice to its several facets" (Cohen, Manion eta Morrison, 2011:116).

Pragmatism allows merging different points of view, offering a new orthodoxy, which, in order to find the correct answer, authorizes and recommends the use of different research methodologies (Denscombe, 2008).

Combining or mixing methods allows the triangulation of data. Triangulation could be defined as the use of two or more methods in order to study human behavior (Cohen, Manion and Morrison, 2011). These sets of data also give complementary information about the phenomenon and results (Gorald and Taylor, 2004). In other words, the complementarities that triangulations ensure provide critical results analysis, improved understanding and greater detail (Newby, 2010).

Perlesz and Lindsay (2003) consider that triangulation increases the value of the research, reliability is increased, clustering is reduced, hypotheses can be tested and the deficiencies of one method are compensated with the strength of the other. In addition, a more holistic approach is achieved (Cohen, Manion and Morrison, 2011). Moreover, Oppermant (2000) mentions that triangulation must be understood as a principle for scientific advance.
Although methodological triangulation is well known Denzin (1970) indicates that there are six different types of triangulation: time data triangulation, spatial data triangulation, researchers triangulation, theoretical triangulation, triangulation between methods, and triangulation within methods.

Apart from the possibility to triangulate data, the reasons for selecting mixed methods in this study are as follows: the evaluation done in terms of advantages and disadvantages of qualitative and quantitative methods; the nature of the study; the need to obtain a complete picture; avoidance of mono-methodical research and the need to compare and contrast data, among others.

This study is also longitudinal. Indeed as Menard (1991) states it is necessary to carry out longitudinal studies in social sciences.

> "Unless there is good reason to believe otherwise… it should be assumed that longitudinal data are necessary to estimate the parameters, efficiency and

> without bias, of any dynamic process in the social sciences" (Menard, 1991:68).

Longitudinal studies aim at measuring progress and changes (Rajulton, 2001) and allow individual transitions to be examined and followed. The outstanding feature of longitudinal research is the sequenced observation of a particular (or some) variable, over time (Arnau and Bono, 2008). Dörnyei (2001) also reinforces the idea that changes in a time period can be caused by three main impacts: biological impact, impact of the environment or context, and planned learning experience. These measurements also allow using mixed methods (Cohen, Manion and Morrison, 2011).

When carrying out longitudinal research, Delgado and Llorca (2004) recommend taking into account design aspects such as quality control, i.e., the need to use standard techniques and appropriate moments; the risk of neglect and the risk of losing data. Longitudinal studies are described as complicated but Rajulton (2001) mentions that the challenge is to deal with this complexity. Despite its complexity and difficulty, Johnson (1977) argues that the results obtained justify its use.

## 6.4. Research instruments and procedures

In order to answer the research questions and bearing in mind both research objects, seven different instruments were used throughout the study. The purpose of this section is to present the tools used and procedure followed when using them. The figure [Figure 6.5.] below shows when they were used over the twelve month period from the beginning of the 2010-11 academic year to the start of the 2011-12 academic year.

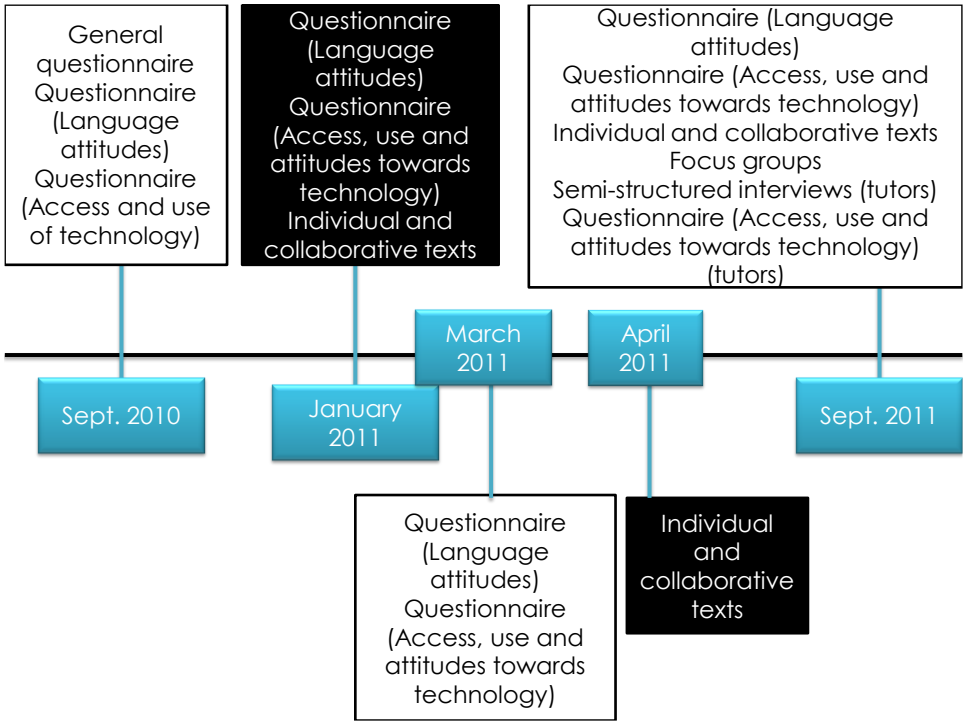


**Figure.6.5. Timing**

Five different tools were used to collect data with the students in the sample: two questionnaires, individual texts, group texts and focus groups. The following table [Table 6.8] shows the instrument, the objective and the procedure followed with each tool:

| Sample | Instrument | Objective | Short description | Procedure | Timing | Justification |
|---|---|---|---|---|---|---|
| Students | Questionnaire to measure attitudes towards languages (Based on Baker (1992) and adapted by Lasagabaster (2003) to the BAC context) (Appendix A). | Measure students' attitude towards Basque, Spanish and English, importance given to each language and attitude towards multilingualism. | 129 items divided in 4 sections concerning personal data, data about the use of the different languages, attitudes and attitude towards multilingualism. | Indicate the aim of the questionnaire to the students; students will have 20 minutes to fill in the questionnaire with their ID (never the name); the researcher will get all the questionnaires back and code data into the SPSS statistical program. | September 2010module (1.1) January 2011 (the first day of 1.6 module) March 2011 (the last day of 1.6 module). September 2011 (2.2 module) | The high number of studies that have used the questionnaire validate its use (González, 2003; Hayashi, 2005; Ting, 2003, for example). |
| | Questionnaire to measure access and use of technology (Kennedy et al., 2007) Questionnaire to measure attitudes towards ICT (González, Espuny and Gisbert, 2010) (Appendix B). | Analyze higher education students' profile, experience and use of technology. Analyze students' attitude towards ICT | 189 items divided in 6 sections: general information, access to technology, frequency and skills, importance of technology in education, pre-experience and attitude towards ICT. | Same as above. | September 2010 (Access and use) January 2011 (the first day of 1.6 module) (attitude) March 2011 (the last day of 1.6 module) (attitude) September 2011 (attitude) | Both sections have been used in university setting (Australia, Africa, China, the United Kingdom and the United States and Rovira i Virgili University). |
| | Individual written texts (Appendix C); "Profile" technique (Jacobs, Zinkgraf, Wormuth, Hartfiel, and Hughey, 1981) (Appendix D) was used to correct writings in blind or peer review. | Measure students' writing competence. | Students write an expository text on the Basque Education System according to a given situation.<br><br>The "Profile" technique measures global competence based on five scales: content, organization, vocabulary, language usage and mechanics. Each scale has a different weight; the minimum score is 34 and 100 the maximum. | Students should upload their writings onto Mudle, together with their ID. All the tutors gave the same information to the students, as had been previously agreed. | January 2011 (the first day of module 1.6) (pre-test) March 2011 (the last day of 1.6 module) (post-test1) September 2011 (module 2.2) (post-test2) | The "Profile" technique has been widely used (for example Cenoz, 1991; Lasagabaster, 1998; Sagasta, 2001 in the BAC; in international studies like Yan Awg, Azizah and Hasif, 2010; in CLIL contexts Ruiz de Zarobe, 2008 and in studies analyzing collaborative writings |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | | | | Shehadeh, 2011). |
| | Collaborative written texts. The "Profile" technique was used to correct the texts. | Measure students' writing competence. | Using the group wiki and taking as a reference the individual texts produced students should produce a single group text. | Once the individual texts are uploaded, students have 2 days to finish their single group text using the wiki as a tool. | January 2011 (the first day of module 1.6) (pre-test)<br>March 2011 (the last day of module 1.6) (post-test1)<br>September 2011 (module 2.2) (post-test2) | Same as individual texts. |
| | Focus group. | The aim is to obtain the perceptions, feelings and information (Krueger and Casey, 2000) and reflect on the topic (Egaña, 2010; Kitzinger, 1994;1995). | 8 students (2 per group) were chosen at random. The focus group took 50 minutes and the discussion was recorded visually and aurally by the researcher. The driving question was: What have you learnt in module 1.6 as far as language and content are concerned? How was the experience? | Phases recommended by Murillo and Mena (2006) and used in other studies in the same context (Egaña, 2010; Pedrosa, 2011) were followed:<br>• Starting phase<br>• Discussion phase<br>• Not mentioned topics' phase<br>• Ending | September 2011 | Concerning learning and teaching processes, several authors (Suarez, 2005) consider focus groups as useful to understand processes from a holistic point of view. |
| Tutors | Semi-structured interviews (Appendix E). | Method located between the questionnaires and in-depth interviews, provides the researcher with, as Freebody (2003:133) states, "the best of both worlds by establishing a core of issues to be covered, but at the same time, leaving the sequence and the relevances of the interviewee free to vary, | The aim was to gather information about the tutors' profile on topics such as CLIL and ICT's knowledge and beliefs. The following topics will be developed during the interview:<br>1. Academic experience (degrees, courses…)<br>2. Professional career<br>3. Training in CLIL, experience (motivation towards the module..) | A guide was designed to follow the semi-structured interview and Cohen, Manion and Morrison's (2011) recommendations were taken into account.<br>Two semi-structured interviews were carried out in Basque; one in English (to the Irish tutor) and one in Spanish (due to the fact that the | September-October 2011 | Semi-structured interviews allow comparison of subject's views (Bogdan and Biklen, 1992).<br>Data from semi-structure interviews is rich and abundant (Newby, 2010). |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | around and out from the core". | and beliefs.<br>4. Training in ICTs, experience, beliefs<br>5. Training in using ICTs in a CLIL experience, experience and beliefs.<br>6. Training in collaborative work, experience and beliefs. | interviewer was from the university of Seville). | | |
| | Questionnaire to measure access, use and attitudes towards technology (Kennedy et al., 2007) (Appendix F). | Analyze university teacher's ICT profile, use of technology and attitudes towards the use of ICT in education. | 133 items divided in 4 sections: general information, technology access, use and frequency, attitude towards the use of ICT in teaching-learning processes. | Tutors were required to fill in the questionnaire after the semi-structured interview. 20 minutes were needed on average. | September- October 2011 | Used at Universities in Australia, Africa, China, the United Kingdom and the United States |

**Table 6.8. Summary of the instruments used and procedures followed.**

# Chapter 7. Data analysis and results

## Contents

"Interpretation is not an autonomous act, nor is it determined by any particular force, human or otherwise. Individuals interpret with the help of others (...) but others do not do it for them"

(Bogdan eta Bilken, 1992: 56).

This chapter describes the results arisen from the data analysis. The first part of the chapter is devoted to explain the procedure followed in the analysis. The second part on the other hand, presents the results obtained regarding each research question.

## 7.0. Introduction

As this research is mixed and longitudinal, results arising from qualitative and quantitative instruments are integrated in the presentation. However, the procedure followed will be presented separately as shown in the following figure [Figure 7.0].

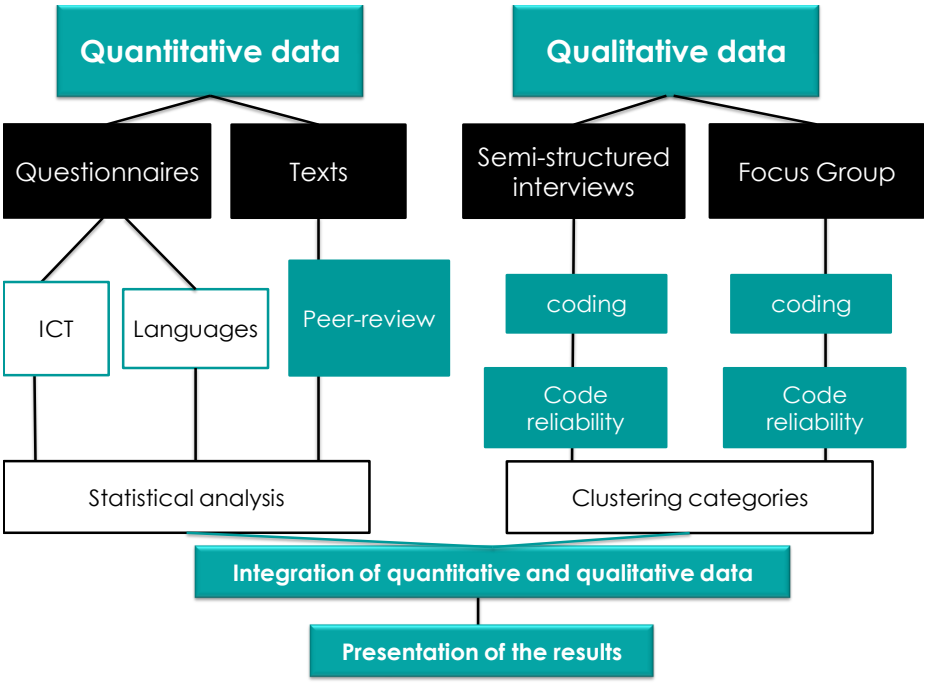


**Figure 7.0. Summary of the data analysis procedure**

## 7.1. Data analysis criteria and procedure

SPSS 17.00 statistical package was used in this study to analyze quantitative data. Firstly, psychometric analysis was carried out for each tool using Cronbach's alpha for the questionnaires and Cohen's Kappa for the written texts. As far as the descriptive analysis is concerned, central tendency measures were used (mean ($\overline{x}$) and standard deviation (s)) in order to provide macro-analytical observations (García, 2010). In addition to descriptive analysis, measures of association provided data about the relationship between variables, that is, microanalysis of data using Pearson's and Spearman's coefficients. By means of step-wise regression analysis the impact of independent variables on dependent variables was analyzed. Moreover, and as this research is longitudinal, measures of differences between groups were also used to calculate the effect size, using parametric or non-parametric tests depending on the normality of the variable.

Regarding qualitative data, Atlas.ti 5.0 software was used. The analysis of data from both semi-structured interviews and focus-groups was based on categories and segmentations. After transcribing the data, the content was coded. The coding concerned general topics although in a second coding categories were identified. A second researcher tackled the code reliability test and changes were made when necessary. As in the last procedure, segmentations and conceptual maps were designed [Figure 7.1]. From the semi-structured interviews and the focus-group six general categories were created (ICT, CLIL, Collaborative work, 1.6 module, ICT and CLIL, and ICT, CLIL and collaborative work). These general categories formed the general framework including the tutors' and students' sub-categories. Another category was created from tutors' semi-structured interviews concerning their profile. And three more categories were created from the students' focus-group: tutor's impact, the writing process and attitude towards English.

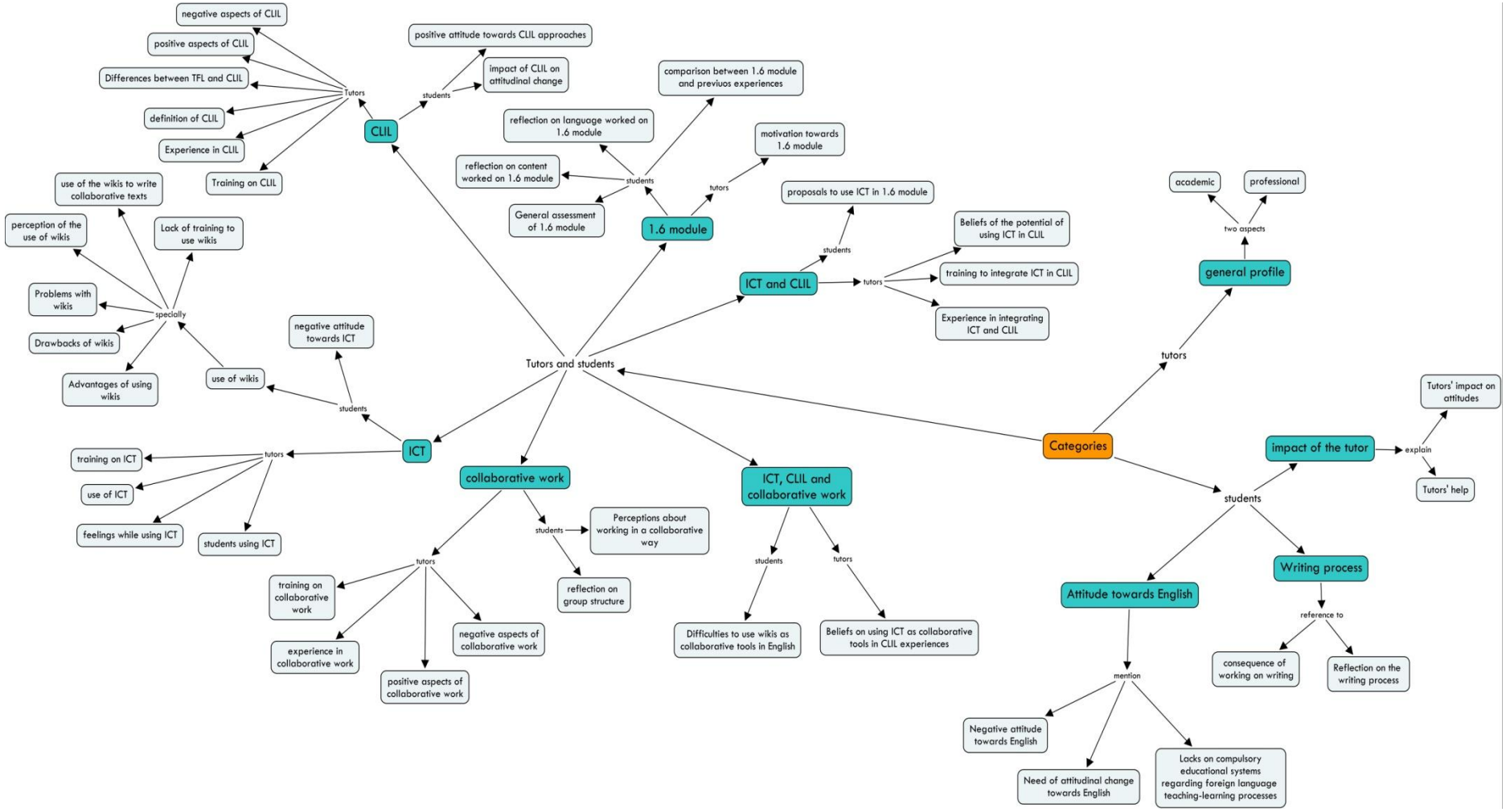


**Figure 7.1. Categories created from the semi-structured interviews and the focus-group**

## 7.2. Results from the first research question: In a CLIL-POL context, how do first year higher education students' attitudes towards English and ICT develop?

Results of the first research question are presented in two sub-questions; the first one aims at analyzing the impact of a CLIL-POL module on students' attitudes towards English, and the second one referred to the impact of using a wiki as a collaborative writing tool in a CLIL-POL module on students' attitude towards ICT.

### 7.2.1. Does a CLIL-POL experience impact on students' attitudes towards English? Is that change, if any, sustained?

As shown in the following figure [Figure 7.2] attitudes towards English were measured four times. However, the impact and sustainability of the change, if any, of the CLIL-POL module on students' attitudes towards English is measured taking into account the last three stages (January 2011; March 2011 and September 2011). The CLIL-POL program ran from January to March, so in order to analyze if the change, if any, was sustained over time, attitudes were measured 5 months after the experience. These students started at university in September 2010 so it was considered important to measure their attitudes right at the start, because the university's linguistic policy and other modules before the CLIL-POI module could have an effect on students' attitudes.

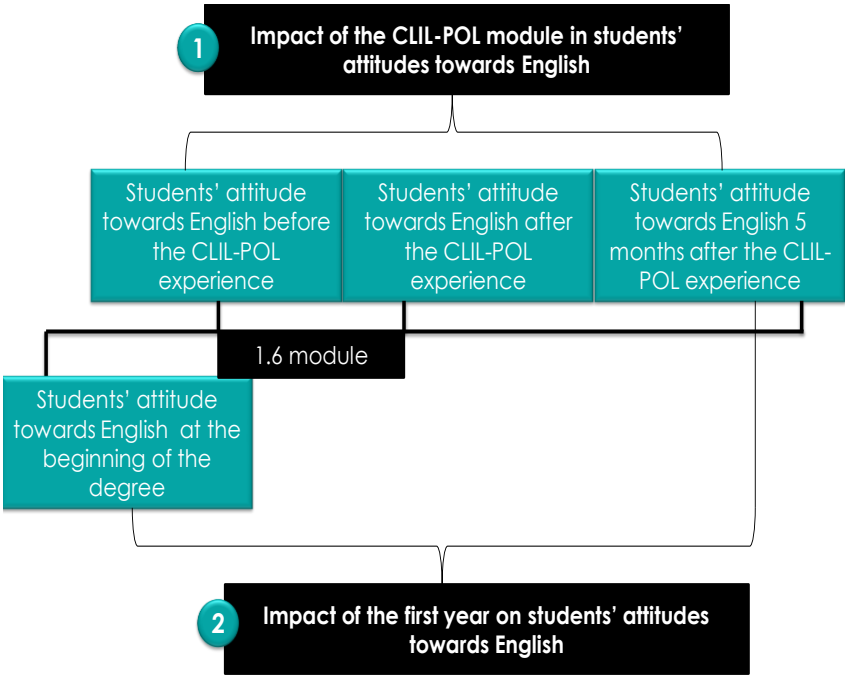


**Figure 7.2. Measurement stages**

An outline of the results is shown in the next table [Table 7.1.].

| | | Beginning of the first year (September 2010) | Before the CLIL-POL module (January 2011) | After the CLIL-POL module (March 2011) | 5 months after the CLIL-POL module (September 2011) | Impact of the CLIL-POL module on attitudes towards English | Impact of factors concerning the first year of the degree on attitudes towards English |
|---|---|---|---|---|---|---|---|
| Attitude towards English ($\bar{x}\sum$Att_engX, s ) | | $\bar{x}\sum$= 27,43 and s= 10,14 | $\bar{x}\sum$= 33,70 and s= 5,33 | $\bar{x}\sum$= 33,17 and s= 5,51 | $\bar{x}\sum$ = 32,96 and s= 4,69 | Not significant change, attitude is sustained over the time. | Students' attitude towards English before, after, and 5 months after the CLIL-POL module is significantly more positive than the attitude students show at the beginning of the degree. ($F_{(3,73)}$=13,213**, p<0,001) |
| Items | Disagreement | "I prefer to be taught in English"; "I would not mind marrying an English speaker", "English is a difficult language to learn" | "I prefer to be taught in English"; "English is a difficult language to learn""; "I would not mind marrying an English speaker" | "I prefer to be taught in English"; "; "I would not mind marrying an English speaker"; "English is a difficult language to learn" | "I prefer to be taught in English"; "; "I would not mind marrying an English speaker" "English is a difficult language to learn" | | |
| | Agreement | "English is a language worth learning"; "English should be taught to all pupils in the Basque Country"; "Learning English enriches my cultural knowledge" | "English is a language worth learning"; "English should be taught to all pupils in the Basque Country"; "Learning English enriches my cultural knowledge" | "English is a language worth learning"; "English should be taught to all pupils in the Basque Country"; "Learning English enriches my cultural knowledge" | "English is a language worth learning"; "English should be taught to all pupils in the Basque Country"; "Learning English enriches my cultural knowledge" | | |
| Not | Basque $\bar{x}\sum$Att_engX | $\bar{x}\sum$ = 28,27 and s= | $\bar{x}\sum$ = 33,48 and | $\bar{x}\sum$ = 32,08 and | $\bar{x}\sum$ = 31,94 and | The change is not significant. | Positive significant change: $F_{(3,42)}$=10,274**, |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | and s) | 7,81 | s=4,73 | s= 5,29 | s= 4,49 | | p<0,001 |
| | Spanish($\bar{x}\sum$Att_engX and s) | $\bar{x}\sum$ = 25,70 and s= 14,16 | $\bar{x}\sum$ = 34,10 and s=7,12 | $\bar{x}\sum$ = 36,45 and s= 6,02 | $\bar{x}\sum$ = 34,94 and s=3,30 | The change is not significant. | Positive significant change: $F_{(3,15)}$=3,670*, p=0,037 |
| | Basque and Spanish ($\bar{x}\sum$= $\sum$Att_engX and s) | $\bar{x}\sum$ = 26,62 and s= 11,43 | $\bar{x}\sum$= 34,38 and s=5,82 | $\bar{x}\sum$ = 31,93 and s= 4,95 | $\bar{x}\sum$ = 33,14 and s= 3,30 | Significant change: ($F_{(2,10)}$=11,385**, p=0,003 | Positive significant change: $F_{(3,9)}$=25,621**, p<0,001 |
| | Correlation between variables | Not significant | Not significant | Not significant | Not significant | | |
| Gender and attitude | Male ($\bar{x}\sum$Att_engX and s) | $\bar{x}\sum$= 28,29 and s= 9,86 | $\bar{x}\sum$ = 34,50 and s=4,25 | $\bar{x}\sum$ = 33,30 and s= 5,24 | $\bar{x}\sum$ = 33,85 and s= 3,84 | The change is not significant. | Positive significant change: $F_{(3,27)}$=5,809**, p=0,003 |
| | Female ($\bar{x}\sum$ Att_engX and s) | $\bar{x}\sum$ = 26,78 and s= 10,40 | $\bar{x}\sum$ = 33,09 and s= 6,00 | $\bar{x}\sum$ = 33,07 and s= 5,75 | $\bar{x}\sum$ = 32,27 and s= 5,18 | The change is not significant. | Positive significant change: $F_{(3,43)}$=9,010**, p<0,001 |
| | Correlation between variables | Not significant | Not significant | Not significant | Not significant | | |
| Age and attitude | 17-19 ($\bar{x}\sum$Att_engX and s) | $\bar{x}\sum$ = 27,82 and s=10,24 | $\bar{x}\sum$ = 33,92 and s=6,06 | $\bar{x}\sum$ = 33,07 and s= 6,01 | $\bar{x}\sum$ = 32,68 and s= 5,11 | The change is not significant. | Positive significant change: $F_{(3,46)}$=7,623**, p<0,001 |
| | 20-24 ($\bar{x}\sum$Att_engX and s) | $\bar{x}\sum$ = 27,19 and s= 9,71 | $\bar{x}\sum$ = 33,91 and s= 4,88 | $\bar{x}\sum$ = 33,65 and s= 4,73 | $\bar{x}\sum$ = 33,09 and s= 4,06 | The change is not significant. | Positive significant change: $F_{(3,17)}$=6,266**, p=0,005 |
| | 25-50 ($\bar{x}\sum$ Att_engX and s) | $\bar{x}\sum$ = 25,28 and s= 12,13 | $\bar{x}\sum$ = 33,14 and s= 3,34 | $\bar{x}\sum$ = 32,43 and s= 6,06 | $\bar{x}\sum$ = 33,71 and s= 5,02 | The change is not significant. | The change is not significant. |
| | Correlation between variables | Not significant | Not significant | Not significant | Not significant | | |
| Specialism and attitude | Primary education ($\bar{x}\sum$Att_engX and s) | $\bar{x}\sum$= 26,65 and s=8,86 | $\bar{x}\sum$= 33,28 and s= 4,53 | $\bar{x}\sum$= 32,03 and s= 6,46 | $\bar{x}\sum$= 31,92 and s= 4,78 | The change is not significant. | Positive significant change: $F_{(3,23)}$=7,829**, p=0,001 |
| | Foreign language ($\bar{x}\sum$Att_engX and s) | $\bar{x}\sum$= 32,33 and s= 9,23 | $\bar{x}\sum$= 38,94 and s= 2,95 | $\bar{x}\sum$= 37,41 and s= 3,97 | $\bar{x}\sum$= 36,23 and s= 3,75 | $F_{(2,13)}$=6,126*, p=0,013 | Positive significant change: $F_{(3,12)}$=8,725**, p=0,002 |
| | Physical education | $\bar{x}\sum$= 25,04 and s= | $\bar{x}\sum$= 32,95 and s= | $\bar{x}\sum$= 31,68 and | $\bar{x}\sum$= 32,43 and | The change is not | Positive significant |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | ($\bar{x}\sum$Att_engX and s) | 12,19 | 2,95 | s= 4,47 | s= 4,25 | significant. | change: $F_{(3,15)}$=3,525*, p=0,041 |
| | Special Needs Education ($\bar{x}\sum$Att_engX and s) | $\bar{x}\sum$= 26,18 and s= 8,69 | $\bar{x}\sum$= 29,87 and s= 7,17 | $\bar{x}\sum$= 32,25 and s= 5,25 | $\bar{x}\sum$= 31,32 and s= 5,12 | The change is not significant. | Positive significant change: $F_{(3,13)}$=3,823*, p=0,037 |
| | Correlation between variables | Not significant | r= -0,254*, p= 0,022 | Not significant | Not significant | | |
| English level self-perception and attitude | Very poor ($\bar{x}\sum$Att_engX and s) | $\bar{x}\sum$= 22,10 and s=8,52 | $\bar{x}\sum$= 29,90 and s=4,06 | $\bar{x}\sum$= 30,80 and s= 4,34 | $\bar{x}\sum$= 29,50 and s= 4,77 | The change is not significant. | Positive significant change $F_{(3,38)}$=7,376*, p=0,014 |
| | Poor ($\bar{x}\sum$Att_engX and s) | $\bar{x}\sum$= 25,13 and s= 8,89 | $\bar{x}\sum$= 30,40 and s= 6,13 | $\bar{x}\sum$= 30,45 and s= 5,40 | $\bar{x}\sum$= 30,90 and s= 4,39 | The change is not significant. | The change is not significant. |
| | Mediocre ($\bar{x}\sum$Att_engX and s) | $\bar{x}\sum$= 27,20 and s= 11,24 | $\bar{x}\sum$= 35,26 and s= 4,44 | $\bar{x}\sum$= 33,80 and s= 5,60 | $\bar{x}\sum$= 33,87 and s= 4,50 | The change is not significant. | Positive significant change $F_{(3,33)}$=8,551**, p<0,001 |
| | Good ($\bar{x}\sum$Att_engX and s) | $\bar{x}\sum$= 35,21 and s= 5,04 | $\bar{x}\sum$= 37,85 and s= 3,97 | $\bar{x}\sum$= 37,07 and s= 5,02 | $\bar{x}\sum$= 35,67 and s= 4,25 | The change is not significant. | The change is not significant. |
| | Correlation between variables (English level self-perception and attitude towards English) | r= 0,344**, p=0,001 | r= 0,501**, p<0,001 | r= 0,367**, p= 0,001 | r= 0,413**, p< 0,001 | | |
| Regression analysis (Attitude towards English as dependent variable) | | Attitude towards Spanish ($R^2$=0 ,71)<br>Attitude towards Basque ($R^2$= 0,78)<br>English level self-perception ($R^2$= 0,84)<br>Importance given to English ($R^2$= 0,86)<br>Spanish level self-perception ($R^2$= 0,87)<br>Importance given to Basque ($R^2$= 0,88) | English level self-perception ($R^2$= 0,28)<br>Specialism ($R^2$= 0,36)<br>Attitude towards English at the beginning of the degree ($R^2$= 0,41)<br>Attitude towards Spanish ($R^2$= 0,49)<br>Language used to consume mass media ($R^2$= 0,54) | Attitude towards English before the CLIL-POL module ($R^2$=0,55) | Attitude towards English after the CLIL-POL module ($R^2$= 0,62)<br>English level self-perception ($R^2$= 0,66)<br>Gender ($R^2$= 0,69) | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| Typology of the students showing the most positive attitude | 17-19 year old male, whose mother tongue is Basque, enrolled in Foreign Language and who perceives his English as good. | 17-19 year old male, whose mother tongue are Basque and Spanish, enrolled in Foreign Language and who perceives his English as good. | 20-24 year old male, whose mother tongue is Spanish, enrolled in Foreign Language and who perceives his English as good | 25-50 year old male, whose mother tongue is Spanish, enrolled in Foreign Language and who perceives his English as good. | | |
| Qualitative data | Negative attitude towards English at the beginning of the degree. Possible reasons: pre-experience (level demanded in compulsory education, methodology used…)<br>A CLIL-POL module can help changing attitudes towards English. Awareness of developing content as well as language through the CLIL-POL module.<br>Favourable attitude towards strengthening CLIL approaches | | | | | |

**Table 7.1. Summary of the data concerning attitudes towards English**

The summary of the data provided shows that student attitude towards English changed significantly in a one year period ($F_{(3,73)}$=13,213**, p<0,001, $\eta^2$=0,352) [Figure 7.3.]. However, the CLIL-POL module impacted on sustaining the attitudinal change.

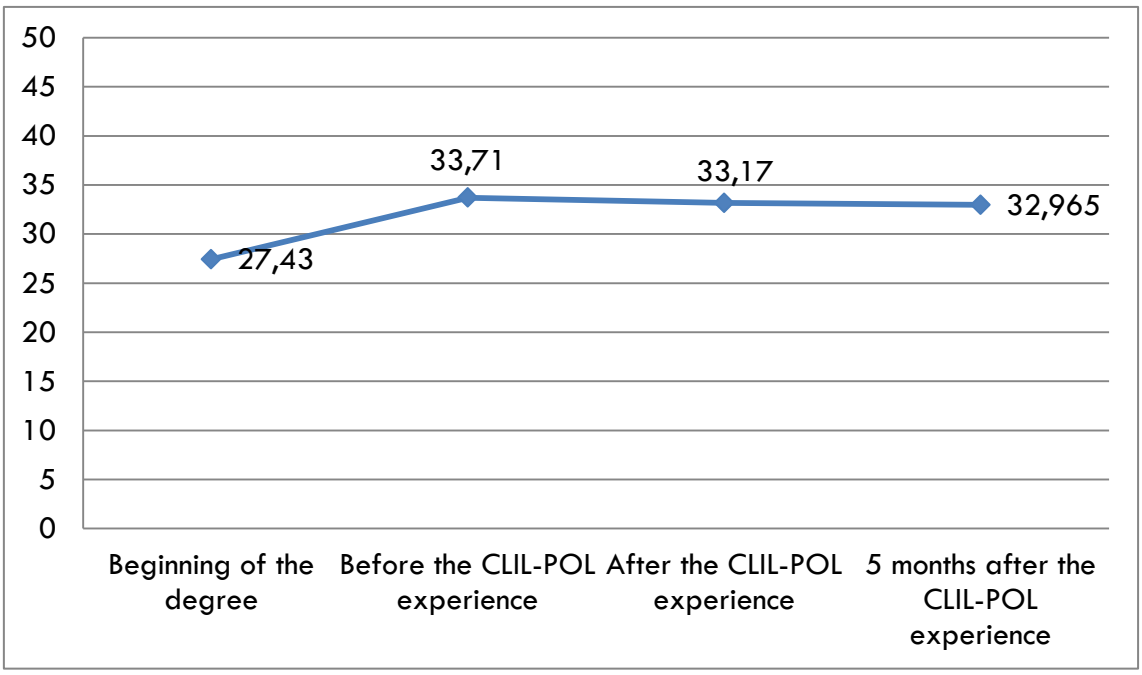


**Figure 7.3. Attitudinal change towards English**

Qualitative data confirms the negative attitude towards English shown at the beginning of the degree. Indeed, students recognized having a negative perspective of English.

> FG st_g4a (205-206): "The level, the willingness to learn yes but we all come with a negative concept"

> FG st_g2 (185-186): "I personally have a really negative concept of English and with that I can't improve. It's like a barrier."

Similarly, reflecting on possible reasons the sample stated that there was a need to work on attitudes in compulsory education as well as to change the methodology used in non-university education.

> FG st_b2 (196-197). "teaching eh…, they do not educate us properly as regards English."

However, contradicting the quantitative data, participants in the focus group asserted that the CLIL-POL module was the reason for changing their attitudes towards English and loosing fear of the language.

FG st_g4a (389) "we managed to lose that fear"

FG st_b1b (390): "so did I, at the end, at the end"

Analysing each of the items concerning attitude towards English, it could be stated that the change is significant in all of them over a one year period. Moreover, the effect size is big in all of the items as shown in the following table [Table 7.2.]. However, the CLIL-POL module only impacted significantly on one of the items, in that the agreement level of the students significantly changed as regards willingness to have children who learn English regardless of other languages they may know ($F_{(2,83)}$=5,383**, p=0,006, $\eta^2$=0,115).

| Item | $F_{(gl)}$ | P | $\eta^2$ |
|---|---|---|---|
| Att_eng1 | $7{,}50_{(3,73)}$ | <0,001** | 0,225 |
| Att_eng2 | $4{,}69_{(3,73)}$ | 0,005** | 0,162 |
| Att_eng3 | $7{,}99_{(3,73)}$ | <0,001** | 0,247 |
| Att_eng4 | $6{,}05_{(3,73)}$ | 0,001** | 0,199 |
| Att_eng5 | $4{,}47_{(3,73)}$ | 0,006** | 0,155 |
| Att_eng6 | $3{,}59_{(3,73)}$ | 0,018* | 0,128 |
| Att_eng7 | $6{,}11_{(3,73)}$ | 0,001** | 0,201 |
| Att_eng8 | $14{,}17_{(3,73)}$ | <0,001** | 0,368 |
| Att_eng9 | $3{,}15_{(3,73)}$ | 0,03* | 0,115 |
| Att_eng10 | $18{,}19_{(3,73)}$ | <0,001** | 0,428 |

**Table 7.2. Change in each of the items measuring attitude towards English in a year period**

As far as the mother tongue of the students is concerned, the attitudinal change over the year was significant in all the cases. However, the impact of the CLIL-POL module was significantly negative in students with Basque and Spanish as mother tongue ($t_{(12)}$=4,313**, p=0,001, d=0,5) and sustained over time. Mother tongue is not a significant variable in any of the stages.

Regarding gender, the study showed that the CLIL-POL program did not impact on males' or females' attitudes towards English and that the correlation between the variables was not significant. Over the twelve month period, the change was significant in both cases ($F_{(3,27)male}$= 5,809**, p=0,003, $\eta^2$=0,392; $F_{(3,43)female}$= 9,010**, p<0,001, $\eta^2$=0,386).

As for age, the CLIL-POL program did not impact significantly. Moreover, the attitudes of students aged between 25 and 50 did not change significantly over the year while those of younger students did. Consequently, the correlation between them is not significant.

With respect to specialism, Foreign Language specialism participants were the most positive towards English at all the measurement stages; and the impact of the CLIL-POL module on them was significantly negative ($F_{(2,13)}$=6,126*, p=0,013, $\eta^2$=0,485). The general change however was significant as regards all specialisms. As far as correlations between specialism

and attitudes towards English are concerned, a significant relationship is found between the variables before the CLIL-POL module (r=-0,25*, p=0,022).

English language level self-perception is a significant variable as regards attitude towards English. Furthermore, the correlation between both variables is significantly positive at all the stages of measurement. That is to say, the better they believe they are at English, the more positive is the attitude they show towards English. The general change was only significant in students with very poor and mediocre English level self-perception. The impact of the CLIL-POL module is not significant in relation to this variable.

The comparison of the regressions analyses carried out concerning the stages before, after and 5 months after the CLIL-POL module, show that English level self-perception could be considered as a predictable variable. The attitude towards English shown at the previous stage also proves to be a predictable variable. Indeed, self-belief was also a common characteristic when describing the participant with the most positive attitude towards English. Gender and specialism turned out to be common characteristics at all the stages.

### 7.2.2. Does the use of a wiki as a collaborative writing tool in a CLIL-POL experience impact on students' attitude towards ICT? Is that change, if any, sustained?

Attitudes towards ICT were measured three times (January 2011, March 2011 and September 2011) with the aim of assessing the impact of using a wiki as a collaborative writing tool in a CLIL-POL module. The following table [Table 7.3.] provides a summary of the results.

| | | Before the CLIL-POL module (January, 2011) | After the CLIL-POL module (March, 2011) | 5 months after the CLIL-POL module (September, 2011) | Change in attitudes towards ICT |
|---|---|---|---|---|---|
| Attitude towards ICT ($\bar{x}\sum$ICT_AttX and s) | | $\bar{x}\sum$= 37,17 and s= 4,83 | $\bar{x}\sum$= 38,36 and s= 4,79 | $\bar{x}\sum$= 38,55 and s= 5,85 | Significant change between the beginning and the end of the CLIL-POL module (Z=-2,104*, p=0,035) but maintained over time. |
| Scores of the items related to the use of ICT in teaching-learning processes. | | ICT can improve students' learning process in a meaningful way ($\bar{x}$=3,78 and s=0 ,69).<br>ICT strengthen students autonomous learning ($\bar{x}$= 3,62 and s= 0,91)<br>ICT strengthen students collaborative learning ($\bar{x}$= 3,29 and s=0 ,89)<br>ICT is helpful for students' tasks ($\bar{x}$= 3,54 and s=0 ,87)<br>Students do not use ICT in their learning process ($\bar{x}$= 3,79 and s=0,84) | ICT can improve students' learning process in a meaningful way ($\bar{x}$=3,82 and s= 0,80).<br>ICT strengthen students autonomous learning ($\bar{x}$= 3,70 and s=0 ,95)<br>ICT strengthen students collaborative learning ($\bar{x}$= 3,41 and s= 0,93)<br>ICT is helpful for students' tasks ($\bar{x}$= 3,60 and s=0,92)<br>Students do not use ICT in their learning process ($\bar{x}$= 3,59 and s=0,98) | ICT can improve students' learning process in a meaningful way ($\bar{x}$= 3,83 and s=0,82).<br>ICT strengthen students autonomous learning ($\bar{x}$= 3,85 and s=0 ,85)<br>ICT strengthen students collaborative learning ($\bar{x}$= 3,68 and s=0,91)<br>ICT is helpful for students' tasks ($\bar{x}$=3,59 and s=0 ,98)<br>Students do not use ICT in their learning process ($\bar{x}$= 3,68 and s= 0,90) | Significant change between the beginning and 5 months after the experience $F_{(2,83)}$=6,503**, p=0,002 |
| Gender and attitude | Female $\bar{x}\sum$ICT_AttX and s | $\bar{x}\sum$= 37,07 and s= 5,08 | $\bar{x}\sum$= 38,41 and s= 4,76 | $\bar{x}\sum$= 39,08 and s= 4,31 | Relationship of tendency ($\chi^2_{(2)}$=5,853, p=0,054) |
| | Male $\bar{x}\sum$ICT_AttX and s | $\bar{x}\sum$= 37,3 and s = 4,55 | $\bar{x}\sum$= 38,30 and s= 4,89 | $\bar{x}\sum$= 37,87 and s= 7,39 | Not significant |
| | Correlation between variables | Not significant | Not significant | Not significant | |
| Age and attitude | 17-19 $\bar{x}\sum$ICT_AttX and s | $\bar{x}\sum$= 37,23 and s= 4,79 | $\bar{x}\sum$= 37,9074 and s= 4,68345 | $\bar{x}\sum$= 38,21 and s= 6,62 | Not significant |
| | 20-24 $\bar{x}\sum$ICT_AttX and s | $\bar{x}\sum$= 37,00 and s= 4,99 | $\bar{x}\sum$= 40,61 and s= 3,83 | $\bar{x}\sum$= 38,95 and s= 4,61 | Not significant |
| | 25-50 $\bar{x}\sum$ICT_AttX and s | $\bar{x}\sum$= 37,14 and s= 3,80 | $\bar{x}\sum$= 35,86 and s= 3,89 | $\bar{x}\sum$= 40,00 and s= 1,73 | Positive significant change: $\chi^2_{(2)}$=6,077*, p=0,048 |
| | Correlation between variables | Not significant | Not significant | Not significant | |
| Type | Primary Education | $\bar{x}\sum$= 37,86 and s= 5,07 | $\bar{x}\sum$= 38,64 and s= 4,69 | $\bar{x}\sum$= 39,61 and s= 4,68 | Not significant |

| | | | | | |
|---|---|---|---|---|---|
| | $\bar{x}\sum$ICT_AttX and s | | | | |
| | Foreign language $\bar{x}\sum$ICT_AttX and s | $\bar{x}\sum$= 35,23 and s= 4,08 | $\bar{x}\sum$= 39,29 and s= 3,67 | $\bar{x}\sum$= 38,88 and s= 2,52 | Positive significant change $\chi^2_{(2)}$=9,750**, p=0,008 |
| | Physical Education $\bar{x}\sum$ICT_AttX and s | $\bar{x}\sum$= 37,70 and s= 4,22 | $\bar{x}\sum$= 38,14 and s= 5,22 | $\bar{x}\sum$= 36,24 and s= 9,01 | Not significant |
| | Special Needs Education $\bar{x}\sum$ICT_AttX and s | $\bar{x}\sum$= 37,31 and s= 5,32 | $\bar{x}\sum$= 37,31 and s= 4,24 | $\bar{x}\sum$= 39,19 and s= 4,44 | Not significant |
| | Correlation between variables | Not significant | Not significant | Not significant | |
| Regression (attitude towards ICT as dependent variable) | | | Attitude towards ICT before the CLIL-POL module ($R^2$= 0,133, t= 3,487, p= 0,001)<br>Mother tongue ($R^2$= 0,186, t= 2,245, p= 0,028) | Attitude towards ICT before the CLIL-POL module ($R^2$= 0,108, t= 2,898, p= 0,005)<br>Use of social media ($R^2$= 0,159, t= 2,014, p= 0,048) | |
| Typology of the students showing the most positive attitude | | 17-19 year old male enrolled in Primary Education | 20-24 year old female enrolled in Foreign Language | 25-50 year old female enrolled in Primary Education | |
| Qualitative data | | Students do not have a positive attitude towards the use of ICT; participants prefer face-to-face communication; the sample agrees on the barriers of communication. Consequently, the participants have not used the wiki as a collaborative tool.<br>Tutors, however, consider that students are skilled in the use of technology but recognize that they need motivation. | | | |

**Table 7.3. Summary of data concerning attitudes towards ICT**

As shown in the table above, students' attitudes towards ICT became significantly more positive after using the wiki as a collaborative tool (Z=-2,104*, p=0,035, r=0,02) and were sustained over the time. However, qualitatively, students mentioned having a negative attitude towards ICT. Moreover, participants of the study affirmed that face-to-face communication is preferable to communication via technology.

> FG st_g2 (827-828): "Learn how to communicate in the future in society, you don't learn that with a wiki".
>
> FG st_g4a (829): "no, you don't".
>
> FG st_b2 (830): "that's it".
>
> FG st_g2 (831-832): "you learn that by changing groups, meeting new people, and changing classes"

The group mentioned some of the barriers and drawbacks of technology, emphasizing that interaction created through wikis is not real.

> FG st_b2 (819): "Face-to-face communication is always easier".
>
> FG st_g2 (820): "I think that it is a drawback of technology"
>
> FG st_b2 (821): "A drawback."

However, tutors of the module considered that students were skilled enough as far as ICT was concerned. Some of the tutors also mentioned the fact that students were used to using technology in their free time but as regards academic settings, training was still lacking. Moreover, motivation to use these tools in academic setting is still needed as could be read in the following quotation.

> T3-i (100-104): "...it depends on how they are used to using, and you know, if they're// if they are introduced to something new and something that they find difficult to use at the beginning then they are quite // shy or / lazy and making the effort to // find out how to use it properly but a / I don't think they have any problem really, it's a matter of motivating them how to do it."

With reference to items related to the use of ICT in the teaching and learning processes, although the change was positive in all of them, it only turned out to be significant as regards the use of ICT for collaborative learning ($F_{(2,83)}$=6,503**, p=0,002, $\eta^2$=0,135). Qualitatively however, the students considered that the wiki was a hindrance as far as writing in English was concerned. Explaining the use of the wiki, the participants recognized that they wrote texts by means of accumulation and not by collaboration.

> FG st_b2 (546-547): (..) "we used to take mine as a base, and then, take out a paragraph and add another one, like a collage".
>
> FG st_b1b (548): "yes, filling in."
>
> FG st_g4b (549): "that's right."
>
> FG st_b2 (550-551): "after, we used to find the links between the paragraphs and write them, and that's it, we did not create a text in collaboration, we used to put together individual texts"

As far as gender is concerned, a moderate relationship in the attitudinal change was found in females ($\chi^2_{(2)}$=5,853, p=0,054). Furthermore, the correlation between both variables was not significant.

With reference to age, the only significant attitudinal change was found in the25-50 year old students ($\chi^2_{(2)}$=6,077*, p=0,048). Age was not a significant variable as regards attitude towards ICT.

Regarding specialism, a significant attitudinal change was found in students enrolled in Foreign Language ($\chi^2_{(2)}$=9,750**, p=0,008). The correlation between specialism and attitude towards ICT was not significant.

The regression analysis showed that the attitude showed by the sample before the CLIL-POL module was a predictable variable of the attitude shown after and 5 months after the experience.

When describing the characteristics of the students showing the most positive attitude towards ICT, common variables were found between stages. That is, gender was a common

characteristic in the stages after and 5 months after the CLIL-POL module and specialism, Primary Education, was a common feature before and five months after the CLIL-POL module.

## 7.3. Results from the second research question: Does a CLIL-POL context impact on first year Higher Education students' writing competence?

The results to this question can be found after each of two sub-questions.

### 7.3.1. Does a CLIL-POL experience impact on students' collaborative writing competence? Is that change, if any sustained?

In order to answer this, individual and collaborative texts were collected in three different stages; before the CLIL-POL module (January, 2011); immediately after (March, 2011) and five months later (September, 2011). As stated in the previous chapter (6), all texts were peer-reviewed. Results are described with the following structure: individual texts, collaborative texts and comparison of both.

The following table [Table 7.4.] presents results from the analysis of the individual texts.

| Individual texts | | Before the CLIL-POL module (January, 2011) | After the CLIL-POL module (March, 2011) | Five months after the CLIL-POL module (September, 2011) | Change |
|---|---|---|---|---|---|
| General ($\bar{x}$, s ) | | $\bar{x}$= 73,14 and s= 9,84 | $\bar{x}$= 76,29 and s= 7,75 | $\bar{x}$= 71,54 and s= 7,75 | Significant change as a consequence of the CLIL-POL module ($F_{(2,53)}$=4,881*, p=0,011) but it is not sustained over time. |
| Mother tongue | Basque | $\bar{x}$= 74,92 and s= 10,2 | $\bar{x}$= 75,87 and s= 8,3 | $\bar{x}$= 70,13 and s= 10,17 | Negative significant change: $F_{(2,30)}$=3,862*, p=0,032 |
| | Spanish | $\bar{x}$= 69,27 and s= 10,92 | $\bar{x}$= 76,03 and s= 8,36 | $\bar{x}$= 71,97 and s= 7,36 | Not significant |
| | Basque and Spanish | $\bar{x}$= 75,5 and s= 8,28 | $\bar{x}$= 79,94 and s= 5,31 | $\bar{x}$= 73,14 and s= 9,84 | Not significant |
| | Correlation between variables | Not significant | Not significant | r=0,239*, p=0,037 | |
| Gender | Female | $\bar{x}$= 73,03 and s= 10,74 | $\bar{x}$= 77,34 and s= 7,34 | $\bar{x}$= 71,29 and s= 8,77 | Negative significant change: $F_{(2,30)}$=4,780*, p=0,016 |
| | Male | $\bar{x}$= 73,27 and s= 9,07 | $\bar{x}$= 74,77 and s= 8,23 | $\bar{x}$= 71,74 and s= 9,82 | Not significant |
| | Correlation between variables | Not significant | Not significant | Not significant | |
| Age | 17-19 | $\bar{x}$= 74,79 and s= 10,18 | $\bar{x}$= 78 and s= 7,43 | $\bar{x}$= 72,94 and s= 9,49 | Not significant |
| | 20-24 | $\bar{x}$= 70,07 and s= 11,10 | $\bar{x}$= 74,6 and s= 8,31 | $\bar{x}$= 70,17 and s= 9,22 | Not significant |
| | 25-50 | $\bar{x}$= 69,86 and s= 7,35 | $\bar{x}$= 71,7 and s= 8,55 | $\bar{x}$= 67,07 and s= 9,22 | Not significant |
| | Correlation between variables | Not significant | r= -0,266*, p=0,042 | r= -0,199, p=0,084 | |
| Specialisms | Primary Education | $\bar{x}$= 74,5 and s= 8,21 | $\bar{x}$= 78,34 and s= 6,62 | $\bar{x}$= 70,62 and s= 9,10 | Not significant |
| | Foreign Language | $\bar{x}$= 79,03 and s= 11,56 | $\bar{x}$= 78,32 and s= 8,65 | $\bar{x}$= 79,27 and s= 6,48 | Not significant |
| | Physical Education | $\bar{x}$= 70,40 and s= 9,54 | $\bar{x}$= 74,58 and s= 9,89 | $\bar{x}$= 68,95 and s= 8,80 | Not significant |
| | Special Needs Education | $\bar{x}$= 70,40 and s= 11,21 | $\bar{x}$= 74,25 and s= 7,03 | $\bar{x}$= 68,70 and s= 10,44 | Not significant |
| | Correlation between variables | Not significant | Not significant | Not significant | |
| English level self-perception | Very Poor | $\bar{x}$= 66,2 and s= 6,7 | $\bar{x}$= 73,75 and s= 8,99 | $\bar{x}$= 63,94 and s= 6,87 | Negative significant change: $F_{(2,6)}$=6,116*, p=0,035 |
| | Poor | $\bar{x}$= 71,47 and s= 11,72 | $\bar{x}$= 74,96 and s= 7,69 | $\bar{x}$= 68,42 and s= 10,74 | Not significant |
| | Mediocre | $\bar{x}$= 75,44 and s= 8,99 | $\bar{x}$= 77,42 and s= 7,27 | $\bar{x}$= 73,5 and s= 8,66 | Not significant |
| | Good | $\bar{x}$= 77,37 and s= 11,79 | $\bar{x}$= 80,33 and s= 10,38 | $\bar{x}$= 70,07 and s= 7,66 | Not significant |

| | | | | | |
|---|---|---|---|---|---|
| | Correlation between variables | r= 0,328**, p=0,003 | Not significant | r= 0,418**, p<0,001 | |
| Regression analysis (individual text as dependent variable) | | English level self-perception ($R^2$=0,074*, T=2,261, p=0,027) Number of inhabitants ($R^2$=0,133*, T=2,070, p=0,043) | Individual text written before the CLIL-POL module ($R^2$=0,143**, T=2,743, p=0,009) | Age ($R^2$=0,346*, T=-2,816, p=0,013) School model ($R^2$=0,633**, T=3,312, p=0,005) | |
| Typology of the students showing the highest score | | 17-19 year old male, with Basque and Spanish as mother tongue, enrolled in Foreign Language specialism and who perceives his English as good. | 17-19 year old female, with Basque and Spanish as mother tongue, enrolled in Foreign Language or Primary Education specialism and who perceives her English as good. | 17-19 year old female, with Basque and Spanish as mother tongue, enrolled in Foreign Language specialism and who believes her English is mediocre. | |

**Table 7.4. Summary of the results from individual texts**

As shown in the table above, the impact of the CLIL-POL module is significant regarding students' individual writing competence ($t_{(61)}$=-2,145*, p=0,036, d=0,14) but it is not sustained over time ($t_{(56)}$=3,2213**, p=0,002, d=0,25).

Regarding the students' mother tongue, it could be stated that a significant change was only perceived in students with Basque as mother tongue ($F_{(2,30)}$=3,862*, p=0,032, $\eta^2$=0,20). However, between after CLIL and five months later the change is negative ($t_{(33)}$=-2,908**, p=0,006, d=0,28). Mother tongue is a significant variable 5 months after the CLIL-POL module (r=0,239*, p=0,037) where students with Basque and Spanish, and Spanish as mother tongue performed significantly better than students with Basque as mother tongue.

As far as genre is concerned, CLIL-POL had a significant impact on female students ($F_{(2,30)}$=4,780*, p=0,016, $\eta^2$=0,242); positive from the beginning to the end of the CLIL-POL module ($t_{(35)}$=-2,371*, p=0,023, d=0,2) and negative 5 months post-CLIL-POL ($t_{(33)}$=2,729*, p=0,010, d=0,61). The correlation between the variables is not significant.

Age is a significant variable after the CLIL-POL module (r=-0,266*, p=0,042) and moderate five months after the CLIL-POL module (r=-0,199; p=0,084). However, CLIL-POL did not significantly affect students' individual writing competence.

Specialism was not significant regarding students' writing competence. Furthermore, the change is not significant in any of the cases. However, differences between groups are found in the texts written before the CLIL-POL module ($F_{(3)}$=2,918*, p=0,040, $\eta^2$=0,10) and in the texts written 5 months after the CLIL-POL module ($F_{(3)}$=5,000**, p=0,003, $\eta^2$=0,17). In all the cases, participants from Foreign Language specialism scored higher.

English level self-perception was a significant variable when comparing individual writing competence before the CLIL-POL module (r=0,328**, p=0,003) and five months afterwards (r=0,428**, p<0,001). Although this change was only significant in those students with very poor English level self-perception ($F_{(2,6)}$=6,177*, p=0,035, $\eta^2$=0,673), differences between groups were found before ($F_{(3)}$=3,158*, p=0,03, d=0,11) and five months after the CLIL-POL module ($F_{(3)}$=5,062**, p=0,003, d=0,17).

Regression analysis carried out did not show any common predictable factor in the three stages. However, common features were found regarding the subjects who scored highly.

High scores were achieved by the three participants with Basque and Spanish as mother tongue, aged between 17 and 19, and specialising in Foreign Language.

As far as collaborative texts are concerned, the following table [Table 7.5.] provides a summary of the results.

| Collaborative texts | | Before the CLIL-POL module (January, 2011) | After the CLIL-POL module (March, 2011) | Five months after the CLIL-POL module (September, 2011) | Change (from the beginning of the module to five months later the experience) |
|---|---|---|---|---|---|
| General ($\bar{x}$, s ) | | $\bar{x}$= 77,49 and s= 8,04 | $\bar{x}$= 80,41 and s= 8,82 | $\bar{x}$= 75,42 and s= 11,16 | Significant change between the beginning and the end of the CLIL-POL module ($\chi^2_{(2)}$=16,545*, p<0,001) but the change is not sustained over time |
| Mother tongue | Basque ($\bar{x}$, s ) | $\bar{x}$= 78,43 and s= 8,87 | $\bar{x}$= 83,75 and s= 9,17 | $\bar{x}$= 75,25and s= 12,72 | Negative significant change: $\chi^2_{(2)}$=5,440, p=0,066 |
| | Spanish ($\bar{x}$, s ) | $\bar{x}$= 76,32 and s= 7,91 | $\bar{x}$= 79,83 and s= 5,75 | $\bar{x}$= 75,84 and s= 11,71 | Negative significant change: $\chi^2_{(2)}$=5,200, p=0,074 |
| | Basque and Spanish ($\bar{x}$, s ) | $\bar{x}$= 75,21 and s= 6,81 | $\bar{x}$= 73,58 and s= 7,28 | $\bar{x}$= 74,54 and s= 8,69 | Negative significant change: $\chi^2_{(2)}$=6,330*, p=0,042 |
| | Correlation between variables | Not significant | Not significant | r=0,239*, p=0,037 | |
| Gender | Female ($\bar{x}$, s ) | $\bar{x}$= 78,85 and s= 7,51 | $\bar{x}$= 83,35 and s= 8,02 | $\bar{x}$= 76,43and s= 11,31 | Negative significant change: $\chi^2_{(2)}$=9,300*, p=0,010 |
| | Male ($\bar{x}$, s ) | $\bar{x}$= 75,82 and s= 8,44 | $\bar{x}$= 76,21 and s= 8,44 | $\bar{x}$= 74,14 and s= 11,02 | Negative significant change: $\chi^2_{(2)}$=9,692**, p=0,008 |
| | Correlation between variables | Not significant | r=-0,399*, p=0,019 | Not significant | |
| Age | 17-19 | $\bar{x}$= 77,79 and s= 8,19 | $\bar{x}$= 81,65 and s= 8,39 | $\bar{x}$= 75,78 and s= 11,87 | Negative significant change: $\chi^2_{(2)}$=9,789*, p=0,007 |
| | 20-24 | $\bar{x}$= 77,11 and s= 7,94 | $\bar{x}$= 78,55 and s= 8,09 | $\bar{x}$= 73,64 and s= 10,22 | Negative significant change: $\chi^2_{(2)}$=8,680*, p=0,014 |
| | 25-50 | $\bar{x}$= 76,14 and s= 11,51 | $\bar{x}$= 71,70 and s= 8,55 | $\bar{x}$= 77,28 and s= 11,22 | Not significant |
| | Correlation between variables | Not significant | Not significant | Not significant | |
| Specialism | Primary Education | $\bar{x}$= 76,54 and s= 8,95 | $\bar{x}$= 79,64 and s= 10,92 | $\bar{x}$= 75,92 and s= 13,71 | Not significant |
| | Foreign Language | $\bar{x}$= 80,86 and s= 7,47 | $\bar{x}$= 81,19 and s= 8,01 | $\bar{x}$= 77,86 and s= 10,4 | Negative significant change: $\chi^2_{(2)}$=6,250*, p=0,044 |

| | | | | | |
|---|---|---|---|---|---|
| | Physical Education | $\bar{x}$= 74,86 and s= 8,32 | $\bar{x}$= 79,6 and s= 8,82 | $\bar{x}$= 72,47 and s= 10,33 | Not significant |
| | Special Needs Education | $\bar{x}$= 76,62 and s= 7,71 | $\bar{x}$= 84,57 and s= 7,00 | $\bar{x}$= 75,5 and s= 11,89 | Not significant |
| | Correlation between variables | Not significant | Not significant | Not significant | |
| English level self-perception | Very poor | $\bar{x}$= 79,15 and s= 11,79 | $\bar{x}$= 92,17 and s= 8,37 | $\bar{x}$= 76,25 and s= 15,74 | Not significant |
| | Poor | $\bar{x}$= 78,2 and s= 6,56 | $\bar{x}$= 80,05 and s= 7,49 | $\bar{x}$= 78,66 and s= 10,15 | Positive significant change: $\chi^2_{(2)}$=6,889*, p=0,032 |
| | Mediocre | $\bar{x}$= 74,87 and s= 8,06 | $\bar{x}$= 79,64 and s= 9,52 | $\bar{x}$= 73,24 and s= 11,77 | Not significant |
| | Good | $\bar{x}$= 82,71 and s= 6,26 | $\bar{x}$= 80,31 and s= 8,23 | $\bar{x}$= 76,65 and s= 10,18 | Negative significant change: $\chi^2_{(2)}$=7,091*, p=0,029 |
| | Correlation between variables | Not significant | Not significant | Not significant | |
| Regression analysis (collaborative text as dependent variable) | | Individual text written before the CLIL-POL module ($R^2$=0,086*, T=2,393, p=0,02) | Collaborative text written before the CLIL-POL module ($R^2$=0,842*, T=10,065, p<0,001) | Collaborative text written before the CLIL-POL module ($R^2$=0,518**, T=4,019, p=0,001)<br>Specialism ($R^2$=0,679*, T=-2,642, p=0,019)<br>Number of inhabitants ($R^2$=0,785*, T=2,543, p=0,025) | |
| Typology of the students showing the highest score | | 17-19 years old female, with Basque as mother tongue, enrolled in Foreign language specialism who regards her English as good. | 17-19 years old female, with Basque as mother tongue, enrolled in Special Needs Education and who regards her English as very poor. | 17-19 years old female, with Spanish as mother tongue, enrolled in Foreign language specialism and who regards her English as poor. | |

**Table 7.5. Summary of the results from collaborative texts**

As far as the impact of the CLIL-POL module on the collaborative texts is concerned, results from the study show that the module significantly affected ($\chi^2_{(2)}$=16,545**; p<0,001) students' collaborative writings. While the impact was positive (Z=-2,516*, p=0,012, r=0,07) but it was not sustained over time (Z=-3,452**, p=0,001, r=0,1).

Regarding the sample's mother tongue, the CLIL-POL impact on students' collaborative writings was significant, although not positive, among students with Basque and Spanish as mother tongue ($\chi^2_{(2)}$=6,330*, p=0,042). Mother tongue was a significant variable five months after the CLIL-POL module (r=0,239*, p=0,037).

Gender was a significant variable regarding collaborative texts after the CLIL-POL module ($r_s$=-0,399*, p=0,019), with females scoring significantly higher than males. In fact, the difference between both groups was significant (U=75,000*, p=0,022, r=0,06). As far as the change is concerned, both groups' change was significant from the beginning of the CLIL-POL module to 5 months after the experience ($\chi^2_{(2)female}$=9,300*, p=0,010; $\chi^2_{(2)male}$=9,692**, p=0,008). However, the female variation was significantly negative between the end of the module and 5 months later (Z=-3,092**, p=0,002, r=0,15) while the male variation was significantly positive from the beginning of the CLIL-POL module to the end (Z=-2,364*, p=0,018, r=0,16).

Age was not a significant variable with regards to collaborative texts. However, the change was significant in two age groups: 17-19 ($\chi^2_{(2)}$=9,789**, p=0,007) and ($\chi^2_{(2)}$=8,600*, p=0,014). Although the 17-19 year-olds change was not significant from the beginning of the module to the end, there was a negative change from the end of the module to 5 months later (Z=-2,795**, p=0,005, r=0,14). In the case of 20-24 years old students the change was significantly positive from the beginning to the end of the module (Z=-1,979*, p=0,046, r=0,19) but the change was not sustained over time (Z=-2,200*, p=0,028, r=0,22).

Concerning specialism, the participants from Foreign Language specialism scored higher before and 5 months after the CLIL-POL module. As the stage referred to the end of the module is concerned, students from Special Needs Education scored higher. However, the correlation between specialism and collaborative texts is not significant and the variation is only significant regarding Foreign Language specialism students ($\chi^2_{(2)}$=6,250*, p=0,044); being significantly positive from the beginning of the module to the end (Z=-2,116*, p=0,034, r=0,26) but not sustained over time (Z=-2,113*, p=0,035, r=0,26).

As far as English level self-perception is concerned, the structure of the groups meant that even students with a good level self-perception scored higher before the module, students with very poor self-perception scored higher after the module and students with poor self-perception 5 months after the module. However, self-perception was not a significant variable as regards collaborative texts. But, the change was significant in students with poor level self-perception ($\chi^2_{(2)}$=6,889*, p=0,032) and students with good level self-perception ($\chi^2_{(2)}$=7,091*, p=0,029).

The common predictable variable found in regression analysis after the CLIL-POL module and 5 months later refers to the collaborative text written before the module. As far as the common characteristics found analysing the typology of the participant scoring higher is concerned, females scored higher at all stages.

Comparing means from individual and collaborative texts, as shown in the following table [Table 7.6.], collaborative texts are at all stages better than individual ones.

| | Individual texts ($\bar{x}$, s) | Collaborative texts ($\bar{x}$, s) |
|---|---|---|
| Before the CLIL-POL module | 73,14 (s=9,84) | 77,49 (s=8,04) |
| After the CLIL-POL module | 76,29 (s=7,75) | 80,41 (s=8,82) |
| 5 months after the CLIL-POL module | 71,54 (s=9,32) | 75,42 (s=11,17) |

**Table 7.6. Mean and standard deviation of individual and collaborative texts**

When analysing correlations between individual and collaborative texts, a significant relationship was only found at the first stage, that is, before the CLIL-POL module (r=0,320**, p=0,003).

Analysing the possible relationship between the texts, it was found that the individual texts written before the experience are significantly related to the texts written after the module (r=0,421**, p=0,001) and those written five months after the module (r=0,227*, p=0,042). As for collaborative texts, the relationship is significant between all texts ($r_{sbefore\text{-}after}$ = 0,838**, p<0,001; $r_{sbefore\text{-}5monthsafter}$ = 0,325**, p=0,005; $r_{safter\text{-}5monthsafter}$ = 0,510**, p=0,002).

Even if study participants did not mention change regarding the writing competence in terms of individual or collaborative texts, the sample recognized a general improvement as far as writing competence is concerned.

> FG st_b1b (577): "I think that we have improved in general".

> FG st_g4a (578): "but naturally?"
>
> FG st_b1b (579-581): "From the beginning, but all eh? we all have improved; the ones with high level and the ones with not so high level, we can now write easier."
>
> FG st_b1a (582): "yes, that's true".
>
> FG st_b1b (583-584): "you've mentioned orally before, but I think that we have also improved a lot in writing".
>
> FG st_g4a (585): "I agree".
>
> FG st_b2 (586-587): "Yes, yes, I think that I have never written so much in English, a thousand and I don't know how many words"
>
> FG st_b1a (588): "Yes, reading something and then writing about it".
>
> FG st_b2 (589): "yes, like a reflection."
>
> FG st_g2 (590-591): "Yes, I agree. The process has been really positive even if I have a low level.".

However, talking about collaborative writings, students mention the wiki as a hindrance or difficulty and furthermore, the participants underlined the added difficulty of language.

> FG st_b2 (443-446): "Yes, and what XXXX said before, it is a program unknown for us, and in English, even more difficult. What I want to say is that if it is in Basque or Spanish you can experiment and we can understand it."

Lack of training is considered one of the main reasons in students' opinions.

> FG st_b2 (409-412): "I think that the wiki can be useful for some things but I don't see it here, we have been working all years in small groups and we are used to meet after the lesson and suddenly, a wiki, and we don't know how to use it."

Tutors consider, linked to the lack of training, that ICT has potential tools that can be integrated in CLIL approaches, however, training is needed.

T1-i(216-224): "I think that it is a good idea […] but tutors needed to be trained in an appropriate way. […] And not only training, also some follow-up session of the training".

### 7.3.2. Do students' attitudes towards English and ICT impact on their collaborative writing competence over time?

As far as the impact of attitudes towards ICT and English on collaborative writing over time are concerned, the following table [Table 7.7.] presents the significant correlations found.

| | Before the CLIL-POL module | After the CLIL-POL module | 5 months after the CLIL-POL module |
|---|---|---|---|
| Significant correlations | Attitude towards English and collaborative texts($r_s$= 0,303**, p=0,004) | | Attitude towards English and collaborative texts ($r_s$= 0,211*, p=0,050).<br>Attitudes towards ICT and collaborative texts ($r_s$= 0,204, p=0,087) |

**Table 7.7. Correlation between attitudes towards English and ICT and collaborative texts**

As shown in the table above, attitude towards English impacted on collaborative texts written before and 5 months after the CLIL-POL module but not right after the module. With reference to attitudes towards ICT the impact was significant 5 months after the module.

Step-wise regressions [Table 7.8.] carried out with the collaborative text written before the module show that the individual text written at the same stage is a predictable variable. At the stage after the CLIL-POL module and five months after the module, the collaborative text written before the module is a predictable variable. At the last stage, however, specialism and number of inhabitants are also predictable variables.

| Dependent variable | Predictable variables | $R^2$ | T | P |
|---|---|---|---|---|
| Collaborative text before the CLIL-POL module | Individual text written before the CLIL-POL module | 0,081* | 2,196 | 0,032 |
| Collaborative text after the CLIL-POL module | Collaborative text before the CLIL-POL module | 0,832** | 8,897 | <0,001 |
| Collaborative text 5 months after the CLIL-POL module | Collaborative text before the CLIL-POL module | 0,540** | 3,906 | 0,002 |
| | Specialism | 0,744** | -3,088 | 0,009 |
| | Number of inhabitants | 0,804* | 2,567 | 0,026 |

**Table 7.8. Step-wise regression analysis results**

Therefore, the model presented below [Figure 7.4.] shows the predictable patterns found.

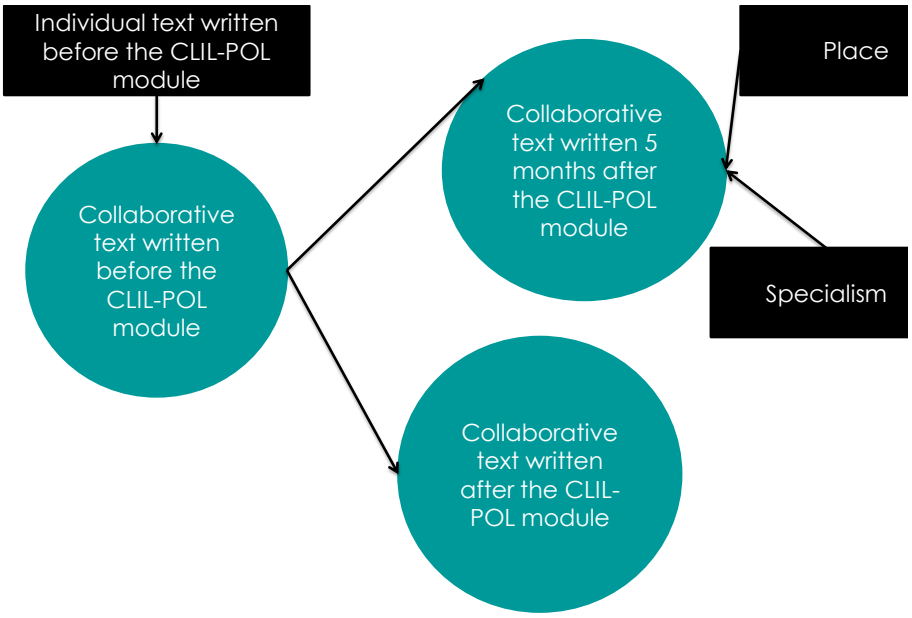


**Figure 7.4. Model of predictable variables regarding collaborative texts**

To sum up, collaborative texts written before the CLIL-POL module could be predicted by means of the individual texts written at the same stage. Therefore, those participants who scored highly in the individual texts would also score highly in the collaborative texts. Regarding the immediate post-module stage, the collaborative texts written before the module would predict these scores as well as the ones achieved 5 months after the CLIL-POL module. Furthermore, the specialism and the number of inhabitants are all predictable variables of the collaborative texts written 5 months after the CLIL-POL module. That is, students from Foreign Language and Primary education and living in urban areas of more than 100.000 inhabitants scored higher.

## 7.4. Results from the third research question: How does the tutor influence the development of the first year Higher Education students' collaborative writing competence?

As stated in the introduction, the nature of the third research question is exploratory. There are three reasons for designating the question as exploratory: first of all, the question could not be directly observed nor considered in the cause-effect dichotomy due to external factors impacting on the text-tutor relationship; secondly, the small number of groups could impact on results, thirdly, because T3 group members did not carry out the second collaborative text. Furthermore, although summaries of data are provided, explanations are only provided in general terms.

There are three sub-questions related to the third research question:

1. Do tutor's attitudes towards the CLIL-POL module impact on students' collaborative texts?
2. Do tutor's attitudes towards the use of ICT in the learning process impact on students' collaborative texts?
3. Does tutor's ICT profile impact on students' collaborative texts?

The study sample is organized in four different groups. As explained, owing to external factors participants from T3 did not carry out the second collaborative texts, so they were not considered in this analysis. The following table [Table 7.9.] describes the means of each group.

| Group | Collaborative texts written before the CLIL-POL module ($\bar{x}$ and s) | Collaborative texts written after the CLIL-POL module ($\bar{x}$ and s) | Collaborative texts written 5 months after the CLIL-POL module ($\bar{x}$ and s) |
|---|---|---|---|
| General | (N=75) $\bar{x}$ = 78,47, s= 8,58 | (N=34) $\bar{x}$ = 80,41, s= 8,82 | (N=58) $\bar{x}$ = 73,77, s= 11,39 |
| T1 | (N=25) $\bar{x}$ = 77,06, s= 6,57 | (N=12) $\bar{x}$ = 77,17, s= 5,68 | (N=23) $\bar{x}$ = 67,09, s= 5,34 |
| T2 | (N=27) $\bar{x}$ = 81,70, s= 7,67 | (N=8) $\bar{x}$ = 85,25, s= 12,56 | (N=12) $\bar{x}$ = 87,33, s= 10,24 |
| T4 | (N=23) $\bar{x}$ = 76,22, s= 10,53 | (N=14) $\bar{x}$ = 80,43, s= 7,81 | (N=23) $\bar{x}$ = 73,39, s= 10,41 |

**Table 7.9. Mean and standard deviation – texts from the natural groups**

As shown in the table T2 group participants scored higher at all stages. However, a significant change was found in the other two groups, T1 ($\chi^2_{(2)}$=16,909**, p<0,001) and T4 ($\chi^2_{(2)}$=13,00**, p=0,002) the change being positive from the beginning of the module to the

end but not sustained over time. Differences between groups are significant 5 months after the CLIL-POL module ($\chi^2_{(2)}$=26,634**, p<0,001). The differences are significant between the following groups:

- T1 and T2 (U=0,000**, p< 0,001, r=0,13), T2 scores significantly higher.
- T1 and T4 (U=151,000*, p=0,012, r=0,05), T4 scores significantly higher.
- T2 and T4 (U=36,000**; p< 0,001, r=0,10), T2 scores significantly higher.

### 7.4.1. Do tutor's attitudes towards the CLIL-POL module impact on students' collaborative texts?

The average of the attitude shown by the tutors towards module is 8,33 (s= 1,15) in a 10 points score. The attitude of each tutor is shown in the following table [Table 7.10.].

| Tutor | Attitude(0-10) |
|---|---|
| T1 | 7,00 |
| T2 | 9,00 |
| T4 | 9,00 |
| $\bar{x}$ | 8,33 |

**Table 7.10. Attitude shown by tutors towards the CLIL-POL module**

Tutors, qualitatively, also mention that their attitude towards the module is really positive.

> T1-i(75-79): "My attitude towards 1.6 module is very positive because I think that the topics worked on are realistic on the one hand and the module is necessary for students' professional profile."

As two of the tutors showed the same attitude, they are analyzed together. The following table [Table 7.11.] shows a summary of the data organized in groups about the tutors' attitude towards the module.

| | | | Collaborative text written before the CLIL-POL module | Collaborative text written after the CLIL-POL module | Collaborative text written 5 months after the CLIL-POL module |
|---|---|---|---|---|---|
| | General | Group scoring higher | The group of the tutors showing the **most positive attitude** towards the module | The group of the tutors showing the **most positive attitude** towards the module | The group of the tutors showing the **most positive attitude** towards the module |
| | | Correlation between tutors' attitude and collaborative texts | Not significant | Not significant | r=0,531**, p<0,001 |
| | | Differences between groups depending on tutors' attitude towards the module | Not significant | Not significant | Significant: U=151,00**, p<0,001, r=0,06 |
| Mother tongue | Basque | Group scoring higher | The group of the tutors showing the **most positive attitude** towards the module | The group of the tutors showing the **most positive attitude** towards the module | The group of the tutors showing the **most positive attitude** towards the module |
| | | Correlation between tutors' attitude and collaborative texts | r= 0,337*, p=0,018 | Not significant | r=0,566**, p=0,001 |
| | | Differences between groups depending on tutors' attitude towards the module | Significant U=96,000*, p=0,02, r=0,05 . | Not significant | Significant: U=36,000**, p=0,003, r=0,10 |
| | Spanish | Group scoring higher | The group of the tutor showing the **most negative attitude** towards the module | The group of the tutors showing the **most positive attitude** towards the module | The group of the tutors showing the **most positive attitude** towards the module |
| | | Correlation between tutors' attitude and collaborative texts | Not significant | Not significant | Not significant |
| | | Differences between groups depending on tutors' attitude towards the module | Not significant | Not significant | Not significant |
| | Basque and Spanish | Group scoring higher | The group of the tutor showing the **most negative attitude** towards the module | The group of the tutors showing the **most positive attitude** towards the module | The group of the tutors showing the **most positive attitude** towards the module |
| | | Correlation between tutors' attitude and collaborative texts | Not significant | Not significant | Not significant |
| | | Differences between groups depending on tutors' attitude towards the module | Not significant | Not significant | Not significant |
| Gender | Female | Group scoring higher | The group of the tutors showing the **most positive attitude** towards the module | The group of the tutors showing the **most positive attitude** towards the module | The group of the tutors showing the **most positive attitude** towards the module |

| | | | | | |
|---|---|---|---|---|---|
| | | Correlation between tutors' attitude and collaborative texts | r= 0,419*, p=0,006 | Not significant | r=0,787**, p<0,001 |
| | | Differences between groups depending on tutors' attitude towards the module | Significant: U=97,500**, p=0,008, r=0,06 | Not significant | Significant: U=12,000**, p< 0,001, r=0,13 |
| | Male | Group scoring higher | The group of the tutor showing the **most negative attitude** towards the module | The group of the tutors showing the **most positive attitude** towards the module | The group of the tutors showing the **most positive attitude** towards the module |
| | | Correlation between tutors' attitude and collaborative texts | Not significant | Not significant | Not significant |
| | | Differences between groups depending on tutors' attitude towards the module | Not significant | Not significant | Not significant |
| Age | 17-19 | Group scoring higher | The group of the tutors showing the **most positive attitude** towards the module | The group of the tutors showing the **most positive attitude** towards the module | The group of the tutors showing the **most positive attitude** towards the module |
| | | Correlation between tutors' attitude and collaborative texts | Not significant | Not significant | r=0,572**, p<0,001 |
| | | Differences between groups depending on tutors' attitude towards the module | Not significant | Not significant | Significant U=50,000**, p=0,001, r=0,13 |
| | 20-24 | Group scoring higher | The group of the tutors showing the **most positive attitude** towards the module | The group of the tutors showing the **most positive attitude** towards the module | The group of the tutors showing the **most positive attitude** towards the module |
| | | Correlation between tutors' attitude and collaborative texts | Not significant | Not significant | r=0,621*, p=0,031 |
| | | Differences between groups depending on tutors' attitude towards the module | Not significant | Not significant | Significant: U=4,000*, p=0,039, r=0,17 |
| | 25-50 | Group scoring higher | The group of the tutor showing the **most negative attitude** towards the module | - | The group of the tutors showing the **most positive attitude** towards the module |
| | | Correlation between tutors' attitude and collaborative texts | Not significant | - | Not significant |
| | | Differences between groups depending on tutors' attitude towards the module | Not significant | - | Not significant |

| | | | | | |
|---|---|---|---|---|---|
| Specialism | Primary Education | Group scoring higher | The group of the tutors showing the **most positive attitude** towards the module | The group of the tutors showing the **most positive attitude** towards the module | The group of the tutors showing the **most positive attitude** towards the module |
| | | Correlation between tutors' attitude and collaborative texts | Not significant | r=0,495, p=0,061 | Not significant |
| | | Differences between groups depending on tutors' attitude towards the module | Not significant | Not significant | Not significant |
| | Foreign Language | Group scoring higher | The group of the tutors showing the **most positive attitude** towards the module | The group of the tutors showing the **most positive attitude** towards the module | The group of the tutors showing the most **positive attitude towards** the module |
| | | Correlation between tutors' attitude and collaborative texts | Not significant | Not significant | r=0,644*, p=0,033 |
| | | Differences between groups depending on tutors' attitude towards the module | Not significant | Not significant | Significant: U=4,000*, p=0,042, r=0,18 |
| | Physical Education | Group scoring higher | The group of the tutors showing the **most positive attitude** towards the module | The group of the tutors showing the **most positive attitude** towards the module | The group of the tutors showing the **most positive attitude** towards the module |
| | | Correlation between tutors' attitude and collaborative texts | Not significant | Not significant | Not significant |
| | | Differences between groups depending on tutors' attitude towards the module | Not significant | Not significant | Not significant |
| | Special Needs Education | Group scoring higher | The group of the tutors showing the **most positive attitude** towards the module | The group of the tutors showing the **most positive attitude** towards the module | The group of the tutors showing the **most positive attitude** towards the module |
| | | Correlation between tutors' attitude and collaborative texts | r= 0,595*, p=0,032 | Not significant | r=0,863**, p<0,001 |
| | | Differences between groups depending on tutors' attitude towards the module | Significant: U=6,000*, p=0,039, r=0,15 | Not significant | Significant: U=0,000**, p=0,004, r=0,23 |
| English level self-perception | Very poor | Group scoring higher | The group of the tutors showing the **most positive attitude** towards the module | | The group of the tutors showing the **most positive attitude** towards the module |
| | | Correlation between tutors' attitude and collaborative texts | Not significant | | Not significant |

| | | | | | |
|---|---|---|---|---|---|
| | | Differences between groups depending on tutors' attitude towards the module | Not significant | | Not significant |
| | Poor | Group scoring higher | The group of the tutor showing the **most negative attitude** towards the module | The group of the tutor showing the **most negative attitude** towards the module | The group of the tutors showing the **most positive attitude** towards the module |
| | | Correlation between tutors' attitude and collaborative texts | Not significant | Not significant | r=0,653**, p=0,021 |
| | | Differences between groups depending on tutors' attitude towards the module | Not significant | Not significant | Significant: U=0,000*, p=0,03, r=0,18 |
| | Mediocre | Group scoring higher | The group of the tutors showing the **most positive attitude** towards the module | The group of the tutors showing the **most positive attitude** towards the module | The group of the tutors showing the **most positive attitude** towards the module |
| | | Correlation between tutors' attitude and collaborative texts | Not significant | Not significant | Not significant |
| | | Differences between groups depending on tutors' attitude towards the module | Not significant | Not significant | Not significant |
| | Good | Group scoring higher | The group of the tutors showing the **most positive attitude** towards the module | The group of the tutors showing the **most positive attitude** towards the module | The group of the tutors showing the **most positive attitude** towards the module |
| | | Correlation between tutors' attitude and collaborative texts | Not significant | Not significant | r=0,793**, p=0,011 |
| | | Differences between groups depending on tutors' attitude towards the module | Not significant | Not significant | Significant: U=1,000*, p=0,025, r=0,24 |

**Table 7.11. Summary of results depending on tutors' attitudes**

As shown in the table above [Table 7.11.], in general, the groups of the tutors showing the most positive attitude towards the module scored higher in all the collaborative texts written over this study. The correlation between variables, tutors' attitude and collaborative texts, is significant 5 months after the CLIL-POL module ($r_s$= 0,531**, p< 0,001). Indeed, the differences between the groups 5 months after the module are significant (U=151,00**, p<0,001, r=0,06) and regression analysis show that tutors' attitude towards the module is a predictable variable 5 months after the module ($R^2$= 0,234, t= 4,658, p<0,001).

### 7.4.2. Do tutor's attitudes towards the use of ICT in the learning process impact on students' collaborative texts?

Tutor's attitude towards the use of ICT in the learning process has been measured using the following items in a 5 point Likert scale:

| Items (N=3): I want students to use technology in their studies because it | $\bar{x}$ | S |
|---|---|---|
| Will help them get better results in their subjects | 4 | 1 |
| Will help them understand the subject material more deeply | 3,66 | 1,15 |
| Makes completing work in their subjects more convenient for them | 4,66 | 0,57 |
| Will improve their IT / information management skills in general | 5 | 0 |
| Will improve their career or employment prospects in the long term | 5 | 0 |

**Table 7.12. Mean and standard deviation - tutors' attitude towards the use of ICT in learning processes**

As shown in the table all tutors agree on the use of ICT in the students' learning process. Three groups depending on percentiles have been designed (Agree_1: 4 points average; Agree_2: 4,4 points average; Agree_3: 5 points average). The following figure [Figure 7.5.] shows the agreement continuum.

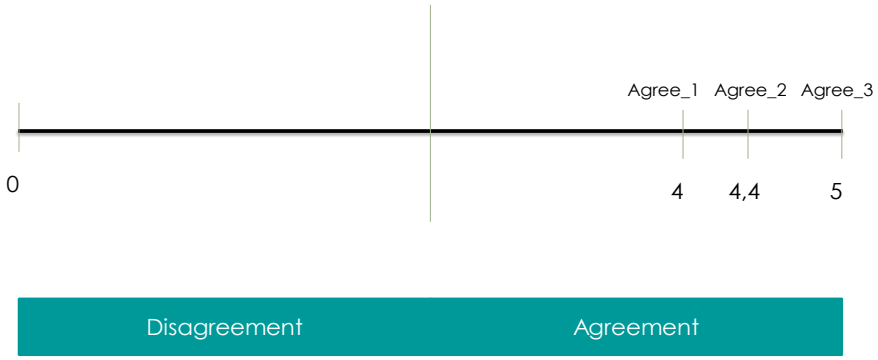


**Figure 7.5. Agreement shown by tutors**

The following table [Table 7.13.] summarises results from the sub-question concerning tutors' attitude towards the use of ICT and students' collaborative texts.

| | | | Collaborative text written before the CLIL-POL module | Collaborative text written after the CLIL-POL module | Collaborative text written 5 months after the CLIL-POL module |
|---|---|---|---|---|---|
| | General | Group scoring higher | **Agree_1** tutors' group | **Agree_1** tutors' group | **Agree_1** tutors' group |
| | | Correlation between tutors' attitude towards the use of ICT in learning processes and collaborative texts | Not significant | Not significant | r=-0,261*, p=0,048 |
| | | Differences between groups depending on tutors' attitude towards the use of ICT in the learning process | Not significant | Not significant | Significant: $\chi^2_{(2)}$=26,634**, p<0,001 Agree_1 and Agree_2 (U=0,000**, p<0,001, r=0,13); Agree_1 and Agree_3 (U=36,000**, p<0,001, r=0,10) and Agree_2 and Agree_3 (U=151,000*, p=0,012, r=0,04). |
| Mother tongue | Basque | Group scoring higher | **Agree_1** tutors' group | **Agree_1** tutors' group | **Agree_1** tutors' group |
| | | Correlation between tutors' attitude towards the use of ICT in learning processes and collaborative texts | Not significant | Not significant | r=-0,439*, p=0,070 |
| | | Differences between groups depending on tutors' attitude towards the use of ICT in the learning process | Not significant | Not significant | Significant: $\chi^2_{(2)}$=16,202**, p<0,001 Agree_1 and Agree_2 (U=0,000**, p<0,001, r=0,18) and Agree_1 and Agree_3 (U=2,000**, p=0,001, r=0,19). |
| | Spanish | Group scoring higher | **Agree_2** tutors' group | **Agree_3** tutors' group | **Agree_1** tutors' group |
| | | Correlation between tutors' attitude towards the use of ICT in learning processes and collaborative texts | Not significant | Not significant | Not significant |
| | | Differences between groups depending on tutors' attitude towards the use of ICT in the learning process | Not significant | Not significant | Not significant |
| | Basque and Spanish | Group scoring higher | - | - | - |
| | | Correlation between tutors' attitude towards the use of ICT in learning processes and collaborative texts | - | - | - |
| | | Differences between groups depending on tutors' attitude towards the use of ICT in the learning process | - | - | - |

| | | | | | |
|---|---|---|---|---|---|
| Gender | Female | Group scoring higher | **Agree_3** tutors' group | **Agree_1** tutors' group | **Agree_1** tutors' group |
| | | Correlation between tutors' attitude towards the use of ICT in learning processes and collaborative texts | Not significant | Not significant | Not significant |
| | | Differences between groups depending on tutors' attitude towards the use of ICT in the learning process | Significant: $\chi^2_{(2)}$=8,647*, p=0,013<br>Agree_2 and Agree_3 (U=22,500**, p=0,002, r=0,12) | Not significant | Significant: $\chi^2_{(2)}$=21,876*, p<0,001<br>Agree_1 and Agree_2 (U=0,000**, p<0,001, r=0,18); Agree_1 and Agree_3 (U=10,000**, p=0,009, r=0,14) and Agree_2 and Agree_3 (U=12,00**, p<0,001, r=0,14). |
| | Male | Group scoring higher | **Agree_1** tutors' group | **Agree_1** tutors' group | **Agree_1** tutors' group |
| | | Correlation between tutors' attitude towards the use of ICT in learning processes and collaborative texts | r=0,359*, p=0,037 | Not significant | Not significant |
| | | Differences between groups depending on tutors' attitude towards the use of ICT in the learning process | Not significant | Not significant | Significant: ($\chi^2_{(2)}$=8,623*, p=0,013).<br>Agree_1 and Agree_2 (U=0,000**, p=0,002, r=0,21) and Agree_1 and Agree_3 (U=8,000**, p=0,018, r=0,13). |
| Age | 17-19 | Group scoring higher | **Agree_1** tutors' group | **Agree_1** tutors' group | **Agree_1** tutors' group |
| | | Correlation between tutors' attitude towards the use of ICT in learning processes and collaborative texts | Not significant | Not significant | Not significant |
| | | Differences between groups depending on tutors' attitude towards the use of ICT in the learning process | Not significant | Not significant | Significant ($\chi^2_{(2)}$=16,681**, p<0,001<br>Agree_1 and Agree_2 (U=0,000**, p<0,001, r=0,17) , Agree_1 and Agree_3 (U=16,000**, p=0,009, r=0,11) and Agree_2 and Agree_3 (U=50,00**, p=0,016, r=0,08) |

| | | | | | |
|---|---|---|---|---|---|
| | 20-24 | Group scoring higher | **Agree_1** tutors' group | **Agree_1** tutors' group | **Agree_1** tutors' group |
| | | Correlation between tutors' attitude towards the use of ICT in learning processes and collaborative texts | Not significant | Not significant | Not significant |
| | | Differences between groups depending on tutors' attitude towards the use of ICT in the learning process | Not significant | Not significant | Not significant |
| | 25-50 | Group scoring higher | - | - | - |
| | | Correlation between tutors' attitude towards the use of ICT in learning processes and collaborative texts | - | - | - |
| | | Differences between groups depending on tutors' attitude towards the use of ICT in the learning process | - | - | - |
| Specialism | Primary Education | Group scoring higher | **Agree_1** tutors' group | **Agree_1** tutors' group | **Agree_1** tutors' group |
| | | Correlation between tutors' attitude towards the use of ICT in learning processes and collaborative texts | Not significant | r=-0,718*, p=0,013 | r=-0,527*`, p=0,022 |
| | | Differences between groups depending on tutors' attitude towards the use of ICT in the learning process | Not significant | Not significant | Significant $\chi^2_{(2)}$=8,851*, p=0,012 Agree_1 and Agree_2 (U=0,000*, p=0,013, r=0,19) and Agree_1 and Agree_3 (U=0,000**, p=0,009, r=0,26 |
| | Foreign Language | Group scoring higher | **Agree_3** tutors' group | **Agree_1** tutors' group | **Agree_1** tutors' group |
| | | Correlation between tutors' attitude towards the use of ICT in learning processes and collaborative texts | r=0,573*, p=0,025 | Not significant | Not significant |
| | | Differences between groups depending on tutors' attitude towards the use of ICT in the learning process | Not significant | Not significant | Significant: $\chi^2_{(2)}$=6,039*, p=0,049 Agree_1 and Agree_2 (U=0,000*, p=0,021, r=0,28) |
| | Physical Education | Group scoring higher | - | - | - |
| | | Correlation between tutors' attitude towards the use of ICT in learning processes and collaborative texts | - | - | - |
| | | Differences between groups depending on tutors' attitude towards the use of ICT in the learning process | - | - | - |
| | Special Needs Education | Group scoring higher | **Agree_1** tutors' group | **Agree_1** tutors' group | **Agree_1** tutors' group |
| | | Correlation between tutors' attitude towards the use of ICT in learning processes and collaborative texts | Not significant | Not significant | Not significant |

| | | | | | |
|---|---|---|---|---|---|
| | | Differences between groups depending on tutors' attitude towards the use of ICT in the learning process | Not significant | Not significant | Significant: $\chi^2_{(2)}$=8,410*, p=0,015 Agree_1 and Agree_2 (U=0,000*, p=0,049, r=0,28) and Agree_2 and Agree_3 (U=0,000*, p=0,008, r=0,26). |
| English level self-perception | Very Poor | Group scoring higher | **Agree_1** tutors' group | **Agree_1** tutors' group | **Agree_1** tutors' group |
| | | Correlation between tutors' attitude towards the use of ICT in learning processes and collaborative texts | Not significant | Not significant | Not significant |
| | | Differences between groups depending on tutors' attitude towards the use of ICT in the learning process | Not significant | Not significant | Not significant |
| | Poor | Group scoring higher | **Agree_2** tutors' group | **Agree_2** tutors' group | **Agree_1** tutors' group |
| | | Correlation between tutors' attitude towards the use of ICT in learning processes and collaborative texts | Not significant | Not significant | Not significant |
| | | Differences between groups depending on tutors' attitude towards the use of ICT in the learning process | Not significant | Not significant | Significant: $\chi^2_{(2)}$=6,795*, p=0,033 Agree_3 and Agree_2 (U=0,000*, p=0,037, r=0,23). |
| | Mediocre | Group scoring higher | **Agree_1** tutors' group | **Agree_1** tutors' group | **Agree_1** tutors' group |
| | | Correlation between tutors' attitude towards the use of ICT in learning processes and collaborative texts | Not significant | Not significant | Not significant |
| | | Differences between groups depending on tutors' attitude towards the use of ICT in the learning process | Not significant | Not significant | Not significant |
| | Good | Group scoring higher | **Agree_1** tutors' group | **Agree_1** tutors' group | **Agree_1** tutors' group |
| | | Correlation between tutors' attitude towards the use of ICT in learning processes and collaborative texts | Not significant | Not significant | Not significant |
| | | Differences between groups depending on tutors' attitude towards the use of ICT in the learning process | Not significant | Not significant | Not significant |

**Table 7.13. Summary of the results depending on tutors' agreement**

Organized in groups depending on the attitude shown by tutors towards the use of ICT in learning processes, the following table [Table 7.14.] shows the means and standard deviations.

| Tutor's attitude towards the use of ICT in the learning process | Collaborative texts written before the CLIL-POL module | Collaborative texts written after the CLIL-POL module | Collaborative texts written 5 months after the CLIL-POL module |
|---|---|---|---|
| Agree_1 (T2) | (N=27) $\bar{x}$=81,70, s=7,67 | (N=8) $\bar{x}$=85,25, s=12,56 | (N=12) $\bar{x}$=87,33, s=10,24 |
| Agree_2 (T1) | (N=25) $\bar{x}$=77,06, s=6,57 | (N=12) $\bar{x}$=77,17, s=5,68 | (N=23) $\bar{x}$=67,09, s=5,34 |
| Agree_3 (T4) | (N=23) $\bar{x}$=76,22, s=10,53 | (N=14) $\bar{x}$=80,43, s=7,81 | (N=23) $\bar{x}$=73,39, s=10,41 |

**Table 7.14. Mean and standard deviation - collaborative texts depending on tutor's attitude towards the use of ICT in learning processes**

A negative-significant correlation was found between tutor's attitude and students' collaborative texts five months after the CLIL-POL program ($r_s$= -0,261*, p=0,048). That is, students whose tutor showed less agreement scored higher. Differences between groups are also significant at that stage ($\chi^2_{(2)}$=26,634**, p<0,001). Indeed, there are significant differences between the following groups:

- Agree_1 and Agree_2 (U=0,000**, p<0,001, r=0,13), participants in Agree_1 groups score significantly higher.
- Agree_1 and Agree_3 (U=36,000**, p<0,001, r=0,10) ), participants in Agree_1 groups score significantly higher.
- Agree_2 and Agree_3 (U=151,000*, p=0,012, r=0,04) ), participants in Agree_3 groups score significantly higher.

Step wise regression analysis show that tutor's attitude towards the use of ICT in learning processes is a predictable variable of students' collaborative text five months after the CLIL-POL module ($R^2$=0,089, T= -2,634, p=0,010). Tutors' attitude could explain 8.9% of the variance.

### 7.4.3. Does tutor's ICT profile impact on students' collaborative texts?

41 items organized in a 5 point Likert scale have been used to measure tutors' ICT profile (∑skill). A summary of tutors' answers is provided in the following table [Table 7.15.].

| Item | Not skilled | Not really skilled | Quite skilled | Skilled | Very skilled | Never Used |
|---|---|---|---|---|---|---|
| Use a computer to manage or manipulate digital photos (e.g. using iPhoto, Dig. Image) | 0 | 33,3 | 0 | 33,3 | 33,3 | 0 |
| Use a computer to create or manipulate digital images (e.g. using Photoshop) | 0 | 33,3 | 0 | 33,3 | 0 | 33,3 |
| Use a computer for creating presentations (e.g. PowerPoint) | 0 | 0 | 33,3 | 33,3 | 33,3 | 0 |
| Use a computer for creating or editing audio and video (e.g. iMovie, Movie Maker) | 33,3 | 0 | 0 | 0 | 33,3 | 33,3 |
| Use a computer to play digital music files (e.g. iTunes) without accessing the internet | 0 | 0 | 0 | 66,7 | 33,3 | 0 |
| Use a computer to play games | 0 | 0 | 0 | 0 | 0 | 100 |
| Use a games console to play games | 0 | 0 | 0 | 0 | 0 | 100 |
| Use the internet/web or a LAN to play networked games | 0 | 0 | 0 | 0 | 0 | 100 |
| Use a handheld computer (e.g. a PDA) as a personal organiser (e.g. diary, address book) | 0 | 0 | 0 | 0 | 33,3 | 66,7 |
| Use the web to access a portal, 'Course or Learning Management System' | 0 | 0 | 33,3 | 33,3 | 33,3 | 0 |
| Use the web to look up reference information for study purposes (e.g. online dictionaries) | 0 | 0 | 0 | 66,7 | 33,3 | 0 |
| Use the web to browse for general information (e.g. news, holidaying, event timetables) | 0 | 0 | 33,3 | 0 | 66,7 | 0 |
| Use the web to listen to sound recordings (e.g. via streaming audio or iTtunes) | 0 | 0 | 33,3 | 33,3 | 33,3 | 0 |
| Use the web for other pastimes (i.e. for leisure activities) | 0 | 0 | 0 | 33,3 | 66,7 | 0 |
| Use the web to buy or sell things (e.g. eBay, Amazon, air tickets.) | 0 | 0 | 33,3 | 0 | 66,7 | 0 |
| Use the web for other services (e.g. banking, paying bills) | 0 | 0 | 0 | 33,3 | 66,7 | 0 |
| Use the web/internet to send or receive email (e.g. Hotmail, Yahoo, Outlook) | 0 | 0 | 0 | 33,3 | 66,7 | 0 |
| Use the web/internet for instant messaging / chat (e.g. MSN, Yahoo, ICQ) | 0 | 0 | 0 | 0 | 33,3 | 66,7 |
| Use the web to build and maintain a website | 0 | 0 | 33,3 | 33,3 | 33,3 | 0 |
| Use social networking software on the web (e.g. Myspace, Trendster) | 0 | 0 | 33,3 | 0 | 33,3 | 33,3 |
| Use social bookmarking software on the web (e.g. del.icio.us) | 0 | 0 | 33,3 | 0 | 33,3 | 33,3 |
| Use the web to download podcasts (e.g. using Juice, iTunes) | 0 | 0 | 0 | 33,3 | 33,3 | 33,3 |
| Use the web to publish podcasts (e.g. using | 0 | 0 | 0 | 0 | 0 | 100 |

| | | | | | | |
|---|---|---|---|---|---|---|
| Podifier, Podcaster, PodProducer) | | | | | | |
| Use the web to download and/or share MP3 files (e.g. music, videos) | 0 | 33,3 | 33,3 | 0 | 33,3 | 0 |
| Use the web to share photographs or other digital material (e.g. using blinklist, Flickr) | 0 | 0 | 33,3 | 0 | 33,3 | 33,3 |
| Use the web to make phone calls (e.g. VoIP using Skype) | 0 | 0 | 0 | 33,3 | 66,7 | 0 |
| Use the web for web-conferencing (e.g. using a webcam with Skype) | 0 | 0 | 0 | 33,3 | 66,7 | 0 |
| Use the web to read RSS feeds (e.g. news feeds) | 0 | 0 | 0 | 33,3 | 33,3 | 33,3 |
| Use the web to keep your own blog or vlog | 0 | 0 | 0 | 33,3 | 0 | 66,7 |
| Use the web to read other people's blogs or vlogs | 0 | 0 | 33,3 | 0 | 33,3 | 33,3 |
| Use the web to comment on blogs or vlogs | 0 | 33,3 | 0 | 0 | 33,3 | 33,3 |
| Use the web to contribute to the development of a wiki | 0 | 0 | 66,7 | 0 | 33,3 | 0 |
| Use a mobile phone to call people | 0 | 0 | 0 | 0 | 100 | 0 |
| Use a mobile phone to text / SMS people | 0 | 0 | 0 | 0 | 100 | 0 |
| Use a mobile phone to take digital photos or movies | 0 | 0 | 33,3 | 0 | 33,3 | 33,3 |
| Use a mobile phone to send pictures or movies to other people | 0 | 0 | 33,3 | 0 | 33,3 | 33,3 |
| Use a mobile phone to make video calls | 0 | 0 | 0 | 0 | 33,3 | 66,7 |
| Use a mobile phone as an MP3 player | 0 | 0 | 0 | 0 | 33,3 | 66,7 |
| Use a mobile phone as a personal organizer (e.g. diary, address book) | 0 | 0 | 0 | 33,3 | 0 | 66,7 |
| Use a mobile phone to access information / services on the web | 0 | 0 | 33,3 | 0 | 33,3 | 33,3 |
| Use a mobile phone to send or receive email | 0 | 0 | 0 | 33,3 | 33,3 | 33,3 |

**Table 7.15. Summary of items measuring tutors' ICT profile in percentages**

In order to analyze data three groups were created based on percentiles [Table 7.16.].

| Tutor | (∑skill) | Group |
|---|---|---|
| T1 | 87,00 | Skill 1 |
| T2 | 155,00 | Skill 2 |
| T4 | 168,00 | Skill3 |

**Table 7.16. Tutors' skills**

Qualitatively, the same answers were observed. For example, tutor T1, the least skilled, mentioned in the semi-structured interview that she did not use 2.0 resources.

> T1-i(147-152): "yes, to sum up, I think that they are very useful. Education today will have difficulties without ICT but I get nervous when I have to use ICT, not with basic tools but I do with wikis and that kind of applications.

A summary of the results from this last sub-question is provided in the following table [Table 7.17.]

| | | | Collaborative text written before the CLIL-POL module | Collaborative text written after the CLIL-POL module | Collaborative text written 5 months after the CLIL-POL module |
|---|---|---|---|---|---|
| | General | Group scoring highest | **Skill 2** tutor's group | **Skill 2** tutor's group | **Skill 2** tutor's group |
| | | Correlation between tutors' ICT profile and collaborative texts | Not significant | Not significant | r=-0,305*, p=0,020 |
| | | Differences between groups depending on tutors' ICT profile | Not significant | Not significant | Significant $\chi^2_{(2)}$=26,634**, p<0,001). Skill 1 and Skill 2 (U=0,000**, p<0,001, r=0,13), Skill 1 and Skill 3 (U=151,000*, p=0,012, r=0,05) and Skill 2 and Skill 3 (U=36,000**, p<0,001, r=0,10) |
| Mother tongue | Basque | Group scoring highest | **Skill 2** tutor's group | **Skill 2** tutor's group | **Skill 2** tutor's group |
| | | Correlation between tutors' ICT profile and collaborative texts | Not significant | Not significant | Not significant |
| | | Differences between groups depending on tutors' ICT profile | Not significant | Not significant | Significant ($\chi^2_{(2)}$=16,202**, p<0,001). Skill 1 and Skill 2 (U=0,000**, p<0,001, r=0,18) and Skill 2 and Skill 3 (U=2,000**, p=0,001, r=0,19). |
| | Spanish | Group scoring highest | **Skill 1** tutor's group | **Skill 3** tutor's group | **Skill 2** tutor's group |
| | | Correlation between tutors' ICT profile and collaborative texts | Not significant | Not significant | Not significant |
| | | Differences between groups depending on tutors' ICT profile | Not significant | Not significant | Not significant |
| | Basque and Spanish | Group scoring *highest* | - | - | - |
| | | Correlation between tutors' ICT profile and collaborative texts | - | - | - |
| | | Differences between groups depending on tutors' ICT profile | - | - | - |

| | | | | | |
|---|---|---|---|---|---|
| Gender | Female | Group scoring highest | **Skill 3** tutor's group | **Skill 2** tutor's group | **Skill 2** tutor's group |
| | | Correlation between tutors' ICT profile and collaborative texts | r= 0,465**, p=0,002 | Not significant | r=0,604, p<0,001 |
| | | Differences between groups depending on tutors' ICT profile | Significant<br>$\chi^2_{(2)}$= 8,647*, p=0,013<br>Skill 1 and Skill 3 (U=22,500**, p=0,002, r=0,12) | Not significant | Significant:<br>$\chi^2_{(2)}$= 21,876**, p<0,001<br>Skill 1 and Skill 2 (U=0,000**, p<0,001, r=0,18), Skill 1 and Skill 3 (U=12,000**, p<0,001, r=0,19) and Skill 2 and Skill 3 (U=10,000**, p=0,009, r=0,10). |
| | Male | Group scoring highest | **Skill 2** tutor's group | **Skill 2** tutor's group | **Skill 2** tutor's group |
| | | Correlation between tutors' ICT profile and collaborative texts | Not significant | Not significant | Not significant |
| | | Differences between groups depending on tutors' ICT profile | Not significant | Not significant | Significant<br>$\chi^2_{(2)}$= 8,623**, p=0,003<br>Skill 1 and Skill 2 (U=0,000**, p=0,002, r=0,21) and Skill 2 and Skill 3 (U=8,000*, p=0,018, r=0,13 |
| Age | 17-19 | Group scoring highest | **Skill 2** tutor's group | **Skill 2** tutor's group | **Skill 2** tutor's group |
| | | Correlation between tutors' ICT profile and collaborative texts | Not significant | Not significant | r=0,360*, p=0,031 |
| | | Differences between groups depending on tutors' ICT profile | Not significant | Not significant | Significant<br>$\chi^2_{(2)}$=16,881**, p<0,001<br>Skill 1 and Skill 2 (U=0,000**, p<0,001, r=0,18), Skill 1 and Skill 3 (U=50,000*, p=0,016, r=0,08) and Skill 2 and Skill 3 (U=16,000**, p=0,009, r=0,11). |
| | 20-24 | Group scoring highest | **Skill 2** tutor's group | **Skill 2** tutor's group | **Skill 2** tutor's group |
| | | Correlation between tutors' ICT profile and | Not significant | Not significant | Not significant |

| | | | | | |
|---|---|---|---|---|---|
| | | collaborative texts | | | |
| | | Differences between groups depending on tutors' ICT profile | Not significant | Not significant | Not significant |
| | 25 -50 | Group scoring higher | - | - | - |
| | | Correlation between tutors' ICT profile and collaborative texts | - | - | - |
| | | Differences between groups depending on tutors' ICT profile | - | - | - |
| Specialism | Primary Education | Group scoring highest | **Skill 2** tutor's group | **Skill 2** tutor's group | **Skill 2** tutor's group |
| | | Correlation between tutors' ICT profile and collaborative texts | Not significant | Not significant | Not significant |
| | | Differences between groups depending on tutors' ICT profile | Not significant | Not significant | Significant $\chi^2_{(2)}$=8,851*, p=0,012 Skill 1 and Skill 2 (U=0,000*, p=0,013, r=0,27) and Skill 2 and Skill 3 (U=0,000*, p=0,009, r=0,26) |
| | Foreign Language | Group scoring highest | **Skill 3** tutor's group | **Skill 1** tutor's group | **Skill 1** tutor's group |
| | | Correlation between tutors' ICT profile and collaborative texts | r=0,573*, p=0,025 | Not significant | Not significant |
| | | Differences between groups depending on tutors' ICT profile | Not significant | Not significant | Significant: $\chi^2_{(2)}$=6,031*, p=0,049). Skill 1 and Skill 2 (U=0,000*, p=0,021, r=0,28). |
| | Physical Education | Group scoring highest | - | - | - |
| | | Correlation between tutors' ICT profile and collaborative texts | - | - | - |
| | | Differences between groups depending on tutors' ICT profile | - | - | - |
| | Special Needs Education | Group scoring highest | **Skill 2** tutor's group | **Skill 2** tutor's group | **Skill 2** tutor's group |
| | | Correlation between tutors' ICT profile and collaborative texts | Not significant | Not significant | r=0,746**, p=0,005 |
| | | Differences between groups depending on tutors' ICT profile | Not significant | Not significant | Significant: $\chi^2_{(2)}$=8,410*, p=0,015 |

| | | | | | |
|---|---|---|---|---|---|
| | | | | | Skill 1 and Skill 2 (U=0,000*, p=0,049, r=0,28) and Skill 1 and Skill 3 (U=0,000**, p=0,008, r=0,26). |
| English level self-perception | Very poor | Group scoring highest | **Skill 2** tutor's group | **Skill 2** tutor's group | **Skill 2** tutor's group |
| | | Correlation between tutors' ICT profile and collaborative texts | Not significant | Not significant | Not significant |
| | | Differences between groups depending on tutors' ICT profile | Not significant | Not significant | Not significant |
| | Poor | Group scoring highest | **Skill 2** tutor's group | **Skill 2** tutor's group | **Skill 2** tutor's group |
| | | Correlation between tutors' ICT profile and collaborative texts | Not significant | Not significant | Not significant |
| | | Differences between groups depending on tutors' ICT profile | Not significant | Not significant | Significant $\chi^2_{(2)}$=6,795*, p=0,033 Skill 1 and Skill 3 (U=0,000*, p=0,037, r=0,23) |
| | Mediocre | Group scoring highest | **Skill 2** tutor's group | **Skill 2** tutor's group | **Skill 2** tutor's group |
| | | Correlation between tutors' ICT profile and collaborative texts | Not significant | Not significant | Not significant |
| | | Differences between groups depending on tutors' ICT profile | Not significant | Not significant | Not significant |
| | Good | Group scoring higher | **Skill 2** tutor's group | **Skill 2** tutor's group | **Skill 2** tutor's group |
| | | Correlation between tutors' ICT profile and collaborative texts | Not significant | Not significant | r=0,671*, p=0,048 |
| | | Differences between groups depending on tutors' ICT profile | Not significant | Not significant | Not significant |

**Table 7.17. Summary of the results depending on tutors' skills**

As shown in the next table [Table 7.18.], Skill 2 group participants' collaborative texts are those that scored highest in the three stages.

| Tutor's ICT profile | Collaborative texts before the CLIL-POL module | Collaborative texts after the CLIL-POL module | Collaborative texts 5 months after the CLIL-POL module |
|---|---|---|---|
| Skill 1 (T1) | (N=25) $\bar{x}$=77,06, s=6,57 | (N=12) $\bar{x}$=77,17, s=5,68 | (N=23) $\bar{x}$=67,09, s=5,34 |
| Skill 2 (T2) | (N=27) $\bar{x}$=81,70, s=7,67 | (N=8) $\bar{x}$=85,25, s=12,56 | (N=12) $\bar{x}$=87,33, s=10,24 |
| Skill 3 (T4) | (N=23) $\bar{x}$=76,22, s=10,53 | (N=14) $\bar{x}$=80,43, s=7,81 | (N=23) $\bar{x}$=73,39, s=10,41 |

**Table 7.18. Mean and standard deviation depending on tutor's ICT profile**

Tutor's ICT profile is a significant variable regarding students' collaborative texts 5 months after the CLIL-POL module ($r_s$=0,305*, p=0,020). Differences between groups are also found at that stage ($\chi^2_{(2)}$=26,634**, p<0,001) as follows:

- Skill 1 and Skill 2 (U=0,000**, p<0,001, r=0,13), participants' from Skill 2 group scored significantly higher.
- Skill 1 and Skill 3 (U=151,000*, p=0,012, r=0,05), participants' from Skill 3 group scored significantly higher.
- Skill 2 and Skill 3 (U=36,000**, p<0,001, r=0,10), participants' from Skill 2 group scored significantly higher.

Furthermore, it could be stated that the tutor's ICT profile is a predictable variable 5 months after the module as can be seen from step-wise regression analysis ($R^2$=0,073, T= 2,366, p=0,021). Students could get higher scores in collaborative texts when tutors show a more skilled profile.

# Chapter 8. Discussion and conclusions

## Contents

The aim of this chapter is to bring together the discussion and findings from the overall research. The first part of the chapter discusses the results obtained from both qualitative and quantitative data. The second part highlights the main conclusions and pedagogical and practical implications that arise from the results. As with any other research, this study presents some limitations but also some contributions to the field as well as future research lines. The last part of the chapter deals with the above mentioned limitations with some possible proposals, contributions and further research.

## 8.0. Introduction

The so-called liquid modernity (Bauman, 2007), uncertainty society (Morin, 1999) or cognitive society (Delors, 1996) has guided changes in the social, economic and political spheres, closely related to an immaterial-culture. This new societal configuration is also supported by the importance of intellectual capital, the strength of social and cognitive knowledge and skills, collaborative work, information delocalization, acceleration, constant use of knowledge, relevance of learning or revaluation of people among others (Drucker, 1993; Stewart, 1997). As a result of all those changes, most of the characteristics of the Knowledge Society impact on life-long learning processes and education itself.

Taking into account some of the main aspects regarding the new societal configuration and their impact on education, the general objective of the present research is to explore the contextual factors which impact on the development of collaborative writing competence of first year Higher Education students immersed in a CLIL-POL approach. The aim is to offer data mainly about the impact of attitudes towards both research objects, English and ICT, on collaborative writing, as well as to explore the impact of some aspects regarding the tutor on students' writing competence.

## 8.1. Discussion and conclusions on the first research question

The first research question raises issues related to attitudinal factors in CLIL-POL contexts. On the one hand, it poses concerns on attitudes towards the target language, English in this case, and on the other hand, on attitudes towards ICT. The first research question is the following:

| |
|---|
| 1. In a CLIL-POL context, how do first year Higher Education students' attitudes towards English and ICT develop? |
| 1.1. Does a CLIL-POL experience impact on students' attitudes towards English? Is that change, if any, sustained? |
| 1.2. Does using a wiki as a collaborative writing tool in a CLIL-POL experience impact on students' attitudes towards ICT? Is that change, if any, sustained? |

The importance of motivation, attitudes and cognitive aspects in teaching and learning processes has intensified in recent years. One of the reasons could be the emergence of interest in holistic education, where both cognitive and affective factors are considered (Lozano, García-Cueto and Gallo, 2000).

Attitudes, however, are dynamic constructs developed during the socialization processes. Due to the fact that attitudinal changes are linked to childhood (Deprez and Persoons, 1987), there is some consensus amongst researches that attitudinal changes are difficult in youth and adulthood. Nevertheless, there are some key influential attitudinal factors that could lead to a change.

As for **attitudes towards English**, data from the quantitative sources has noted that **contextual factors beyond the CLIL-POL context influence students' attitude towards English**. Data has revealed a significant attitudinal change in students' attitude towards English. Moreover, that change is sustained over time.

The attitudinal change has been significant between the first and fourth time of measurement, that is, in a one year period (September 2010 – September 2011). Analysing the different data-gathering stages, **results support a significantly positive change between the beginning of the academic year and the beginning of the CLIL-**

**POL experience. Furthermore, the positive change is consistently sustained during the CLIL-POL experience and after a period of five months. Consequently, effects of the language policy and Educational project of the university, and different modules emerge in the results.**

**Qualitatively however, students emphasize that the CLIL-POL experience has been the main factor of influence in the attitudinal change towards English**. Students' qualitative view is also signalled by research studies carried out comparing CLIL and non-CLIL students' attitude towards English. Lasagabaster and Sierra (2009), and Merisou-Storm (2007) for example, conclude that students in CLIL classrooms develop a more positive attitude towards English than students in non-CLIL classrooms.

As shown in the previous paragraphs, there is a discrepancy between students' quantitative answers and the ideas mentioned in the focus group. The difference found could be understood in terms of awareness, that is to say, students are aware of their change after the module, that is, after students have used the language as a communicative tool. Indeed, students in the focus group talk about "loosing fear" of English thanks to the module:

> FG st_b1b (388): "what we have said before, that, the feeling that we have towards English..."
>
> FG st_g4a (389): "we managed to get over that fear"
>
> FG st_b1b (390): "I also did it eh? But at the end, at the end."

Students also recognize that the approach has created a natural space for language and content learning which is missing in compulsory education. Students' words bring one of CLIL's aims to the first line. That is to say, CLIL helps to create an environment where languages are used in a natural way (Coyle, Marsh and Hood, 2010; Coyle, 2011; Dalton-Puffer and Smit, 2007; Marsh, 2000) and participants' perceptions bear this out.

The attitudinal development was different according to the **students' first language.** The attitude towards English of students whose mother tongue is Basque changed in the period between the beginning of the academic year and the beginning of the CLIL-POL module. Students with Spanish as their mother tongue changed their attitudes towards English from the beginning of the academic year to the end of the CLIL-POL module, that is to say, there was a significant attitudinal change because of the CLIL-POL experience.

As far as students with both Basque and Spanish as mother tongue are concerned, the attitudinal significant change happened between the beginning and the end of the CLIL-POL module which means that the CLIL-POL experience had an impact on their attitudes towards English.

However, the comparison between groups taking into account their L1 has shown that there are not significant differences. Pedrosa and Sagasta (2008) claim in addition that **students' L1 is not a significant variable in the attitudes** they show. Even so, González (2003) concludes that students with Spanish as L1 show more positive attitudes towards English than students with Basque as L1, though both groups show a positive attitude towards English.

**Genre**, as claimed by Lasagabaster (2007), **is not an influential factor** concerning attitudes towards English. This would reflect results found in immersion programs (see Hyland, 1997, Baker and MacIntyre, 2000 for international studies), while analysis based on data from non-immersion contexts has verified that females show more positive attitudes towards second/foreign languages than males do (Byram and Esarte-Sarries, 1991; Karaham, 2007; Kachoub, 2010; Mills et. al., 2007; Sunderland, 2000; Uribe, Gutierrez and Madrid, 2008; Wright, 1999;).

**Nor was** students' **age an influential variable** regarding attitude toward English. In the same vein, Cenoz (2001) states that the issue of showing a negative attitude toward English from a certain age on (16-17 in her study) could be explained not only in terms of psychological factors but in educational terms. As far as educational aspects are concerned, the author reveals that grammar and vocabulary based approaches, and teachers should be reconsidered. Students in the focus group also mention the need to change the methodologies used in compulsory education.

> FG st_g2 (29-35) "I think eh/ eh// before eh… in secondary education, the way they teach English, eh../ is not// finally// I learned nothing following grammar, vocabulary eh// maybe doing oral presentations, like we do here// step by step/ I think that through presentations and// working in groups, preparing your sections eh// it's a good way to learn".

As far as the **specialism** chosen by the students is concerned, it should be noted that **Foreign Language Teacher Training students have the most favourable attitudes towards English**. Logically, students who choose a specialism where a good command of the foreign language is necessary are expected to show a favourable attitude toward

the target language. However, a significant difference according to specialism is only found before the CLIL-POL experience.

**Language self-perception is one of the most significant aspects regarding attitude toward English.** There is a strong correlation between self-perfection and attitude toward English. This can be supported by research studies carried out by Elorza (2011), Huguet (2007), Loredo et al. (2007), Malallah (2000) or Sarabia and Bernaus (2008). Those studies claim that language competence self-perception impacts meaningfully on students' linguistic motivation and attitude toward the language. Therefore, and being language self-perception a rooted perception, it could be concluded that students should be motivated to use the language in order to improve their self-perception.

**All in all, does a CLIL-POL experience impact on students' attitudes towards English? Is that change, if any, sustained? In answer to this, it could be asserted that a CLIL-POL experience does help sustain more positive attitudes towards English. Although it is true that quantitative data from the present study has shown that attitudes towards English were sustained due to the CLIL-POL experience, the fact that students mentioned that the attitudinal change was provoked by the CLIL-POL experience merits further discussion. The discrepancy found should be considered for future research.**

**In the same vein, it is worth highlighting that the students' attitude towards English started changing from the beginning of the academic year. As mentioned above, contextual factors, that is, effects of the university language policy and education project, as well as different modules appear to be important aspects. Consequently, and also taking into account the influence of the CLIL-POL approach in sustaining positive attitudes, results reveal that attitudinal change is a complex and dynamic process. Therefore, the need for an ecological view which underlines the importance of the different contextual levels is demonstrated. That is, data from the present study has shown that in order to understand attitudinal changes it is necessary to research more than just specific aspects. However, it has been observed that systematic work on attitudes through workshops and reflection should be promoted.**

The second purpose of the first research question is to analyze the attitudinal change regarding ICT. As Marcano, Marcano and Araujo (2007) stated, the meaningful use of ICT in teaching and learning processes is mostly related to teachers' and students' attitudes towards ICT. Furthermore, attitudes towards ICT are essential aspects of

classroom methodological innovation. Consequently, affective factors play an important role.

Nowadays' main discourse considers the so-called digital natives (Johnson, Chapman and Dyer, 2006; Prensky, 2001a) as experts in ICT. That is, as Prensky (2001a: 1) claims, "today's students think and process information fundamentally differently from their predecessors". What is more, García (2010) mentions that students, being the first generation that has grown up together with the Internet, present particular characteristics such as visual thinking and simultaneous interpretation. The use and mastering of ICT also supposes a positive attitude towards them. In contrast, the lack of empirical evidence (British Library, 2008, Bruns and Humphreys, 2007; Greck, 2006; Kipniss and Childs, 2005), shows that the above mentioned characteristics and assumptions may prove to be no more than stereotypes and that more research in the field is needed in order to obtain a more authoritative picture.

Regarding attitudes towards ICT, **empirical evidence from the present study has illustrated that the sample shows neutral-positive attitudes towards ICT**. Nevertheless, studies carried out in the field show contradictory results. On the one hand, Gutierrez, Palacios and Torrego (2010) have found that Teacher Training students have negative attitudes towards ICT. On the other hand, Hernández et al. (2010) or Marcano, Marcano and Araujo (2007) conclude that students show positive attitudes toward ICT and consider it necessary in todays' society.

Because the sample used wikis as collaborative writing tools in CLIL-POL contexts **there was a significant improvement in their attitude toward ICT. Moreover, the attitudinal change was sustained over time.** Nonetheless, qualitatively, participants in the study think that the wiki hindered creating texts collaboratively. Students mention that interaction via technology has negative aspects such as the difficulty to brainstorm or complexities for interaction for instance.

> FG st_b2 (815-817): "For me it is easier to develop ideas face to face that is / the same happens in Tuenti for example, you are speaking with someone and suddenly he or she starts telling you about another thing and you don't know what her or she is talking about, and you are speaking about different things".
>
> FG st_b1b (818): "Uh-huh".
>
> FG st_b2 (819): "Then, things are easier face to face".

FG st_g2 (820): "I think that it is a negative aspect of technology".

FG st_b2 (821): "yes, a drawback"

What students mention in the focus group could be linked with the **need for training,** although they feel they are skilled in using technology. Tutors argue that even if students are considered technologically skilful, their competence is not academic. The nature of those results is also revealed in other research studies (Jegede, Dibu-Ojerinde and Ilori, 2007; Ruiz, Anguita and Jorrín, 2006 or Twu, 2010). Guo and Stevens (2011) claim that pre-experience is also an important variable when using ICT in the academic field. In fact, students who have already used ICT in their learning process show a more positive attitude (Guo and Stevens, 2011). When pre-experience is missing, training could be the key according to Twu (2010). However, the present study concludes that more research is needed.

**Age, genre, and specialism are not significant variables concerning attitudes towards ICT**. As far as genre is concerned, Annaraja and Joseph (2006) also conclude that statistically genre does not impact on attitudes towards ICT. Liu (2009), however, states that females show more positive attitudes than males. Age and specialism are rarely discussed in the literature so more research is needed to confirm or invalidate the impact of those aspects on technological attitudes.

**Summarizing, conclusions related to this research question show that using a wiki as a collaborative writing tool in a CLIL-POL experience affects students' attitudes towards ICT, and that the attitudinal changes are sustained over time. However, the wiki is perceived by students as a hindrance to writing texts. Different studies have demonstrated that a positive attitude towards ICT is needed if methodological change is one of the major aims. Consequently, as in languages, institutional work and an ecological view of education are perceived as necessary.**

## 8.2. Discussion and conclusions on the second research question

The first research question portrays the impact of a CLIL-POL experience on attitudinal factors. Nevertheless, the present study also seeks to analyze the impact of the CLIL-POL

experience as well as the impact of attitudes on collaborative writings. The following questions deal with the issue:

| |
|---|
| 2. Do a CLIL-POL experience and attitudes towards English and ICT impact on first year Higher Education students' English collaborative writing competence?<br>2.1. Does a CLIL-POL experience impact on students' collaborative English written texts? Is that change, if any, sustained?<br>2.2. Do students' attitudes towards English and ICT impact on students' collaborative English written texts over time? |

Studies focused on language learning and teaching processes have demonstrated that language achievement is quite low when it comes to learning languages in a traditional way (Cenoz, 1991; Celaya and Ruiz de Zarobe, 2010; Hüttner and Rieder-Bünemann, 2007; Lasagabaster, 2008; Várkuti, 2010). Contrarily, when languages and curricular contents are presented together, language achievement and development are higher (Ackerl, 2007; Dalton-Puffer, 2007; Ruiz de Zarobe, 2008; Wesche, 2002).

The context – understood as ecosystem (van Lier, 2004) in ecological terms - is one of the main variables underpinning language learning processes (Williams and Burden, 1997). Consequently, a CLIL-POL context could have an impact on students' language competences. In that respect, theoretical foundations as well as research conclusions justify CLIL on the one hand, and POL and collaborative writing on the other hand, as potential views.

As far as language is concerned, research into the topic has shown that CLIL's dual focus fosters the development of vocabulary, grammar and communication skills (Ackerl, 2007; Lasagabaster, 2008; Llinares and Whittaker, 2010; Pedrosa, 2011; Ruiz de Zarobe, 2008). Regarding content, Ruiz de Zarobe (2008) asserts that there is a positive impact on content development.

Similarly, broadly based evidence has demonstrated the positive effects of collaborative writing. Particular attention is paid to language grammar development (Storch, 1999), lexical and discourse development, language knowledge learning (DiCamilla and Anton, 1997; Hirvela, 1999; Storch, 2002; Swain and Lapkin, 1998), scaffolding (Donato, 1994), and the creation of spaces to reach the ZPD (Nyikos and Hashimoto, 1997).

The results of the present study show that the **CLIL-POL experience impacts positively on students writing competence, both individually and collaboratively. However, the**

**change is not sustained over time.** It seems that the experience has provided chances for language development as found by Loranc-Paszylk (2009). As has been demonstrated students have improved their competence during the period of time in which the language has been used meaningfully but the competence developed is not sustained over time. As a consequence, the need to use language on daily basis should be underlined. Owing to the fact that the setting does not provide natural spaces to use English as a communicative tool outside formal education, educational and social institutions should reflect on how to create spaces where language could be used naturally and on a daily basis. Qualitatively, however, students recognize having improved and sustained their writing competence.

> FG st_b1b (577): "I think that we have improved in general".
>
> FG st_g4a (578): "But naturally eh?"
>
> FG st_b1b (579-581): "From the beginning, but all of us eh?, till the end, the ones that have a high level and the ones that have not such a high level, at the end we could write much more easier"
>
> FG st_b1a (582): "For sure".
>
> FG st_b1b (583-584): "Before you have said that we have improved our oral skills but I think that we have improved a lot in writing".
>
> FG st_g4a (585): "I agree".

Students' awareness concerning writing competence could be seen in the quotes above. Participants' perceptions show that the improvement was general, that is to say, regarding all students, irrespective of their level at the beginning of the course. In the same way, Dalton-Puffer (2007) claims that CLIL can help students with different levels, interests and skills to develop language. This idea is connected with the fact that no significant differences were found between groups as regards different variables. As far as individual texts are concerned, first language, genre and specialism turned out not to be significant variables. As for **collaborative texts, first language, age, specialism and language self-perception were not significant variables** but some of the findings need to be more deeply analyzed.

For example, it is worth highlighting that even at the beginning of the CLIL-POL experience, the 25-50 year-old students were the ones scoring lower; these same

students were the ones scoring higher 5 months after the CLIL-POL experience as far as both texts are concerned. Consequently, it seems that older students managed to maintain their improved writing competence as a consequence of the CLIL-POL experience.

Structure elements of collaborative learning should also be considered. In this study, mainly concerning group composition, **it was observed that creating heterogeneous groups impacted positively on students' writing, especially on students with low or intermediate language self-perception**. This complies with the findings regarding multi-level groups in studies by Johnson, Johnson and Holubec (1999); Kagan (1999), Marcos (2006) or Webb (1991).

Collaborative writing, however, requires the students to have a common understanding of the text they are developing (Pozo and Echevarria, 2009) and to appreciate that all group members need to feel necessary to the task. For this to happen, the accumulation of individual writing pieces must be overcome, and coordination is necessary. Participants of the study accepted that basic assumptions of collaborative writing processes were not fulfilled during the experience.

> FG st_g4b (420-421): "We used to meet the four of us and log in the wiki, and I used to write a part, a group mate another one, the other another piece".
>
> FG st_g4a (422): "we used to do it in that way too"

**The sum of the work carried out by the study participants showed that the so-called digital natives still need time to understand the social nature of ICT**. In fact, outcomes from research on collaborative writing show that students value group writing positively (Shehadeh, 2011) and feel that chances to get feedback increase (Storch, 2005). Nonetheless, in this particular case and as found in other research studies (Storch and Wigglesworth, 2007) collaborative texts proved to be better than individual texts.

Collaborative writing requires understanding writing -and education- in terms of interaction and dialogue, rather than monologic experiences enacted in many classrooms (Mercer, 1997). That also involves changes in students' and teachers' roles; teachers are challenged to create spaces for discussion and students are required to be responsible for their own learning. According to Gollin (1999: 289) "collaborative writing is a complex activity and needs to be actively taught". In other words, training in both

collaborative writing and in using a wiki as a collaborative writing tool should be considered fundamental.

**Summarizing, empirically, the important observation would be that a CLIL-POL experience impacts positively on students' collaborative and individual writing skills but the change is not sustained over time. A CLIL-POL experience can foster writing competence, but they need to use the if it is to be sustained. In fact, writing competence cannot be sustained without use. The need for training in collaborative writing could also be another reason behind the lack of sustainability over time. Tutors as well as students conclude that training is necessary.**

As Cenoz (1991) and Sagasta (2001) concluded attitude towards a language is one of the main factors influencing language output. On the subject of collaborative writing that claim is supported by data from the present research but under some conditions. That is, **attitude towards English was found to be an influential variable in collaborative texts before and five months after the CLIL-POL experience.** Concerning the stage after the CLIL-POL experience, attitude towards English impacted on individual texts but not on collaborative texts.

As far as attitudes towards ICT are concerned, the impact is significant on the individual texts written before and after the CLIL-POL experience. Besides, **five months after the experience the influence of attitudes towards ICT was significant in collaborative texts.** According to Davis, Bagozzi and Warshaw's (1989) attitudes have a direct impact on the use of technology. Moreover, in a situation where there is not direct tutor-student interaction or a compulsory task to fulfil (five months after the CLIL-POL experience in this research), students' with a positive attitude towards ICT performed better in collaborative texts.

**All in all, do students' attitudes towards English and ICT impact on students' collaborative English written texts over time? It can be stated that before and five months after the CLIL-POI experience attitude towards English was a significant variable for collaborative writing. As regards attitudes towards ICT, it should be mentioned that a significant impact was only found five months after the CLIL-POL experience. So, attitudes towards English could impact collaborative writing when CLIL-POL experiences are not being carried out. That is, students with positive attitudes towards English seem to sustain their collaborative writing competence when the CLIL-POL is not running while students with negative attitudes towards English would have difficulties in sustaining the writing competence. However, more**

**research is needed to see to what extent attitude towards ICT can impact on wiki based collaborative writing.**

## 8.3. Discussion and conclusions on the third research question

The third research question is related to the tutor. Even if the present question's nature is exploratory, the discussion will provide some slight insights into the impact of tutor's attitude towards the CLIL-POL module, the attitude towards using ICT, and ICT skills on students' collaborative writings. This is the last research question:

| |
|---|
| 3. Which is the tutor's impact on first year Higher Education students' collaborative texts? |
| 3.1. Do tutors' attitudes toward the CLIL-POL module impact on students' collaborative writing? |
| 3.2. Do tutors' attitudes toward ICT impact on students' collaborative writing? |
| 3.3. Do tutors' ICT-profiles impact on students' collaborative writing? |

A major goal of education is constructing and designing spaces that will ensure the development of the skills needed by future professionals and students in the Knowledge Society. Social changes have led to alternative conceptions of learning, **away from transmission, where learning is understood as the organic construction of personal knowledge resulting from social interaction.** In this regard **students' and tutors' roles should be reconsidered** (Noguera and Gros, 2009). Tutors' role should therefore be defined in terms of guidance (Mukkonen, Lakkala and Hakkarainen, 2005), mentoring and coaching of a more emergent learning process (Smith and MacGregor, 1992). As Frank, Lavy and Etala (2005: 280) asserted "lecturing to passive students is replaced by encouraging motivation, tutoring, providing resources, and helping learners to construct their own knowledge". Therefore, a positive attitude from tutors towards their work should be developed in order to change their role.

Even though the sample of tutors showed a positive attitude towards the module, **preliminary effects of tutors' attitude towards the module emerged in the collaborative writings collected for the present study five months after the CLIL-POL module.** That is to say, if tutors show high motivation towards the module throughout it,

then students will write better collaborative texts five months after the experience, demonstrating how students' competence is maintained more easily.

It has also been found that students with Basque as mother tongue, females and students from Special Needs specialicism were particularly influenced by tutors' attitude before and five months after the CLIL-POL experience. In fact, correlation was found between the above mentioned variables and tutors' motivation. Therefore, students' with Basque as mother tongue, females and those enrolled in the Special Needs stream are more sensitive towards tutors' motivation at some stages. In that regard, no relationship was found between variables right after the module. **As a result, it could be maintained that the CLIL-POL experience made the differences promoted by tutors' motivation disappear. That is, tutor's motivation is not a significant variable after the CLIL-POL experience but it is before and five months after the CLIL-POL experience.**

**On the whole, do tutors' attitudes toward the CLIL-POL module impact on students' collaborative writing? Exploratory data from the present study has shown that tutors' attitude towards the CLIL-POL module could be a partially significant variable once the experience is completed. That is to say, it seems that students' collaborative writing competence is sustained over time when tutors show a positive attitude towards the module. Nevertheless,** the role of tutors' motivation in teaching-learning processes needs to be extensively analysed.

Guo and Stevens (2011) contended that attitudes that teachers have towards ICT impact meaningfully on students' attitudes towards ICT. Results from the present research illustrate that there is a positive correlation between students writing performance and tutors' attitudes towards ICT at the beginning of the CLIL-POL module but negative five months after the module. That means that a **tutor's positive attitude might have an impact when students do not manage the tool, however once students are able to use the tool the tutor's positive attitude towards the use of ICT is as significant as at the beginning.**

In the same way and linked to tutors' attitude towards ICT, tutors' ICT profile is also to some extent partially significant five months after the CLIL-POL module. The present study has shown that students' collaborative writings are better when tutors' are knowledgeable about ICT and web 2.0 resources, especially over a long-term period. That is, data shows that on the part of the tutor more than basic ICT knowledge is necessary.

Significant correlations were found between tutors' ICT profile and collaborative writings before the CLIL-POL experience in females and students' in Foreign Language specialism. Yet five months after the CLIL-POL experiences, correlations were significant in the following groups: female, 17-19 year old students, Special Needs specialism and students with a good perception of their level. Therefore, it can be concluded that in this particular case certain groups are more sensitive to tutors' ICT profiles.

**All in all, do tutors' attitudes toward ICT impact on students' collaborative writing? And does a tutor's ICT profile impact on students' collaborative writing? Constrained by the exploratory nature of the questions, it could be considered that a positive attitude and basic knowledge may be required despite them not being significant variables.** Consequently, more research is needed to establish the exact weight of these factors, and their interactions, in determining outcomes regarding the students' collaborative writing competence.

## 8.4. Overall conclusions

The study's findings have implications worthy of consideration:

- As far as the CLIL-POL context is concerned, it needs to be highlighted that student awareness regarding both content and language was perceived. Therefore, the dual focus underlined in CLIL's principles is reinforced through the present study.

- The attitudinal change towards English observed in the participants highlights the importance of institutional ideas and beliefs. What is more, working together as a whole on languages through different modules, but sharing a common understanding of languages and of the linguistic project aimed at promoting additive multilingualism could be one of the main keys concerning attitudinal changes.

- In the same way, concerning attitudes towards ICT, even if students' attitudes are positive, the need to work on digital academic tools institutionally (as in languages) should also be considered.

- Promoting awareness and training on collaborative learning, face to face and via Internet, is a path to think carefully about with special emphasis on peer-scaffolding. It has been observed that feelings regarding groups as communities should also be worked on. In that regard, Reig (2012) states that in order to learn with ICT, institutions and agents should think in terms of society and not in terms of technology.

- Another implication is the need to analyse the role of tutors from a reflective approach concerning strategies to guide students in collaborative writing. However, guidelines should be built up from and for the community of teachers sharing practices and focusing on self and group improvement.

- As far as tutors are concerned, one conclusion of this study is that certain conditions such as ICT profile and attitude towards ICT may impact on students' writing competence while interacting with digital tools. Amongst those conditions, different aspects like genre or specialism might also be analyzed due to the fact that some groups show a more sensitive nature.

## 8.5. Limitations

This section outlines the limitations this research has identified together with some possible proposals to overcome them.

As far as **general limitations** are concerned, the following have been identified:

1. **Knowing the students and tutors** involved in the research. Being the researcher tutor in one of the groups involved and consequently, part of the tutors' group could affect the objectivity of some of the answers given by students and tutors in the focus group or semi-structured interviews. However, that is why quantitative anonymous tools were also used in the study, and particular care was taken regarding the focus group and the interviews, following step by step the recommendations given by Murillo and Mena (2006) and Cohen, Manion and Morrison (2011).

2. Lack of a **control-group**. A control group where language was taught in a traditional way could have been set up in order to compare effects of the

different approaches on attitudes and writing competence. Nevertheless, the implementation of a traditional approach would have been difficult to reconcile with the faculty's education plan.

3. The **number of participants** in the study. There are 100 students enrolled in the first year of Primary Teacher Training Degree. In order to achieve a more complete picture, comparisons with subsequent years' students could be made.

4. Using a **multilevel analysis** in order to measure the real impact of the tutor. Linked to the previous limitation, having a larger number of groups would have provided an insight into the real impact of the tutor while analysing data from a multilevel approach. Considering tutors as second level factors and students themselves as first level variables, different models could have been designed as shown in the following illustration [Figure 8.1.]:

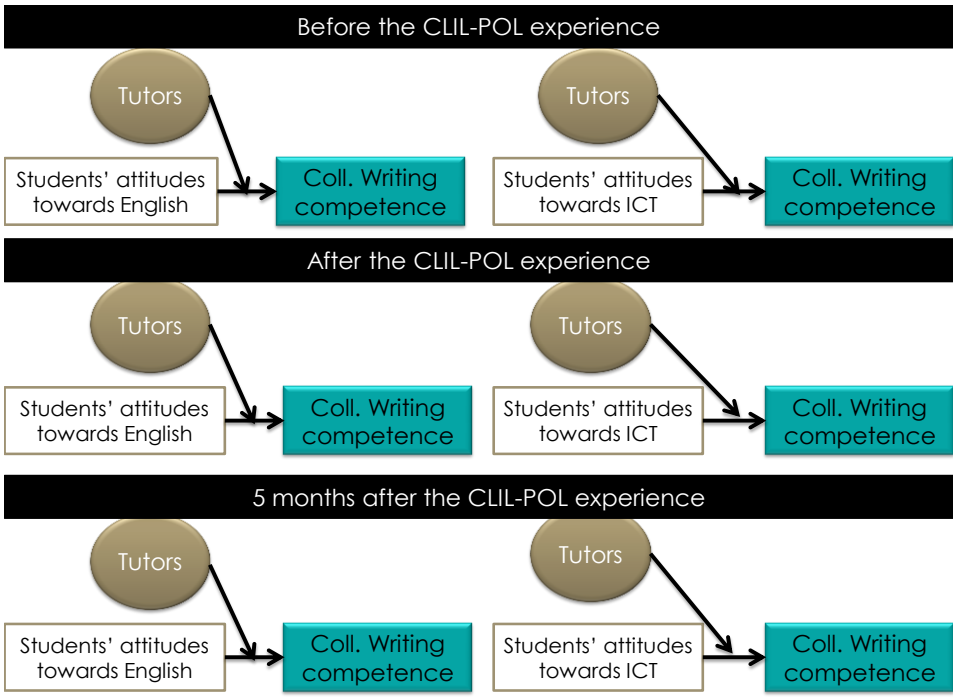


**Figure 8.1. Multilevel analysis**

5. As far as **written texts** are concerned, the emphasis was placed on the final product and specifically concerning **language skills.** Coherent with the CLIL-POL approach, emphasizing both content and language is considered to be appropriate. Consequently, the tool used in this research for a CLIL approach needs to be adapted.

6. Concerning the **written texts,** and as mentioned above, the emphasis was placed on the **product** but what about the **process used** to create the collaborative texts?

7. Bringing the **questionnaire up to date** in terms of language used in ICT and web 2.0 tools. Baker's original questionnaire as well as Lasagabaster's adaptation take into account items such as language used when watching TV or listening to radio, however language used in social networks or Internet surfing should also be included.

8. The huge **amount of data** displayed creates difficulties when reading the report. That is why summary-tables were provided after each question.

9. A **focus group** is needed at all the stages where written texts and questionnaires were used to gather data. As the focus group was set up five months after the CLIL-POL experience, students may have found it difficult to reflect on earlier happenings. The focus group is needed before, during and after the experience.

10. The focus group consisted of **students from different classes.** Specific focus groups within each class group would have made understanding the different contexts at a micro level easier.

## 8.6. Contributions

As far as **contributions** are concerned, the present study could contribute to the field of **CLIL approaches in Higher Education** contexts as well as to the field of the **use of ICT in language learning and teaching processes from a socio-cultural approach**.

### 8.6.1. Contributions to the field of CLIL in Higher Education

This research, placed in a context where additive multilingualism is fostered, claims the usefulness of introducing CLIL approaches at tertiary level in order to promote an

**attitudinal positive change and sustain** it regarding languages in general but foreign languages in particular.

It also asserts the influence of CLIL approaches on the **development of writing competence** and the awareness of it. However, the demand for continuous modules in which CLIL approaches are implemented is also emphasized.

As a third contribution it could be stated that CLIL approaches appear to be of vital importance in **Teacher Training Degrees**, giving teachers of the future experience in this approach. Furthermore, future teachers will be aware of English as a communicative medium.

The last contribution concerning this field could be **the importance of working on attitudes** through different tasks and the need for **institutional support** regarding this development. The study has shown that a particular emphasis is needed from all education stakeholders in order to promote a substantial change.

### 8.6.2. Contributions to the use of ICT in language learning and teaching processes from a sociocultural approach

The study has given an insight into the **real use of technologies in academic placements** that the so-called digital natives do. It has underlined the **requirement of continuous training and assessment** when integrating technological tools.

The results arising from using the wiki as a particular example in this study have illustrated the **lack of understanding it as a tool for peer-scaffolding**. Subsequently there is a need to highlight and make explicit the social nature of web 2.0 technologies for learning processes in the academic field.

## 8.7. Further research

This last section of the chapter analyses some possible directions for **further research** based on the general picture obtained in the present study.

Even if the present research is longitudinal, the need to **measure attitudes** and not just **writing competence** but also **oral skills**, during the **entire degree** could be considered a future research line. The aim of a larger longitudinal research would be to get a global view of the degree and an overall picture when implementing more than one CLIL-POL approach-module.

As far as the writing process is concerned, examining the influence of **reflective learning in CLIL context and in the development of multilingual competence** is also seen as a future research line. In other words, the main point is to contribute to the development of multilingual competence as well as to the development of the conceptual (declarative) and procedural knowledge of CLIL among prospective teachers, through a formation model based on reflective learning.

In a multilingual society, the **impact of CLIL approaches taking into account students' mother tongue** is another line to follow in the field. Further research should try to comprehend the impact of CLIL approaches depending on the individual's first language.

On the subject of ICT, designing an **instrument to measure peer-interaction and scaffolding** when using a wiki could prove beneficial. The tool should include - according to CLIL-POL contexts - aspects to analyse interaction and scaffolding on content as well as on language.

As regards the changing nature of higher education, **carrying out the research with a sample of students in on-line or blended modalities** is also seen as important.

**The use of social networks to cooperate in the field of foreign language teaching-learning processes** may also be worth researching. Applications such as Tuenti or Facebook reflect the social nature of Internet and could motivate students to use technological resources to collaborate and to develop the social aspect of technology.

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# Appendixes

## Appendix A: Questionnaire – Language attitudes

(Adapted from Lasagabaster, D. (2003))

We are surveying first year students at our University about their attitudes towards languages. Participation in this study is confidential, and the questionnaire should only take 10 minutes to complete.

**1st section**

ID:_____ Age: _____

Gender: ☐ Female ☐ Male

Degree: ☐ Infant Education ☐ Primary Education

Specialism: Infant Education

- ☐ Infant Education
- ☐ Foreign Language

Primary Education

- ☐ Foreign Language
- ☐ Physical Education
- ☐ Special Needs Education
- ☐ Primary Education

First language :

- ☐ Basque
- ☐ Spanish
- ☐ Basque/ Spanish
- ☐ Other _____

In your opinion, which is your level in each of the following languages?

| | Very poor | Poor | Mediocre | Good | Very good |
|---|---|---|---|---|---|
| Basque | | | | | |
| Spanish | | | | | |
| English | | | | | |

Have you ever been in English-speaking countries? ☐ Yes ☐ No

City: ☐ More than 100.000 inhabitants ☐ Less than 100.000 inhabitants

Province: ☐ Araba ☐ Bizkaia ☐ Gipuzkoa ☐ Nafarroa

In my birthplace:

- ☐ Spanish is mainly spoken
- ☐ Basque is mainly spoken

School model: ☐ Public ☐ Private

Linguistic model: ☐ A ☐ B ☐ D ☐ Other. _____

Have you ever done a subject through English (Social Science, Science, Mathematics, Physical Education, Arts and Crafts …)?

☐ Yes ☐ No

If your answer is "yes", mention in which level and course (Primary, Secondary…)

_____

Do you speak any other language than Basque, Spain and English?

☐ No ☐Yes Which one ?_____

## 2nd section

In which language do you speak to the following people?

| | Always in Basque | Basque more than Spanish | Similarly Basque and Spanish | Spanish more than Basque | Always in Spanish |
|---|---|---|---|---|---|
| Father | | | | | |
| Mother | | | | | |
| Brothers/ Sisters | | | | | |
| Friends in the classroom | | | | | |
| Friends outside university | | | | | |
| Teachers | | | | | |
| Neighbours | | | | | |

Which language do you use with the following?

| | Always Basque | Basque more than Spanish | Similarly Basque and Spanish | Spanish more than Basque | Always Spanish |
|---|---|---|---|---|---|
| Watching TV | | | | | |
| Reading newspapers/ magazines | | | | | |
| Listening to music | | | | | |
| Listening to radio | | | | | |
| Surfing the net | | | | | |

In your opinion, how important is Basque for the following?

| | Very important | Important | Quite important | Not really important | Not important at all |
|---|---|---|---|---|---|
| Making friends | | | | | |
| Reading | | | | | |
| Writing | | | | | |
| Watching TV | | | | | |
| Finding a job | | | | | |
| Being liked | | | | | |
| Living in the BAC | | | | | |
| Growing up children | | | | | |
| Shopping | | | | | |
| Calling | | | | | |
| Passing exams | | | | | |
| Being accepted | | | | | |
| Talking to university friends | | | | | |
| Talking to university teachers | | | | | |
| Talking to people out of university | | | | | |

In your opinion, how important is Spanish for the following?

| | Very important | Important | Quite important | Not really important | Not important at all |
|---|---|---|---|---|---|
| Making friends | | | | | |
| Reading | | | | | |
| Writing | | | | | |
| Watching TV | | | | | |
| Finding a job | | | | | |
| Being liked | | | | | |
| Living in the BAC | | | | | |
| Growing up children | | | | | |
| Shopping | | | | | |
| Calling | | | | | |
| Passing exams | | | | | |
| Being accepted | | | | | |
| Talking to university friends | | | | | |
| Talking to university teachers | | | | | |
| Talking to people out of university | | | | | |

In your opinion, how important is English for the following?

| | Very important | Important | Quite important | Not really important | Not important at all |
|---|---|---|---|---|---|
| Making friends | | | | | |
| Reading | | | | | |
| Writing | | | | | |
| Watching TV | | | | | |
| Finding a job | | | | | |
| Being liked | | | | | |
| Living in the BAC | | | | | |
| Growing up children | | | | | |
| Shopping | | | | | |
| Calling | | | | | |
| Passing exams | | | | | |
| Being accepted | | | | | |
| Talking to university friends | | | | | |
| Talking to university teachers | | | | | |
| Talking to people out of university | | | | | |

**3rd section**

Here are some statements about the Basque language. Please say whether you agree or disagree with these statements. There are no correct or wrong answers. Please be as honest as possible.

| | Strongly agree | Agree | Neither Agree nor disagree | Dlsagree | Strongly disagree |
|---|---|---|---|---|---|
| I like hearing Basque spoken | | | | | |
| Basque should be taught to all pupils in the Basque Country | | | | | |
| I like speaking Basque | | | | | |
| Basque is a difficult language to learn | | | | | |
| There are more useful languages to learn than Basque | | | | | |
| I prefer to be taught in Basque | | | | | |
| Learning Basque enriches my cultural knowledge | | | | | |
| I would not mind marrying a Basque speaker | | | | | |
| Basque is a language worth learning | | | | | |
| If I have children, I would like them to be Basque speakers regardless of other languages they may know. | | | | | |

Here are some statements about the Spanish language. Please say whether you agree or disagree with these statements. There are no correct or wrong answers. Please be as honest as possible.

| | Strongly agree | Agree | Neither Agree nor disagree | Dlsagree | Strongly disagree |
|---|---|---|---|---|---|
| I like hearing Spanish spoken | | | | | |
| Spanish should be taught to all pupils in the Basque Country | | | | | |
| I like speaking Spanish | | | | | |
| Spanish is a difficult language to learn | | | | | |
| There are more useful languages to learn than Spanish | | | | | |
| I prefer to be taught in Spanish | | | | | |
| Learning Spanish enriches my cultural knowledge | | | | | |
| I would not mind marrying a Spanish speaker | | | | | |
| Spanish is a language worth learning | | | | | |
| If I have children, I would like them to be Spanish speakers regardless of other languages they may know. | | | | | |

Here are some statements about the English language. Please say whether you agree or disagree with these statements. There are no correct or wrong answers. Please be as honest as possible.

| | Strongly agree | Agree | Neither Agree nor disagree | Disagree | Strongly disagree |
|---|---|---|---|---|---|
| I like hearing English spoken | | | | | |
| English should be taught to all pupils in the Basque Country | | | | | |
| I like speaking English | | | | | |
| English is a difficult language to learn | | | | | |
| There are more useful languages to learn than English | | | | | |
| I prefer to be taught in English | | | | | |
| Learning English enriches my cultural knowledge | | | | | |
| I would not mind marrying a English speaker | | | | | |
| English is a language worth learning | | | | | |
| If I have children, I would like them to be English speakers regardless of other languages they may know. | | | | | |

**4th section**

Here are some statements about the Basque, Spanish and English languages. Please say whether you agree or disagree with these statements. There are no correct or wrong answers. Please be as honest as possible.

| | Strongly agree | Agree | Neither Agree nor disagree | Disagree | Strongly disagree |
|---|---|---|---|---|---|
| It is important to know Basque, Spanish and English | | | | | |
| Knowing one language is enough to live in the BAC | | | | | |
| Knowing Basque, Spanish and English makes people cleverer | | | | | |
| Children get confused when they learn Basque, Spanish and English | | | | | |
| Knowing Spanish, Basque and English helps to get a job | | | | | |
| All schools in the BAC must teach Spanish, Basque and English | | | | | |
| It is not difficult to learn the three languages | | | | | |
| People know more if they speak Spanish, Basque and English | | | | | |

| | | | | | |
|---|---|---|---|---|---|
| People who speak Basque, Spanish and English can have more friends than those who speak one language | | | | | |
| Knowing Spanish, Basque and English is more suitable for young people than for adults | | | | | |
| Children can learn easily Spanish, Basque and English at the same time | | | | | |
| Spanish, Basque and ENglish are important for the future of the BAC | | | | | |
| People can earn more money if they speak Basque, Spanish and English. | | | | | |
| I would not like English to control Basque and Spanish | | | | | |
| I would not like Basque to control English and Spanish | | | | | |
| I would not like Spanish to control Basque and English | | | | | |
| I would like to speak Basque, Spanish and English | | | | | |
| All inhabitants in the BAC should know Spanish, Basque and English | | | | | |
| If I have children, I would like them to speak Spanish, Basque and English | | | | | |
| Spanish, Basque and English can coexist together in the BAC | | | | | |
| Given the European context, it is very important to speak Spanish, Basque and English | | | | | |

Spanish, Basque and English should be taught at schools in the following order (Choose only one option) .

| | | |
|---|---|---|
| 1. Basque<br>2. English<br>3. Spanish | 1. Basque<br>2. Spanish<br>3. English | 1. Spanish<br>2. Basque<br>3. ENglish |
| 1. Spanish<br>2. English<br>3. Basque | 1. English<br>2. Basque<br>3. Spanish | 1. English<br>2. Spanish<br>3. Basque |
| 1. English and Basque<br>2. Spanish | 1. English and Spanish<br>2. Basque | 1. Basque and Spanish<br>2. English |

## Appendix B: Questionnaire- ICT access, use and attitudes

(Adapted from Kennedy et al. (2007) and Gónzalez, Espuny and Gisbert (2010)

**Experience with technology questionnaire**

We are surveying first year students at our University about their use of technology. Your responses to this questionnaire will assist us in catering for the needs of students at university. Participation in this study is confidential, and the questionnaire should only take 15 minutes to complete.

**1.0 Background Information**

ID……

What Faculty are you enrolled in?

……..

What course are you enrolled in? (e.g. Infant Education, Primary Education…)

…….

What subject are you taking this questionnaire in ?.....

How are you enrolled in this course?

☐ Presential ☐ Blended

☐ On-line

In what year did you first enrol in this course?.....

Date of birth (YYYY/MM/DD)…….

Gender: ☐ Male ☐ Female

Are you from a non-English-speaking area? ☐ Yes ☐ No

Is English your first language ? ☐ Yes ☐ No

Are you a student with a disability ? ☐ Yes ☐ No

Are you an International or a Local student? ☐ Local ☐ International

Postcode …….

If you are not a BAC resident, where do you live?.....

**2.0 Access to Technology**

Not including your access on faculty, please use the table to indicate your level of access to different types of technologies.

| Types of Technology | Access exclusively for my own use | Access any time I need it, shared with other people | Limited or inconvenient access | No access | Not sure |
|---|---|---|---|---|---|
| Desktop computer | ❒ | ❒ | ❒ | ❒ | ❒ |
| Portable computer (i.e. laptop or notebook) | ❒ | ❒ | ❒ | ❒ | ❒ |
| Electronic organiser (e.g. PDA, Palm, PocketPC) | ❒ | ❒ | ❒ | ❒ | ❒ |
| MP3 player (e.g. iPod) | ❒ | ❒ | ❒ | ❒ | ❒ |
| MP3 player with video capabilities | ❒ | ❒ | ❒ | ❒ | ❒ |
| Digital camera | ❒ | ❒ | ❒ | ❒ | ❒ |
| Mobile phone | ❒ | ❒ | ❒ | ❒ | ❒ |
| Mobile phone with a camera | ❒ | ❒ | ❒ | ❒ | ❒ |
| Mobile phone with an MP3 player | ❒ | ❒ | ❒ | ❒ | ❒ |
| Video (3G) capable mobile phone | ❒ | ❒ | ❒ | ❒ | ❒ |
| Memory stick (e.g. USB, flash drive) | ❒ | ❒ | ❒ | ❒ | ❒ |
| Video game console (e.g. Xbox, playstation) | ❒ | ❒ | ❒ | ❒ | ❒ |
| Web cam | ❒ | ❒ | ❒ | ❒ | ❒ |
| Dial-up internet access | ❒ | ❒ | ❒ | ❒ | ❒ |
| Broadband internet access (ADSL or cable) | ❒ | ❒ | ❒ | ❒ | ❒ |
| Wireless internet access | ❒ | ❒ | ❒ | ❒ | ❒ |

### 3.0 Use of technology (1)

Below is a list of different ways in which information and communication technologies can be used.

Please indicate : 1. How often, on average, you have used technology in each way over the past year.

2. How skilled you are at using technology in each way

If you have never used a particular technology please tick NU (Not Used) and do not provide a skill rating.

| Ways in which technology can be used | Several times a day | Once a day | Several times a week | Once a week | Once/twice a month | Every few months | Once/twice a year | | Very skilled | | | | Not very skilled | NU |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Use a computer to manage or manipulate digital photos (e.g. iPhoto, Dig. Image) | ❒ | ❒ | ❒ | ❒ | ❒ | ❒ | ❒ | | 1 | 2 | 3 | 4 | 5 | ❒ |
| Use a computer to create or manipulate digital images (Photoshop) | ❒ | ❒ | ❒ | ❒ | ❒ | ❒ | ❒ | | 1 | 2 | 3 | 4 | 5 | ❒ |
| Use a computer for creating or editing audio | ❒ | ❒ | ❒ | ❒ | ❒ | ❒ | ❒ | | 1 | 2 | 3 | 4 | 5 | ❒ |

| | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| and video (e.g. iMovie, Movie Maker) | | | | | | | | | | | | | | |
| Use the web to share photographs or other digital material (e.g. using blinklist, Flickr) | ❒ | ❒ | ❒ | ❒ | ❒ | ❒ | ❒ | | 1 | 2 | 3 | 4 | 5 | ❒ |
| Use the web to make phone calls (e.g. VoIP, Skype) | ❒ | ❒ | ❒ | ❒ | ❒ | ❒ | ❒ | | 1 | 2 | 3 | 4 | 5 | ❒ |
| Use the web for web-conferencing (e.g. using a webcam with Skype) | ❒ | ❒ | ❒ | ❒ | ❒ | ❒ | ❒ | | 1 | 2 | 3 | 4 | 5 | ❒ |
| Use the web to read RSS feeds (e.g. news feeds) | ❒ | ❒ | ❒ | ❒ | ❒ | ❒ | ❒ | | 1 | 2 | 3 | 4 | 5 | ❒ |
| Use the web to keep ypur own blog or vblog | ❒ | ❒ | ❒ | ❒ | ❒ | ❒ | ❒ | | 1 | 2 | 3 | 4 | 5 | ❒ |
| Use the web to read other people's blogs or vblogs | ❒ | ❒ | ❒ | ❒ | ❒ | ❒ | ❒ | | 1 | 2 | 3 | 4 | 5 | ❒ |
| Use the web to comment on blogs or vblogs | ❒ | ❒ | ❒ | ❒ | ❒ | ❒ | ❒ | | 1 | 2 | 3 | 4 | 5 | ❒ |
| Use the web to contribute to the development of a wiki | ❒ | ❒ | ❒ | ❒ | ❒ | ❒ | ❒ | | 1 | 2 | 3 | 4 | 5 | ❒ |
| Use a mobile phone to call people | ❒ | ❒ | ❒ | ❒ | ❒ | ❒ | ❒ | | 1 | 2 | 3 | 4 | 5 | ❒ |
| Use a mobile phone to text/SMS people | ❒ | ❒ | ❒ | ❒ | ❒ | ❒ | ❒ | | 1 | 2 | 3 | 4 | 5 | ❒ |
| Use a mobile phone to take digital photos or movies | ❒ | ❒ | ❒ | ❒ | ❒ | ❒ | ❒ | | 1 | 2 | 3 | 4 | 5 | ❒ |
| Use a mobile phone to send pictures or movies to other people | ❒ | ❒ | ❒ | ❒ | ❒ | ❒ | ❒ | | 1 | 2 | 3 | 4 | 5 | ❒ |
| Use a mobile phone to make video calls | ❒ | ❒ | ❒ | ❒ | ❒ | ❒ | ❒ | | 1 | 2 | 3 | 4 | 5 | ❒ |
| Use a mobile phone as an MP3 player | ❒ | ❒ | ❒ | ❒ | ❒ | ❒ | ❒ | | 1 | 2 | 3 | 4 | 5 | ❒ |
| Use a mobile phone as a personal organiser (e.g. diary, address book) | ❒ | ❒ | ❒ | ❒ | ❒ | ❒ | ❒ | | 1 | 2 | 3 | 4 | 5 | ❒ |
| Use a mobile phone to access information/ services on the web | ❒ | ❒ | ❒ | ❒ | ❒ | ❒ | ❒ | | 1 | 2 | 3 | 4 | 5 | ❒ |
| Use a mobile phone to send or receive email | ❒ | ❒ | ❒ | ❒ | ❒ | ❒ | ❒ | | 1 | 2 | 3 | 4 | 5 | ❒ |

**3.0 Use of technology (2)**

Below is a list of different ways in which information and communication technologies can be used.

Please indicate : 1. How often, on average, you have used technology in each way over the past year.

2. How skilled you are at using technology in each way

If you have never used a particular technology please tick NU (Not Used) and do not provide a skill rating.

| Ways in which technology can be used | Several times a day | Once a day | Several times a week | Once a week | Once/twice a month | Every few months | Once/ twice a year | | Very skilled | | | | Not very skilled | NU |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|

| | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Use a computer for creating presentations (e.g. PowerPoint) | ❒ | ❒ | ❒ | ❒ | ❒ | ❒ | ❒ | | 1 | 2 | 3 | 4 | 5 | ❒ |
| Use a computer to play digital music files (e.g. iTunes) without accessing the internet | ❒ | ❒ | ❒ | ❒ | ❒ | ❒ | ❒ | | 1 | 2 | 3 | 4 | 5 | ❒ |
| Use a computer to play games | ❒ | ❒ | ❒ | ❒ | ❒ | ❒ | ❒ | | 1 | 2 | 3 | 4 | 5 | ❒ |
| Use games console to play games | ❒ | ❒ | ❒ | ❒ | ❒ | ❒ | ❒ | | 1 | 2 | 3 | 4 | 5 | ❒ |
| Use the internet/web or a LAN to play networked games | ❒ | ❒ | ❒ | ❒ | ❒ | ❒ | ❒ | | 1 | 2 | 3 | 4 | 5 | ❒ |
| Use a handheld computer (e.g. PDA) as a personal organiser (e.g. diary, address book) | ❒ | ❒ | ❒ | ❒ | ❒ | ❒ | ❒ | | 1 | 2 | 3 | 4 | 5 | ❒ |
| Use the web to access a portal "Course or Learning Management System" (e.g.Moodle) | ❒ | ❒ | ❒ | ❒ | ❒ | ❒ | ❒ | | 1 | 2 | 3 | 4 | 5 | ❒ |
| Use the web to look up reference information for study purposes (e.g. online dictionaries) | ❒ | ❒ | ❒ | ❒ | ❒ | ❒ | ❒ | | 1 | 2 | 3 | 4 | 5 | ❒ |
| Use the web to browse for general information (e.g. news, holidaying, event timetables) | ❒ | ❒ | ❒ | ❒ | ❒ | ❒ | ❒ | | 1 | 2 | 3 | 4 | 5 | ❒ |
| Use the web to listen to sound recordings (e.g. via streaming audio or iTunes) | ❒ | ❒ | ❒ | ❒ | ❒ | ❒ | ❒ | | 1 | 2 | 3 | 4 | 5 | ❒ |
| Use the web for other pastimes ( i.e. for leisure activities) | ❒ | ❒ | ❒ | ❒ | ❒ | ❒ | ❒ | | 1 | 2 | 3 | 4 | 5 | ❒ |
| Use the web to buy or sell things (e.g. eBay, Amazon, air tickets) | ❒ | ❒ | ❒ | ❒ | ❒ | ❒ | ❒ | | 1 | 2 | 3 | 4 | 5 | ❒ |
| Use the web for other services (e.g. banking, paying bills) | ❒ | ❒ | ❒ | ❒ | ❒ | ❒ | ❒ | | 1 | 2 | 3 | 4 | 5 | ❒ |
| Use the web/internet to send or receive emails (e.g. Hotmail, Yahoo Outlook). | ❒ | ❒ | ❒ | ❒ | ❒ | ❒ | ❒ | | 1 | 2 | 3 | 4 | 5 | ❒ |
| Use the web / internet for instant messaging / chat (e.g. Myspace, Trendster) | ❒ | ❒ | ❒ | ❒ | ❒ | ❒ | ❒ | | 1 | 2 | 3 | 4 | 5 | ❒ |
| Use the web to build and maintain a website | ❒ | ❒ | ❒ | ❒ | ❒ | ❒ | ❒ | | 1 | 2 | 3 | 4 | 5 | ❒ |
| Use social networking software on the web (e.g. Myspace, Trendster) | ❒ | ❒ | ❒ | ❒ | ❒ | ❒ | ❒ | | 1 | 2 | 3 | 4 | 5 | ❒ |
| Use social bookmarking software on the web (e.g. del.icio.us) | ❒ | ❒ | ❒ | ❒ | ❒ | ❒ | ❒ | | 1 | 2 | 3 | 4 | 5 | ❒ |
| Use the web to download podcasts (e.g. using Juice, iTunes) | ❒ | ❒ | ❒ | ❒ | ❒ | ❒ | ❒ | | 1 | 2 | 3 | 4 | 5 | ❒ |
| Use the web to publish podcasts (e.g. using Podifier, Podcaster, PodProduces) | ❒ | ❒ | ❒ | ❒ | ❒ | ❒ | ❒ | | 1 | 2 | 3 | 4 | 5 | ❒ |

## 3.0. Use of technology (3)

In which language do you use the following?

| | English | Spanish | English | Other |
|---|---|---|---|---|
| Operating system (e.g Windows, Linux..) | ❒ | ❒ | ❒ | ❒ |
| Office (Microsoft word, open office writer…) | ❒ | ❒ | ❒ | ❒ |
| Other applications (SPSS…) | ❒ | ❒ | ❒ | ❒ |
| Email account (Gmail,. Hotmail…) | ❒ | ❒ | ❒ | ❒ |
| Searching engines (e.g. Google, Yahoo…) | ❒ | ❒ | ❒ | ❒ |
| Social networks (ad. Facebook, Tuenti…) | ❒ | ❒ | ❒ | ❒ |
| MP3 | ❒ | ❒ | ❒ | ❒ |
| Mobile phones | ❒ | ❒ | ❒ | ❒ |
| DTT (Digital Terrestrial Television) | ❒ | ❒ | ❒ | ❒ |

## 4.0 Importance of technology in subjects

Think about the subjects you are taking this survey in and use the rating scales below to give us your opinion of how important each item is for being good at this subject.

| How important are these for being good at this subject? | Not at all important | Not very important | Quite important | Very important |
|---|---|---|---|---|
| Skills, techniques and specialist knowledge | ❒ | ❒ | ❒ | ❒ |
| Natural-born talent | ❒ | ❒ | ❒ | ❒ |
| Taste, judgement or a developed "feel" for it | ❒ | ❒ | ❒ | ❒ |

## 5.0 Technologies to assist your university studies

| I want to use technology in my studies because: | Strongly agree | | Neutral | | Strongly disagree |
|---|---|---|---|---|---|
| It will help me get better results in my subjects | 1 | 2 | 3 | 4 | 5 |
| It will help me understand the subject material more deeply | 1 | 2 | 3 | 4 | 5 |
| It makes completing work in my subjects more convenient | 1 | 2 | 3 | 4 | 5 |
| It will improve my IT / information management skills in general | 1 | 2 | 3 | 4 | 5 |
| It will improve my career or employment prospects in the long term | 1 | 2 | 3 | 4 | 5 |

Below is a list of different ways in which technology may be used to help you with your studies at University.

| Please rate how useful each of the following technologies currently is or would be in your studies (regardless of whether or not you have used each technology in the past) | Not at all useful | | Neutral | | Extremely Useful | | Don't know |
|---|---|---|---|---|---|---|---|
| Design and build web pages as part of course requirements (e.g. using Dreamweaver, Frontpage). | 1 | 2 | 3 | 4 | 5 | | ❒ |
| Create and present multimedia shows as part of their course requirements (e.g. PowerPoint). | 1 | 2 | 3 | 4 | 5 | | ❒ |
| Create and present audio/video as part of their course requirements (e.g. iMovie, Movie Maker). | 1 | 2 | 3 | 4 | 5 | | ❒ |
| Download or access online audio/video recordings of lectures you did not attend | 1 | 2 | 3 | 4 | 5 | | ❒ |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Download or access online audio/video recordings of supplementary content material. | 1 | 2 | 3 | 4 | 5 | | ❒ |
| Use the web to access University based services (e.g. enrolment, sign up for tutorials, pay fees) | 1 | 2 | 3 | 4 | 5 | | ❒ |
| Use your mobile phone to access web-based university services information or services (e.g. enrolment, sign up for tutorials, pay fees) | 1 | 2 | 3 | 4 | 5 | | ❒ |
| Use instant messaging / chat (e.g. MSN, Yahoo, ICQ) to collaborate/communicate with other students in the course | 1 | 2 | 3 | 4 | 5 | | ❒ |
| Use instant messaging / chat (e.g. MSN, Yahoo, ICQ) to communicate with Lecturers and administrative staff from the course | 1 | 2 | 3 | 4 | 5 | | ❒ |
| Use social networking software (e.g. Myspace, Trendster) to communicate/collaborate with each other in the course. | 1 | 2 | 3 | 4 | 5 | | ❒ |
| Use the web to share digital files related to your course (e.g. sharing photos, audio files, movies, digital documents, websites, etc). | 1 | 2 | 3 | 4 | 5 | | ❒ |
| Use web-conferencing or video chat to communicate/collaborate with each other in the course | 1 | 2 | 3 | 4 | 5 | | ❒ |
| Receive alerts about course information (e.g. timetable changes, the release of new learning resources, changes in assessment) via RSS feeds on the web | 1 | 2 | 3 | 4 | 5 | | ❒ |
| Keep your own blog as part of your course requirements | 1 | 2 | 3 | 4 | 5 | | ❒ |
| Contribute to another blog as part of their course requirements | 1 | 2 | 3 | 4 | 5 | | ❒ |
| Contribute with other students to the development of a wiki as part of your course requirements? | 1 | 2 | 3 | 4 | 5 | | ❒ |
| Receive grades/marks from your lecturer via text message on your mobile phone | 1 | 2 | 3 | 4 | 5 | | ❒ |
| Receive pre-class discussion questions via text message on your mobile phones. | 1 | 2 | 3 | 4 | 5 | | ❒ |
| Receive administrative information about the course via text message on their mobile phones (e.g. timetable or assessment changes, info on new learning resources). | 1 | 2 | 3 | 4 | 5 | | ❒ |

Please list three ways in which you think the technologies that you use in your everyday life could be useful in your studies.

1. _____
2. _____
3. _____

| Which tools have you learnt in your academic life (Primary, Secondary education..) ? | Yes | No |
|---|---|---|
| Blogs | ❒ | ❒ |
| Wikis | ❒ | ❒ |
| Forums | ❒ | ❒ |
| Moodle | ❒ | ❒ |
| MovieMaker/Pinaccle | ❒ | ❒ |
| Cmap tools or similar | ❒ | ❒ |
| Text editors (Word, Writer…) | ❒ | ❒ |
| Spread sheets (Excel , Calc…) | ❒ | ❒ |
| Presentations (Powerpoint, Impress…) | ❒ | ❒ |
| Data bases (Access, Base…) | ❒ | ❒ |
| Others | ❒ | ❒ |

| And use? | Never | Few times | Sometimes | Often | Always |
|---|---|---|---|---|---|
| Blogs | ❒ | ❒ | ❒ | ❒ | ❒ |
| Wikis | ❒ | ❒ | ❒ | ❒ | ❒ |
| Forums | ❒ | ❒ | ❒ | ❒ | ❒ |
| Moodle | ❒ | ❒ | ❒ | ❒ | ❒ |
| MovieMaker/Pinaccle | ❒ | ❒ | ❒ | ❒ | ❒ |
| Cmap tools or similar | ❒ | ❒ | ❒ | ❒ | ❒ |
| Test editors (Word, Writer…) | ❒ | ❒ | ❒ | ❒ | ❒ |
| Spread sheet (Excel , Calc…) | ❒ | ❒ | ❒ | ❒ | ❒ |
| Presentations (Powerpoint, Impress…) | ❒ | ❒ | ❒ | ❒ | ❒ |
| Data bases (Access, Base…) | ❒ | ❒ | ❒ | ❒ | ❒ |
| Other | ❒ | ❒ | ❒ | ❒ | ❒ |

| In which subject have used these tools? | Yes | No |
|---|---|---|
| Technology | ❒ | ❒ |
| Music | ❒ | ❒ |
| Arts and Crafts | ❒ | ❒ |
| Maths | ❒ | ❒ |
| Languages | ❒ | ❒ |

| | | |
|---|---|---|
| Science | ❒ | ❒ |
| Social science | ❒ | ❒ |
| Physical Education | ❒ | ❒ |

| Assess your school experience | Unsuitable | Not appropriate | Normal | Appropriate | Very appropriate |
|---|---|---|---|---|---|
| Use of technology in different subjects | ❒ | ❒ | ❒ | ❒ | ❒ |
| Number of computers | ❒ | ❒ | ❒ | ❒ | ❒ |
| Digital backboard | ❒ | ❒ | ❒ | ❒ | ❒ |
| Audio-visual material (cameras, audio-recordings..) | ❒ | ❒ | ❒ | ❒ | ❒ |
| Wi-fi | ❒ | ❒ | ❒ | ❒ | ❒ |
| Training concerning ICT | ❒ | ❒ | ❒ | ❒ | ❒ |
| Teachers training in ICT | ❒ | ❒ | ❒ | ❒ | ❒ |
| Teachers' attitudes towards ICT | ❒ | ❒ | ❒ | ❒ | ❒ |

## 6.0 Attitude towards technology

| | Strongly disagree | Disagree | Neither agree nor disagree | Agree | Strongly agree |
|---|---|---|---|---|---|
| Using ICT is difficult for me | ❒ | ❒ | ❒ | ❒ | ❒ |
| I am interested in ICT | ❒ | ❒ | ❒ | ❒ | ❒ |
| I haven't received the necessary training to use ICT | ❒ | ❒ | ❒ | ❒ | ❒ |
| I've got difficulties accessing ICT | ❒ | ❒ | ❒ | ❒ | ❒ |
| The number of computers in the university is not high | ❒ | ❒ | ❒ | ❒ | ❒ |
| The quality of the computers in the university is not high | ❒ | ❒ | ❒ | ❒ | ❒ |
| I think that ICT improve in a meaningful way students' learning process | ❒ | ❒ | ❒ | ❒ | ❒ |
| ICT supports autonomous learning | ❒ | ❒ | ❒ | ❒ | ❒ |
| ICT supports collaborative learning | ❒ | ❒ | ❒ | ❒ | ❒ |
| ICT is necessary for students' tasks | ❒ | ❒ | ❒ | ❒ | ❒ |
| Students do not use ICT in their learning process | ❒ | ❒ | ❒ | ❒ | ❒ |

How do you assess your use of ICT?

Is there any tool you would like to learn in the university, why?

## Appendix C: Texts

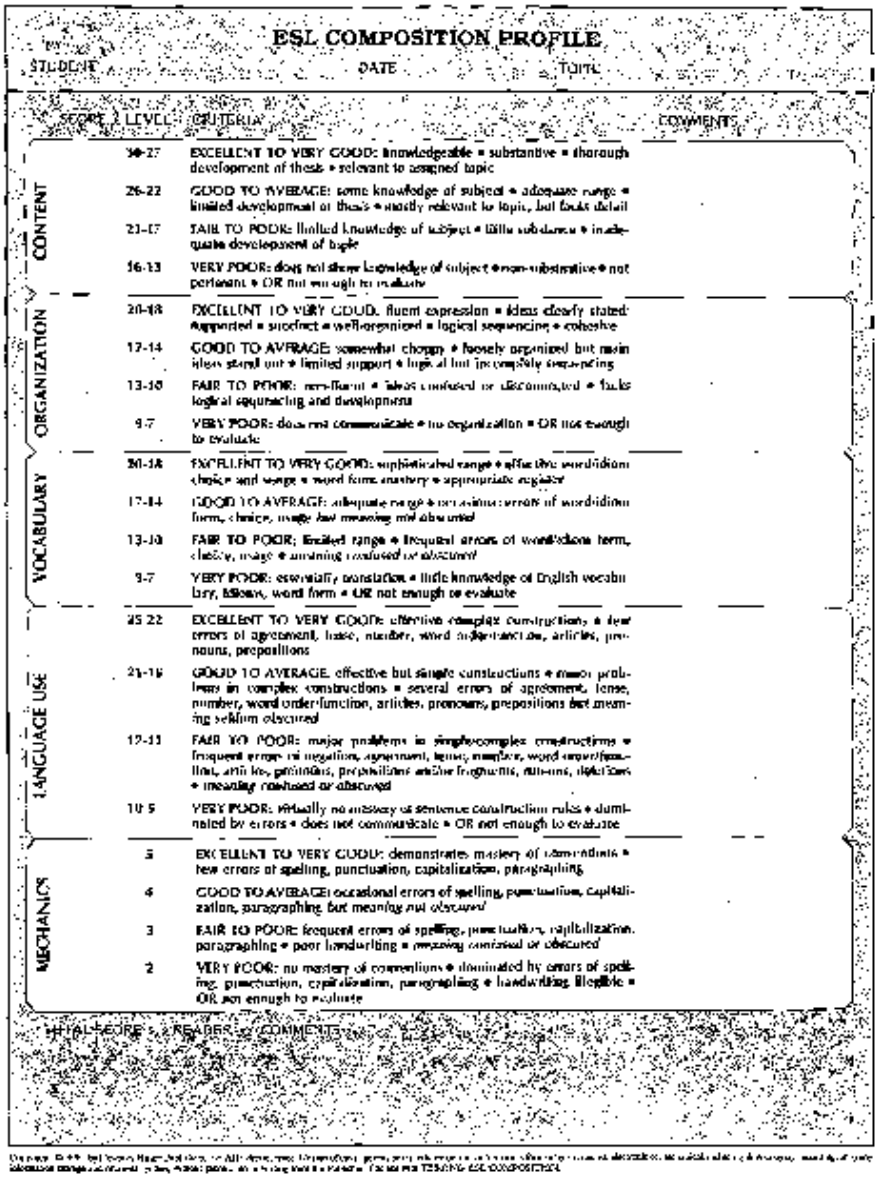
Write a text of between 500-700 words, individually, describing what you know about the Basque Education system answering to the following situation:

"*You are a teacher at a school taking part in a European project (Comenius) together with other European countries' schools. Your first step in the project is to get to know the different participants' education systems, so for your first meeting next month in Wroclaw (Poland), you should have sent the description of your system in advance to all the other participants, so that they will have read it for the meeting when they will be able to clarify any doubts about it.*"

Upload your individual text onto Mudle in the corresponding task.

Using your group wiki and taking as a reference the individual texts produced and uploaded onto Mudle, produce: A single group text on the Basque Education System.
You should be answering to the same situations as described in your previously uploaded tasks.

# Appendix D: Profile



ESL COMPOSITION PROFILE

STUDENT ____ DATE ____ TOPIC ____

| SCORE | LEVEL | CRITERIA | COMMENTS |
|---|---|---|---|
| CONTENT | 30-27 | EXCELLENT TO VERY GOOD: knowledgeable • substantive • thorough development of thesis • relevant to assigned topic | |
| | 26-22 | GOOD TO AVERAGE: some knowledge of subject • adequate range • limited development of thesis • mostly relevant to topic, but lacks detail | |
| | 21-17 | FAIR TO POOR: limited knowledge of subject • little substance • inadequate development of topic | |
| | 16-13 | VERY POOR: does not show knowledge of subject • non-substantive • not pertinent • OR not enough to evaluate | |
| ORGANIZATION | 20-18 | EXCELLENT TO VERY GOOD: fluent expression • ideas clearly stated/supported • succinct • well-organized • logical sequencing • cohesive | |
| | 17-14 | GOOD TO AVERAGE: somewhat choppy • loosely organized but main ideas stand out • limited support • logical but incomplete sequencing | |
| | 13-10 | FAIR TO POOR: non-fluent • ideas confused or disconnected • lacks logical sequencing and development | |
| | 9-7 | VERY POOR: does not communicate • no organization • OR not enough to evaluate | |
| VOCABULARY | 20-18 | EXCELLENT TO VERY GOOD: sophisticated range • effective word/idiom choice and usage • word form mastery • appropriate register | |
| | 17-14 | GOOD TO AVERAGE: adequate range • occasional errors of word/idiom form, choice, usage but meaning not obscured | |
| | 13-10 | FAIR TO POOR: limited range • frequent errors of word/idiom form, choice, usage • meaning confused or obscured | |
| | 9-7 | VERY POOR: essentially translation • little knowledge of English vocabulary, idioms, word form • OR not enough to evaluate | |
| LANGUAGE USE | 25-22 | EXCELLENT TO VERY GOOD: effective complex constructions • few errors of agreement, tense, number, word order/function, articles, pronouns, prepositions | |
| | 21-18 | GOOD TO AVERAGE: effective but simple constructions • minor problems in complex constructions • several errors of agreement, tense, number, word order/function, articles, pronouns, prepositions but meaning seldom obscured | |
| | 17-11 | FAIR TO POOR: major problems in simple/complex constructions • frequent errors of negation, agreement, tense, number, word order/function, articles, pronouns, prepositions and/or fragments, run-ons, deletions • meaning confused or obscured | |
| | 10-5 | VERY POOR: virtually no mastery of sentence construction rules • dominated by errors • does not communicate • OR not enough to evaluate | |
| MECHANICS | 5 | EXCELLENT TO VERY GOOD: demonstrates mastery of conventions • few errors of spelling, punctuation, capitalization, paragraphing | |
| | 4 | GOOD TO AVERAGE: occasional errors of spelling, punctuation, capitalization, paragraphing but meaning not obscured | |
| | 3 | FAIR TO POOR: frequent errors of spelling, punctuation, capitalization, paragraphing • poor handwriting • meaning confused or obscured | |
| | 2 | VERY POOR: no mastery of conventions • dominated by errors of spelling, punctuation, capitalization, paragraphing • handwriting illegible • OR not enough to evaluate | |

FINAL SCORE: ____ READER: ____ COMMENTS: ____

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## Appendix E: Guide- Semi-structured interview

The aim of this interview is to gather information about the tutors' profile on topics such as CLIL and ICT's knowledge and beliefs. The following topics will be developed during the interview:

1. Academic experience (degrees, courses…)
2. Professional career
3. Training in CLIL, experience (motivation towards the module..) and beliefs.
4. Training in ICTs, experience, beliefs
5. Training in using ICTs in a CLIL experience, experience and beliefs.
6. Training in collaborative work, experience and beliefs.

Questions:

(1 and 2) Academic experience and professional career:

- What can you tell me about your studies?
- Have you done any extra course?
- What can you tell me about your career? Where have you worked? How long? What kind of experiences have you had?

(3) Training in CLIL, experience (motivation towards the module..) and beliefs.

- This ongoing research project is placed in a CLIL approach, which is your training in this view? Any specific training?
- Which is your experience in a CLIL approach? Apart from 1.6, do you have any other experience in CLIL?
- Which is your motivation towards the module?
- How would you define the CLIL approach? How do you understand it?
- What benefits do you see in using a CLIL approach? Any negative point?
- Based on your experience, what kind of differences do you see between a CLIL approach and teaching EFL?

(4) Training in ICTs, experience, beliefs

- Which is your training in ICTs? Have received any specific training?
- How do feel using ICTs?
- Which is your experience using these tools?
- How do you see your students using ICTs? Do you think students are skilled at using ICTs? How do you think they feel using them?

(5) Training in using ICTs in a CLIL experience, experience and beliefs.

- Have you ever had any specific training in using ICTs in a CLIL approach?
- Have you had any other experience like this?
- What do you think about using ICTs in a CLIL approach?

(7) Training in collaborative work, experience and beliefs.

- Which is your training in collaborative work? Have received any specific training or course about how to promote collaborative work?
- Which is your experience in collaborative work in your career and with students?
- What advantages and disadvantages can you think about?
- What do you think about using ICTs in a CLIL approach to develop collaborative work?

## Appendix F: Questionnaire – Tutor

We are surveying 1.6 module's tutors about their use of technology. Your responses to this questionnaire will help to know the real use of ICTs.
Participation in this study is confidential, and the questionnaire should take less than 15 minutes to complete.
Thanks you very much

### 1. Background information

ID number _____ Birth date _____
Genre: ☐ Female ☐ Male
Year in which you started working in the Faculty: _____

### 2. Access to technology

Please indicate your access to technology and specify if you own the following technologies at home or/and work.

| | Yes | | No |
|---|---|---|---|
| | At home | At work | |
| Desktop computer | ☐ | ☐ | ☐ |
| Laptop or notebook | ☐ | ☐ | ☐ |
| Electronic organiser (e.g. PDA, Palm, PocketPC) | ☐ | ☐ | ☐ |
| MP3 player (e.g. iPod) without video capabilities | ☐ | ☐ | ☐ |
| MP3 player with video capabilities | ☐ | ☐ | ☐ |
| Memory stick (e.g. flash drive, USB stick) | ☐ | ☐ | ☐ |
| Mobile phone – without camera, MP3 player or video | ☐ | ☐ | ☐ |
| Mobile phone with a camera – but without MP3 player or video | ☐ | ☐ | ☐ |
| Mobile phone with camera and MP3 player – but without video | ☐ | ☐ | ☐ |
| Video (3G) capable mobile phone | ☐ | ☐ | ☐ |
| Dedicated video game console (e.g. Xbox, Playstation) | ☐ | ☐ | ☐ |
| Web cam | ☐ | ☐ | ☐ |
| Digital camera | ☐ | ☐ | ☐ |
| Broadband (ADSL or cable) internet access | ☐ | ☐ | ☐ |
| Wireless internet access | ☐ | ☐ | ☐ |

## 3. Use of technology

Below is a list of different ways in which information and communication technologies can be used.
Please indicate:

1. How OFTEN, on average, you have used technology in each way over the past year.
2. How SKILLED you are at using technology in each way.

If you have never used a particular technology please tick NU (Not Used) and do not provide a skill rating.

| Ways in which technology can be used | Yes (how often) | | | | | | | NU (not used) | How skilled | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Several times a day | Once a day | Several times a week | Once a week | Once/ twice a month | Every few months | Once/ twice a year | | Not skilled | Not really skilled | Quite skilled | Skilled | Very skilled |
| Use a computer to manage or manipulate digital photos (e.g. using iPhoto, Dig. Image) | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | 1 | 2 | 3 | 4 | 5 |
| Use a computer to create or manipulate digital images (e.g. using Photoshop) | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | 1 | 2 | 3 | 4 | 5 |
| Use a computer for creating presentations (e.g. PowerPoint) | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | 1 | 2 | 3 | 4 | 5 |
| Use a computer for creating or editing audio and video (e.g. iMovie, Movie Maker) | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | 1 | 2 | 3 | 4 | 5 |
| Use a computer to play digital music files (e.g. iTunes) without accessing the internet | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | 1 | 2 | 3 | 4 | 5 |
| Use a computer to play games | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | 1 | 2 | 3 | 4 | 5 |
| Use a games console to play games | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | 1 | 2 | 3 | 4 | 5 |
| Use the internet/web or a LAN to play networked games | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | 1 | 2 | 3 | 4 | 5 |
| Use a handheld computer (e.g. a PDA) as a personal organiser (e.g. diary, address | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | 1 | 2 | 3 | 4 | 5 |

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| book) | | | | | | | | | | | | | |
| Use the web to access a portal, 'Course or Learning Management System' | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | 1 | 2 | 3 | 4 | 5 |
| Use the web to look up reference information for study purposes (e.g. online dictionaries) | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | 1 | 2 | 3 | 4 | 5 |
| Use the web to browse for general information (e.g. news, holidaying, event timetables) | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | 1 | 2 | 3 | 4 | 5 |
| Use the web to listen to sound recordings (e.g. via streaming audio or iTtunes) | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | 1 | 2 | 3 | 4 | 5 |
| Use the web for other pastimes (i.e. for leisure activities) | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | 1 | 2 | 3 | 4 | 5 |
| Use the web to buy or sell things (e.g. eBay, Amazon, air tickets.) | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | 1 | 2 | 3 | 4 | 5 |
| Use the web for other services (e.g. banking, paying bills) | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | 1 | 2 | 3 | 4 | 5 |
| Use the web/internet to send or receive email (e.g. Hotmail, Yahoo, Outlook) | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | 1 | 2 | 3 | 4 | 5 |
| Use the web/internet for instant messaging / chat (e.g. MSN, Yahoo, ICQ) | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | 1 | 2 | 3 | 4 | 5 |
| Use the web to build and maintain a website | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | 1 | 2 | 3 | 4 | 5 |
| Use social networking software on the web (e.g. Myspace, Trendster) | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | 1 | 2 | 3 | 4 | 5 |
| Use social bookmarking software on the web (e.g. del.icio.us) | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | 1 | 2 | 3 | 4 | 5 |
| Use the web to download podcasts (e.g. using Juice, iTunes) | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | 1 | 2 | 3 | 4 | 5 |
| Use the web to publish podcasts (e.g. using Podifier, Podcaster, PodProducer) | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | 1 | 2 | 3 | 4 | 5 |

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Use the web to download and/or share MP3 files (e.g. music, videos) | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | 1 | 2 | 3 | 4 | 5 |
| Use the web to share photographs or other digital material (e.g. using blinklist, Flickr) | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | 1 | 2 | 3 | 4 | 5 |
| Use the web to make phone calls (e.g. VoIP using Skype) | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | 1 | 2 | 3 | 4 | 5 |
| Use the web for webconferencing (e.g. using a webcam with Skype) | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | 1 | 2 | 3 | 4 | 5 |
| Use the web to read RSS feeds (e.g. news feeds) | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | 1 | 2 | 3 | 4 | 5 |
| Use the web to keep your own blog or vlog | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | 1 | 2 | 3 | 4 | 5 |
| Use the web to read other people's blogs or vlogs | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | 1 | 2 | 3 | 4 | 5 |
| Use the web to comment on blogs or vlogs | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | 1 | 2 | 3 | 4 | 5 |
| Use the web to contribute to the development of a wiki | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | 1 | 2 | 3 | 4 | 5 |
| Use a mobile phone to call people | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | 1 | 2 | 3 | 4 | 5 |
| Use a mobile phone to text / SMS people | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | 1 | 2 | 3 | 4 | 5 |
| Use a mobile phone to take digital photos or movies | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | 1 | 2 | 3 | 4 | 5 |
| Use a mobile phone to send pictures or movies to other people | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | 1 | 2 | 3 | 4 | 5 |
| Use a mobile phone to make video calls | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | 1 | 2 | 3 | 4 | 5 |
| Use a mobile phone as an MP3 player | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | 1 | 2 | 3 | 4 | 5 |
| Use a mobile phone as a personal organizer (e.g. diary, address book) | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | 1 | 2 | 3 | 4 | 5 |
| Use a mobile phone to access information / services on the web | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | 1 | 2 | 3 | 4 | 5 |
| Use a mobile phone to send or receive email | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | 1 | 2 | 3 | 4 | 5 |

## 4. Technologies to Assist University Teaching and Learning

Please indicate which of the following technologies you currently use

| | Yes | No |
|---|---|---|
| Power point presentations | ☐ | ☐ |
| Email | ☐ | ☐ |
| Discussion lists/online forums | ☐ | ☐ |
| A subject web site | ☐ | ☐ |
| Interactive Multimedia/CD-ROMs | ☐ | ☐ |
| Digital videos in lectures | ☐ | ☐ |
| A Learning Management System (Moodle) | ☐ | ☐ |
| MP3s and/or audio recordings | ☐ | ☐ |
| Online Assessment Submission | ☐ | ☐ |
| Other please specify | | |

Below is a list of different technology-based activities that could be used in university teaching and learning.
For each item please indicate:

- Whether or not you currently use these technology-based activities in your first year teaching.
- How useful each technology-based activity would be in supporting student learning (regardless of whether you currently use it).

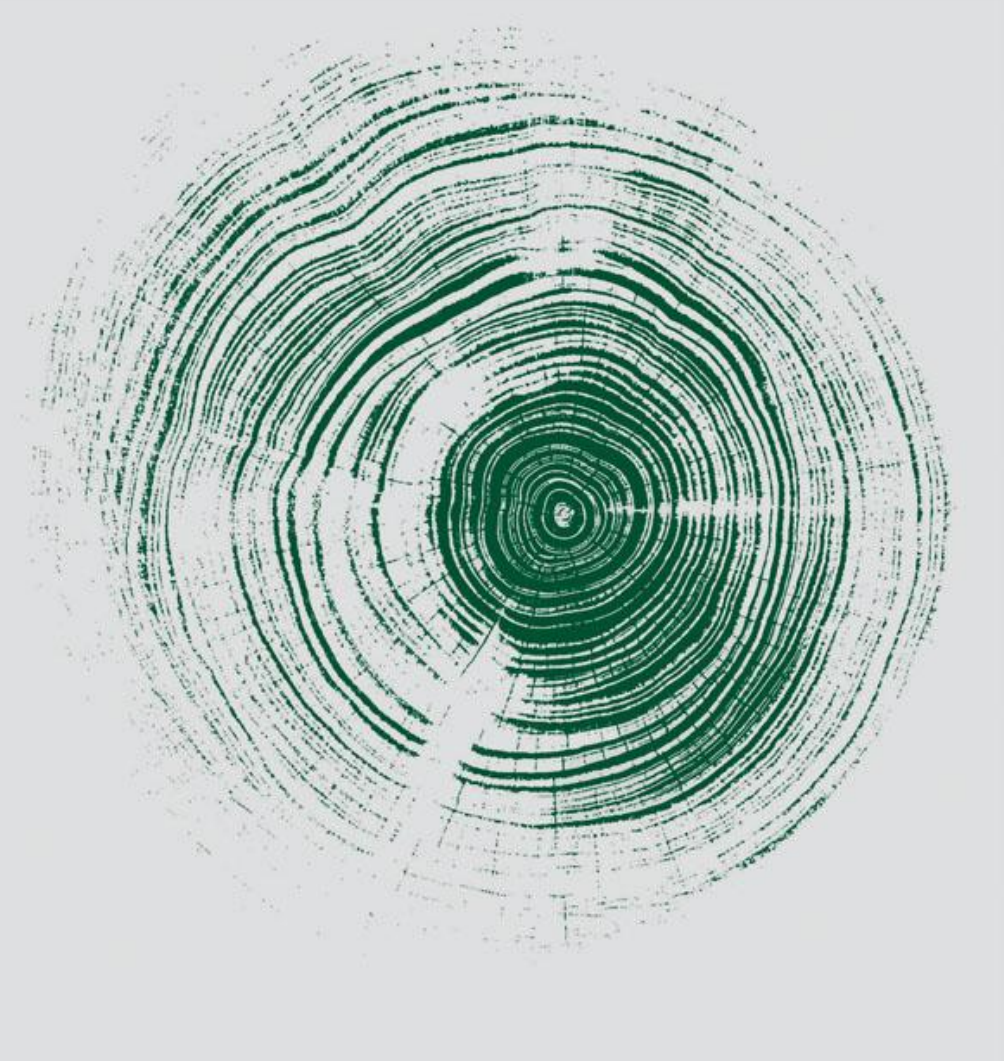
You can also indicate that a particular technology is Not Relevant or you Don't Know enough about the technology to respond.

| Technology-based teaching and learning activity | Use | | Erabilgarritasuna | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Yes | No | Not useful at all | Not very useful | Quite useful | Useful | Very useful | Don't know |
| Ask students to design and build web pages as part of course requirements (e.g. using Dreamweaver, Frontpage). | ☐ | ☐ | 1 | 2 | 3 | 4 | 5 | ☐ |
| Ask students to create and present multimedia shows as part of their course requirements (e.g. PowerPoint). | ☐ | ☐ | 1 | 2 | 3 | 4 | 5 | ☐ |
| Ask students to create and present audio/video as part of their course requirements (e.g. iMovie, Movie Maker). | ☐ | ☐ | 1 | 2 | 3 | 4 | 5 | ☐ |
| Allow students to download or access online audio/video recordings of your lectures | ☐ | ☐ | 1 | 2 | 3 | 4 | 5 | ☐ |
| Allow students to download or access online audio/video recordings of supplementary | ☐ | ☐ | 1 | 2 | 3 | 4 | 5 | ☐ |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| content material. | | | | | | | | |
| Ask students to use instant messaging / chat (e.g. MSN, Yahoo, ICQ) to communicate/collaborate with each other. | ☐ | ☐ | 1 | 2 | 3 | 4 | 5 | ☐ |
| Ask students to use instant messaging / chat (e.g. MSN, Yahoo, ICQ) to communicate with Lecturers and administrative staff from the course | ☐ | ☐ | 1 | 2 | 3 | 4 | 5 | ☐ |
| Ask students to use social networking software (e.g. Myspace, Trendster) to communicate/collaborate with each other in the course. | ☐ | ☐ | 1 | 2 | 3 | 4 | 5 | ☐ |
| Ask students to use the web to share digital files related to their course (e.g. sharing photos, audio files, movies, digital documents, websites, etc). | ☐ | ☐ | 1 | 2 | 3 | 4 | 5 | ☐ |
| Ask students to use webconferencing or video chat to communicate/collaborate with each other in the course? | ☐ | ☐ | 1 | 2 | 3 | 4 | 5 | ☐ |
| Provide students with alerts about course information (e.g. timetable changes, the release of new learning resources, changes in assessment) via RSS feeds on the web? | ☐ | ☐ | 1 | 2 | 3 | 4 | 5 | ☐ |
| Ask students to keep their own blog as part of your course requirements? | ☐ | ☐ | 1 | 2 | 3 | 4 | 5 | ☐ |
| Ask students to contribute to another blog as part of their course requirements? | ☐ | ☐ | 1 | 2 | 3 | 4 | 5 | ☐ |
| Ask students to contribute with other students to the development of a wiki as part of their course requirements? | ☐ | ☐ | 1 | 2 | 3 | 4 | 5 | ☐ |
| Provide students with pre-class discussion questions via text message on their mobile phones. | ☐ | ☐ | 1 | 2 | 3 | 4 | 5 | ☐ |
| Provide students with administrative information about the course via text message on their mobile phones (e.g. timetable or assessment changes, info on new learning resources). | ☐ | ☐ | 1 | 2 | 3 | 4 | 5 | ☐ |

Please indicate the extent to which you agree or disagree with the following statements.

| I want students to use technology in their studies because it | Strongly disagree | disgaree | neutral | agree | Strongly agree |
|---|---|---|---|---|---|
| Will help them get better results in their subjects | 1 | 2 | 3 | 4 | 5 |
| Will help them understand the subject material more deeply | 1 | 2 | 3 | 4 | 5 |
| Makes completing work in their subjects more convenient for them | 1 | 2 | 3 | 4 | 5 |
| Will improve their IT / information management skills in general | 1 | 2 | 3 | 4 | 5 |
| Will improve their career or employment prospects in the long term | 1 | 2 | 3 | 4 | 5 |



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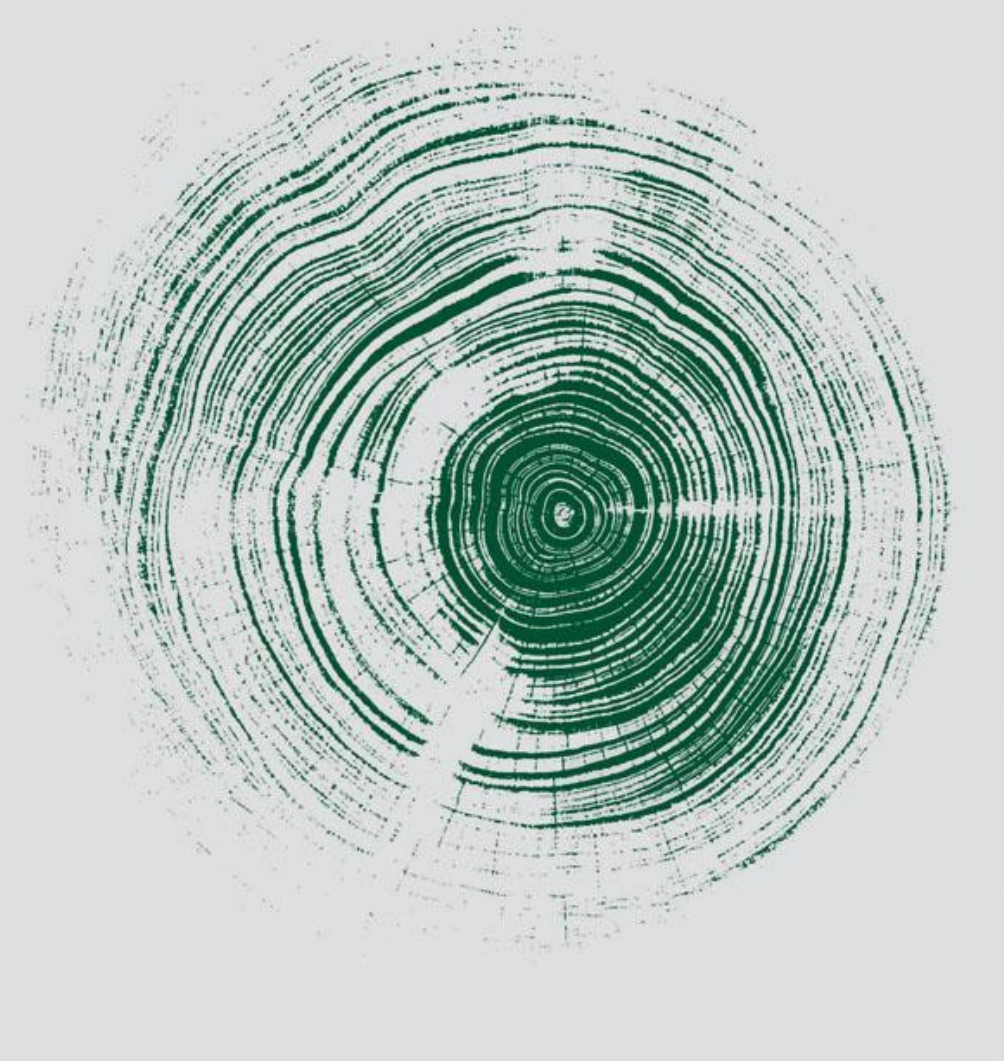
FACULTAD DE HUMANIDADES Y CIENCIAS DE LA EDUCACIÓN



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