



Educational prospects of Techno-CLIL strategies and implementation in the subject of History for the last triennium of Secondary schools Two models from evidences in Italian Licei Linguistici

Maria Elisabetta Porcedda

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Maria Elisabetta Porcedda

***Educational prospects of Techno-CLIL strategies and
implementation in the subject of History for the last
triennium of Secondary schools***

Two models from evidences in Italian Licei Linguistici

DOCTORAL THESIS

Supervised by: Dr. Juan González-Martínez

Department of Pedagogy



UNIVERSITAT ROVIRA I VIRGILI

Tarragona, 2020



FAIG CONSTAR que aquest treball, titulat ***Educational prospects of Technological CLIL strategies and implementation in the subject o History for the last triennium of Secondary schools. Two models from evidences in Italian Licei Linguistici***, que presenta **Maria Elisabetta Porcedda** per a l'obtenció del títol de Doctor, ha estat realitzat sota la meva direcció al Departament **de Pedagogia** d'aquesta universitat.

HAGO CONSTAR que el presente trabajo, titulado ***Educational prospects of Technological CLIL strategies and implementation in the subject o History for the last triennium of Secondary schools. Two models from evidences in Italian Licei Linguistici***, que presenta **Maria Elisabetta Porcedda** para la obtención del título de Doctor, ha sido realizado bajo mi dirección en el Departamento **de Pedagogia** de esta universidad.

I STATE that the present study, entitled ***Educational prospects of Technological CLIL strategies and implementation in the subject o History for the last triennium of Secondary schools. Two models from evidences in Italian Licei Linguistici***, presented by **Maria Elisabetta Porcedda** for the award of the degree of Doctor, has been carried out under my supervision at the Department **de Pedagogia** of this university.

Tarragona, 29 de juliol de 2020

El/s director/s de la tesi doctoral
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*And so even though we face the
difficulties of today and tomorrow,*

I still have a dream

Martin Luther King (1963)

ACKNOWLEDGEMENTS

At the end of this adventure, I would like to express my special thanks to all people who have accompanied me until now, starting from the URV staff.

Firstly, to the director of my thesis, dr. Juan González-Martínez, who, since the beginning, has believed in this research and has given his helpfulness to competently contribute with advice to it.

Secondly, to dr. Mercè Gisbert, for her great patience and support in some difficult moments for me of this doctorate.

My special thanks are offered also to dr. Mireia Usart, for her positive contribution to going on with this research.

I would like to acknowledge here dr. Giuliano Vivanet, of the University of Pedagogy in Cagliari (Italy), for having hosted me for three months, during which, thanks to his great willingness, I have deepened research methods, in which he is an expert.

My gratitude goes to colleagues and students, together with their managers, who participated to the action-researches for this thesis with enthusiasm.

Finally, I dedicate this thesis to my parents and to all my dear friends, old adventuring companions, who are always close to me, and who make my life full of joy. Special thanks, among them, to dr. Federica Satta, for her encouragements, and to dr. Nicola Sestu, for having helped me in editing this work.

Thank you all!

SUMMARY

Content and Language Integrated Learning (CLIL) is a cutting-edge topic of research, since its comparison in the '90s, with the aim to foster European multilingualism. In order to widen FLs' exposure of students, it should be implemented, in Secondary schools, mainly by non-linguistic subject teachers, alone or in team with FLs colleagues. History offers many affordances for the adoption of CLIL, which the literature shows enhanced by ICTs, so this is the most involved subject within European CLIL implementations, although these are not as widespread as wished. Indeed, the same definition of CLIL, whether related only to multilingualism, is neither clear, because of its recognised complexity, nor appealing for disciplinary teachers, because it is not focused on the results of its education. Consequently, this thesis, through systematic literature reviews, defines CLIL pedagogically, as an open and meaningful environment for participatory teaching and learning, able to change the mainstream schooling. Then it focuses on CLIL teacher training, so as to detect lacks and good practices, in particular from the stakeholders, in order to highlight suggestions and their related advantages in filling those lacks. The theoretical part is concluded by reviewing the literature about CLIL related to pedagogies, linguistic approaches and integrated methodologies, so as to answer to lacks in this field for training, and evidencing the importance of the adoption of ICT for it. Finally, after a critical participatory action-research involving three schools in Italy, two models for History implementations by means of CLIL and ICTs have been built, including two general design of them for single teachers or teaching teams, a grid for observation, useful for their implementations as well, and the related lesson plan.

RESUM

L'Aprenentatge Integrat de Continguts i Llengua Estrangera (AICLE) és un tòpic d'investigació d'avantguarda, des de l'aparició als anys 90, amb l'objectiu de fomentar el multilingüisme europeu. Per tal d'ampliar l'exposició dels estudiants de LE, hauria de ser implementat, a les escoles secundàries, principalment per professors d'assignatures no lingüístiques, sols o en equip amb els seus col·legues de LE. L'assignatura d'Història ofereix moltes possibilitats per a l'adopció d'AICLE, en molts casos millorat per les TIC com assenyalava la literatura, de manera que aquest és el tema més abordat dins de les implementacions europees de AICLE, encara que no estan tan esteses com es desitja. De fet, la pròpia definició d'AICLE, àdhuc quan només es lliga amb el multilingüisme, no és clara, a causa de la seva òbvia complexitat, ni atractiva per als professors disciplinaris, perquè no se centra en els resultats de la seva àrea. En aquest context, aquesta tesi, a través de revisions sistemàtiques de la literatura, defineix a AICLE des del punt de vista pedagògic com un entorn obert i significatiu per a l'ensenyament i l'aprenentatge participatiu, propici per al canvi educatiu general; i després s'enfoca la formació de professors en AICLE, per detectar mancances i bones pràctiques, en particular de les parts interessades, per tal de ressaltar suggeriments i els seus avantatges relacionats per omplir aquestes mancances. La part teòrica es conclou revisant la literatura sobre CLIL relacionada amb pedagogies, enfocaments lingüístics i metodologies integrades, amb la finalitat de respondre a les mancances en aquest camp per a la formació, i evidenciant, per a això, la importància de l'adopció de les TIC. Finalment, després d'una investigació-acció participativa crítica que va involucrar a tres escoles a Itàlia, s'han construït dos models per a implementacions d'Història a través d'AICLE i TIC, incloent-hi dos

dissenys generals per a professors individuals i en equip docent, una graella d'observació, útil per les seves implementacions també, i el pla de formació que se'n deriva.

RESUMEN

El Aprendizaje Integrado de Contenido y Lengua Extranjera (AICLE) es un tópico de investigación de vanguardia, desde su aparición en los años 90, con el objetivo de fomentar el multilingüismo europeo. Con el fin de ampliar la exposición de los estudiantes de LE, debería ser implementado, en las escuelas secundarias, principalmente por profesores de asignaturas no lingüísticas, solos o en equipo con sus colegas de LE. La asignatura de Historia ofrece muchas posibilidades para la adopción del AICLE, que la literatura muestra mejorado por las TIC, por lo que este es el tema más abordado dentro de las implementaciones europeas de AICLE, que sin duda no están tan extendidas como se desea. De hecho, la propia definición de AICLE, incluso abordada en exclusiva desde una perspectiva ligada al multilingüismo, no es clara, debido a su obvia complejidad, ni resulta atractiva para los profesores disciplinares, porque no se centra en los resultados de su área. En estas coordenadas, esta tesis, a través de revisiones sistemáticas de la literatura, define a AICLE desde el punto de vista pedagógico como un entorno abierto y significativo para la enseñanza y el aprendizaje participativos, que propicia el cambio educativo general; y luego se enfoca en el entrenamiento de profesores de AICLE, para detectar carencias y buenas prácticas, en particular de las partes interesadas, con el fin de resaltar sugerencias y sus ventajas en relación con esas carencias. La parte teórica se concluye por medio

de la revisión de la literatura sobre CLIL en relación con pedagogías, enfoques lingüísticos y metodologías integradas, con la finalidad de responder a las carencias en este campo para la formación, y evidenciando, para ello, la importancia de la adopción de las TIC. Finalmente, después de una investigación-acción participativa crítica que ha involucrado a tres escuelas en Italia, se han construido dos modelos para implementaciones de Historia a través de AICLE y TIC, que incluyen dos diseños generales para profesores individuales y en equipo docente, una tabla de observación, útil también para sus implementaciones, y el plan de lección correspondiente.

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INTRODUCTION

This doctoral thesis is rooted into two justifications, one personal, and the other as an attempt to fill some lacks within the European CLIL studies, which is convergent to the personal.

Indeed, as a teacher of Humanities in an Upper Secondary School, the experience shows that teaching History in a Secondary school is becoming a challenge: firstly, because students often feel it far away from their reality, so that they consider it something to memorize, not to understand in its complexity, and for their interpretation of current events (Marsh, 2012); but also because they need new approaches and new modern tools to study this subject (Krutka & Carpenter, 2016). History intrinsically offers cultural transdisciplinary topics to deepen critically, as an opportunity to develop High Order Thinking Skills (HOTS), for students, as well as to focus on the entire process of teaching and learning, for teachers, to make students achieve holistic knowledge, European citizenship, and the skills of the XXI century (p. [45](#)). It can be, so, said that the globalization of knowledge needs new environments and new tools for teaching (Mason et al., 2000).

Content and Language Integrated Learning (CLIL) and ICTs together offer authentic and student-centred environments (European Commission report, 2014; Marsh, 2002), which can be varied and adapted to different educational needs of the stakeholders (Marsh, 2012), and which empowers the potential of the subject of History (Coyle, 2015).

Consequently, the aim at involving History teachers in an active and effective implementation of educational technologies and CLIL together, through proper strategies and models, becomes crucial in education.

The second motivation was born at this point. Indeed, involving History teachers in CLIL implementations has been not as widespread as needed by now, partially because it is always not easy to spread top-down policies, as CLIL, yet in particular because they have not seen CLIL as an opportunity, but as a demanding request for them to give students a width of FL time, in which they have no enough training.

This is why it was meant to follow the path of the European and International Academic comparison of data and experience, as first step, to be able to fill some emerged gaps, which actually are holding them back. Indeed, finding out why putting into practice educational strategies in an 'open environment', such as CLIL through ICTs, is highly relevant, and it has been the starting point to reach, taking into account that it is strongly recommended by the European Union (e.g., European Commission report, 2014; Eurydice, 2017; Note, 2019) and not 'only' as a way to achieve the multilingualism (Marsh, 2002), but to contribute to change the mainstream schooling (Meyer, 2010), to reach the students' global growth (Marsh, 2012) and their European citizenship (Coyle, 2015). So, it has been underlined, as first general objective of this thesis, in the theoretical part 1, the importance of CLIL from the point of view of non-linguistic subject teachers, through a systematic literature review, defining it as pedagogically relevant, and not only linguistically.

Secondly, in order to reach this kind of education through CLIL and ICTs, our second general objective has been focused on the urgency of training for subject teachers, as generally required for CLIL implementations in European Secondary schools (Marsh, 2002), who are to approach it. As a matter of fact, this training is now prerogative of English, as the most important foreign language for CLIL, and Linguistics departments at Universities (e.g., Cinganotto, 2016; Czura & Papaja, 2013; Morgado et al., 2015; Reitbauer et al., 2018). But, if the aim of the involvement of subject teachers is not only language-

related, as the present research sustains, there are also different fields in which training is needed (Coonan, 2011). And the theoretical part 2, through another systematic review, published as well, highlights what the stakeholders and the researchers indicate as lacks and suggestions, and/or good practices, in CLIL training.

As third step, the theoretical part 3 reviews the literature, so as to find the affordances of CLIL with student-centred pedagogies, linguistic approaches, ICTs and educational integrated methodologies, as answers to some needs of the previous part, and as preparatory to the empirical part, like the other theoretical ones.

Finally, critical participatory action-researches were put into practice in three Licei Linguistici in Italy, so as to collect evidences from the practice of CLIL by scholastic communities together with us¹, after blended short courses as training. The results, in the 4th empirical part of this thesis, have, so, allowed the creation of two models for History implementations through CLIL and ICTs, one for single teachers and the other for teams, with the related designs and lesson plan.

As a matter of fact, this research, with no pretension of exhaustivity on a cutting-edge and demanding topic, such as CLIL implementations, however was aimed at being a step to concretely taking advantage of this 'approach', which, linked to ICTs, can introduce great changes in the education of XXI century.

¹ It has been designed a grid of observation for it, presented during an International Conference and published in its proceedings.

Definition of the objectives of the research

Until now the research into CLIL has been done almost entirely by Foreign Language and Applied Linguistics Departments at Universities, where the training for CLIL teachers is managed, as if it was only within their responsibility. As a matter of fact, CLIL was born by those fields (Biçaku, 2011) and implemented as a way to foster students' multilingualism in Europe (Marsh, 2002).

The point is that they are mostly non-linguistic subject teachers who are required to implement CLIL with students (Coyle, 2015; Eurydice, 2017; Marsh & Frigols, 2013; Nikula et al., 2013), often alone or linguistically supported by foreign language colleagues (Banegas, 2012; Llinares & Morton, 2010; Morton, 2009). And History teachers are largely protagonists of it (Eurydice, 2006), also because frequently they have done previous linguistic studies in mother tongue as well. Although their contribution now begins to be claimed, they have not been actively and consistently involved yet, as the same not widespread diffusion of CLIL practice shows (Eurydice brief, 2017). The reasons why might be: the fact that the definition of what CLIL is, or can be, appears rather vague by now (see pp. [10-15](#)); its implementation has been studied mainly to find out results not completely suitable or useful for them, as the scarcity of literature about CLIL and History could suggest, and consequently the workload is seen as too hard, since, for instance, they would have at least to build their own materials, tailored for their class, and assess student in such a different way from mainstream (infra, pp. [52-54](#)). If it is added that they should have competences in almost a foreign language, in the CLIL main strategies, in ICTs and online tools, etc. (Coonan, 2011),

maybe the management of Techno-CLIL² lessons could seem too demanding for each subject teacher, unless further motivations, which are not yet clearly come to light from previous researches.

Given the above background, this research tends to fill the underlined gaps to encourage and almost partially support History teachers in the CLIL and ICTs implementation together, setting as a general objective to detect proper strategies and tools in order to put into practice CLIL in the subject of History.

Thus, our research pursues the following sequential objectives:

1. Find out the affordances of the CLIL implementation for non-linguistic subject teachers, so as to define CLIL in an engaging way for them.
2. Consider previous positives, negatives and/or lacks emerged in the CLIL training for teachers, in order to suggest a proper path for Techno-CLIL training.
3. Look for the best strategies and tools within the implementation of Techno-CLIL into History in the last triennium of Secondary schools (namely for 16-18 years old students).
4. Build some models of Techno-CLIL to suggest in History context, emerged by the previous points.

It is to make clear that the term *model* is here adopted in line with its use by the milestones of CLIL, especially Do Coyle (see, in particular, Coyle et al., 2010), whose models will be the structure in which suggesting paths for History by means of Technological CLIL for their instructional organisation.

² The term Techno-CLIL was created by Cuccurullo and Cinganotto for an International MOOC (Massive Open Online Course) of TESOL (Teaching English to Speakers of Other Languages) International. See: <https://www.agendadigitale.eu/scuola-digitale/strumenti-digitali-per-insegnare-le-lingue-straniere-il-metodo-clil/#post-56127-footnote-3>.

The first two points, other than being crucial basic objectives, should be seen as the theoretical framework of the entire present research, because they give a definition of CLIL itself and sketch the profile of non-linguistic subject teachers, in particular of History ones, which is to reach through training. They have been analysed through systematic literature reviews.

The latter objectives are addressed in particular to Italian Secondary schools, where surveys were addressed to a few of them, as well as the observation in class of teachers and students, although it could be extended to similar contexts.

Definition of research questions

After having identified the objectives, it is now to define the questions related with them, in order to find out the answers the present research is looking for. Table 1 lists them:

Table 1

Research questions by general objectives

| Objectives | Questions |
|--|---|
| 1. Find out the affordances of the CLIL implementation for non-linguistic subject teachers, so as to define CLIL in an engaging way for them. | <ul style="list-style-type: none">• Are there CLIL teaching results in the literature which can be considered essential for a subject teacher, so as to be attracted by them? Why?• Is there a definition of what CLIL is which can be engaging for teachers, so that arriving to have a double role, in the content normally taught and in a foreign language to evaluate for students? |
| 2. Consider previous positives, negatives and/or lacks emerged in the CLIL training for teachers, in order to suggest a proper path for Techno-CLIL training. | <ul style="list-style-type: none">• In what do teachers need training about Techno-CLIL?• Are there good practices or suggestions from CLIL stakeholders and/or researchers, which address a proper training for Techno-CLIL? |
| 3. Look for the best strategies and tools within the implementation of Techno-CLIL into History in the last triennium of Secondary schools (namely for 16-18 years old students). | <ul style="list-style-type: none">• Do the strategies currently suggested for CLIL match its implementation in History? Why?• What tools can be considered the most useful in it? |
| 4. Build some models of Techno-CLIL to suggest in History context, emerged by the previous points. | <ul style="list-style-type: none">• What models could be suitable in different class, which implement Techno-CLIL for History? Why? |

The answers to these questions will be answered respectively in each of the four section of the thesis, due to the fact they are sequential. Finally, the general conclusions will be the place where giving a unifying vision of the present research.

THEORETICAL FRAMEWORK 1
DEFINITION OF CLIL

1. Methodology

A systematic literature review has been conducted from the point of view of European non-linguistic subject teachers, in order to point out the meaning and the importance of implementing CLIL, in particular for History teachers, as a result from the analysis of its theoretical foundations. It has been so reviewed the essential and accessible documentation in a systematic procedure, that includes a search strategy and a planned categorial analysis, linked to our research questions (Okoli & Schabram, 2010).

Since CLIL has been largely researched and such a huge quantity of articles and books are available with their results, the data here taken into account derive firstly from searching and analysing the documents of the European Commission and the Council of Europe, which offer common references about recommendations for goals to achieve in studies and the ongoing process of CLIL practice in all States.

Secondly, a selection of peer-reviewed articles by famous researchers in CLIL and those with recentiora data of surveys have been considered relevant for the present review and obtained through three academic repositories, in the following order: Scopus, Educational Resources Information Centre (ERIC), Google Scholar.

Finally, precious CLIL definitions or practice derive from authors considered such as historical building blocks, like in particular David Marsh and Do Coyle, but also Phil Ball; and, from linguistics studies about CLIL, those, for instance, by Christiane Dalton-Puffer and Ana Llinares. Indeed, different areas of researches or surveys are taken into account in this systematic review, so as to find out the effectiveness of the CLIL at different levels. They are into Education, Applied Linguistics, Foreign Language (FL) Teaching, other than the European data from Eurydice 2006 and 2017.

2. What is CLIL?

Figure 1

Word cloud of CLIL topics.



Note: Own Word Art

Content and Language Integrated Learning (CLIL) was created on the basis of the Canadian Content-Based Instruction (CBI) by David Marsh and Anne Maljers within a cooperation of the Finnish University of Jyväskylä and the European Platform for Dutch Education, with the aim to achieve multilingualism in the European Union. The concern was focused on finding new ways for students to learn foreign languages, which needed longer exposures at school, though with no additional time in their curricula, previously revealed as non-performing (Marsh, 2002). This was particularly urgent within the union of different languages countries, such as the European Union, which by now has always suggested it. But it was meant to be something different in diverse definitions.

2.1 CLIL definitions

The original definition of its designers is: “CLIL refers to situations where subjects, or parts of subjects, are taught through a foreign

language with dual-focussed aims, namely the learning of content, and the simultaneous learning of a foreign language" (as cited in Biçaku, 2011, p. 3822).

Four years later, in order to create a specific framework for CLIL planning, Do Coyle, of the University of Nottingham (now at Aberdeen), distinguished between CBI and CLIL, because the Canadian method normally does not involve a peculiar pedagogy other than bilingual strategies, but reveals that "teacher input is generally abundant, learner output is often minimal, with few instances of learner-centred approaches and opportunities for learner interaction" (Coyle, 1999, p. 51). Conversely, CLIL should be engaging in its social-constructivist cognitive process, along the path of the acquirement of "knowledge, skills and understanding of the content" (Coyle, 1999, p. 51), as well as interactive on the way to the depth of cultural awareness. So, the teacher's role is like a scaffolder of students' learning, and CLIL put itself in the number of the most cutting-edge bilingual approaches.

It is from now that CLIL starts to be studied with attention by researchers and, above all, implemented in Europe, showing its complexity. Indeed, if its first definition put at the same time content and language learning, it was not clear how its implementation should be put into practice and by whom. In this second step, the Coyle creation of the framework of the "4 Cs" (Content – Cognition – Communication – Culture), on the one hand specified the peculiarity of CLIL, as further than only focused on bilingualism, and on the other, bringing the attention on Content as first, suggested non-linguistic subject teachers as the main characters of this approach. Marsh (2002, p. 15) gave this other definition: "CLIL and EMILE³ refer to any dual-focused educational context in which an additional language, thus not

³ "Enseignement d'une Matière par l'Intégration d'une Langue Etrangère" (EMILE) is the equivalent of CLIL in France.

usually the first language of the learners involved, is used as a medium in the teaching and learning of non-language content." So, we can argue that content is put as first, in line with Coyle (1999), considering a second language as a tool, added to the mother tongue.

CLIL is so adopted as approach in almost all Europe, also thanks to many European suggestions for the achievement of multilingualism, starting from the Council Resolution of 31 March 1995 on improving and diversifying language learning and teaching within the education systems of the European Union and The White Paper on Education and Training (European Commission, 1995), until the last Council Recommendation of 22 May 2019 on a Comprehensive Approach to the Teaching and Learning of Languages (Note, 2019). During this time, CLIL has been applied from diverse countries in many different ways, which involve its definition, as it can be seen in the report *Eurydice 2006 "Content and Language Integrated Learning (CLIL) at School in Europe"* (Eurydice, 2006). As a matter of fact, it defines CLIL as "a generic term to describe all types of provision in which a second language (a foreign, regional or minority language and/or another official state language) is used to teach certain subjects in the curriculum other than languages lessons themselves" (p. 8). Moreover, it shows, in an Annex, different national terminologies associated with the concept of CLIL in Europe (pp. 64-67), such as:

- immersion (Sweden)
- bilingual education (Hungary)
- multilingual education (Latvia)
- integrated curriculum (Spain)
- languages across the curriculum (Austria)
- language-enriched instruction (Finland)

It was thus started a sort of confusion about the concept itself, probably strengthened by naming as CLIL any sort of European bilingual education at school and/or University, at the point that the

same *Eurydice 2006* (p. 8) affirms that this “two-fold aim” calls for “the development of a special approach to teaching in that the non-language subject is not taught *in* a foreign language but *with* and *through* a foreign language”. Apparently, it is here recognised a specificity of CLIL, later denied in the above cited Annex, putting on the same level a vague *immersion*, bilingual/multilingual education, all normally taught by specialists in language education, and integrated curriculum or language-enriched instruction, closer to the novelty.

But is CLIL an approach? Both Marsh and Coyle, who mainly contributed to the CLIL definitions, initially do not use terms such as *approach* or *methodology* about it, perhaps conscious that many approaches and/or methodologies are possible under the unique term of CLIL, even though both of them use sometimes the former, largely adopted by most researchers, and those cornerstones authors too, since 2002, have started to define CLIL through *approach* (e.g., Coyle, 2005; Marsh, 2002). “When trying to conceptualise CLIL as an approach or a model, one easily comes across a multifaceted vision dependent on different perspectives — languages, content, culture, context, cognition, or technology— which makes it rather difficult to provide a straightforward definition” (San Isidro & Lasagabaster, 2019, p. 1). Moreover, the attribution of different meanings concerns each perspective, due to the fact that the tenets of them are not unambiguous, as it can be seen underneath.

It is here said also that one or more non-language subjects are to be taught simultaneously to the target language, given that it is aimed to increase the curricular time in which students are involved in FLs, but it is not explicit who should teach through CLIL, so giving the larger opportunity to choose within as much as larger possibilities:

1. Monodisciplinary, multidisciplinary, interdisciplinary CLIL (Banegas, 2012): taught by a CLIL teacher? More than one? A curricular team?

2. Language-led (*soft* CLIL) vs Content-led (*hard* CLIL): does CLIL involve a part, small or large, of the curricular time of one or more subjects, or the entire scholastic year?
3. Is CLIL aimed at making students acquire mainly the target language or the content, so content-driven or language-driven (Ball et al., 2015; Banegas, 2012; Coyle, 2015; Marsh, 2002; Pérez, 2016)? Should CLIL be focused exactly half on the content and half on the L2?

Whilst the first point was left to the policy of each country or school, the second one, more complex and at the basis of any definition of CLIL, other than the detection of the model of CLIL teachers, as well as the third one, saw undefined answers, which were and are aimed at widening the opportunities of CLIL implementation:

- "Within CLIL, language is used as a medium for learning content, and the content is used in turn as a resource for learning languages" (European Commission, 2005, p. 2).
- "We know that there is neither one model which suits all CLIL contexts nor one approach to integrating content and language teaching" (Coyle, 2007, p. 49, as cited in Cenoz et al., 2014, p. 264).
- "Content and Language Integrated Learning (CLIL) is a dual-focused educational approach in which an additional language is used for the learning and teaching of both content and language. That is, in the teaching and learning process, there is a focus not only on content, and not only on language. Each is interwoven, even if the emphasis is greater on one or the other at a given time" (Coyle et al., 2010, p. 1).
- "The possible forms that CLIL can take are so inclusive that it is difficult to think of any teaching or learning activity in which an L2/foreign language would be used that could not be considered CLIL" (Cenoz et al., 2014, p. 264).

Actually, “there are many commonalities or assumptions that make CLIL identifiable as a set of educational classroom practices in the different contexts of the European continent” (San Isidro & Lasagabaster, 2019, p. 2). This vagueness about the definition of CLIL has often been assumed as inclusivity of that diversity of concepts and implementations through its being an “umbrella term” (e.g., Coyle, 2002; Dafouz et al., 2010; Lorenzo et al., 2010; Pérez, 2016a), which leads to extreme consideration of it as a *conundrum* (Dalton-Puffer et al., 2014; Pérez, 2016b), needing further studies centred on the stakeholders to arrive to the definition of CLIL, inclusive of many intrinsic aspects, analysed in the following paraps. Indeed, if the definition of CLIL does not reach a clear picture of what it involves, leaving it in a vagueness, so as to include whatever possible especially in bilingual teaching, CLIL cannot be an opportunity of professional improvement for non-linguistic subject teachers and of holistic learning and growth for their students, as this research will show. It is so necessary starting from the analysis of the meaning of each component of the acronym CLIL.

2.2 Content into CLIL

Defining what content is for CLIL is crucial in order to understand the profile of CLIL teachers. Coyle (2015) gives a definition, which can orient this profile: “Content refers to the subject or theme of the learning in any curriculum which ranges from subject disciplines such as Science, History and Geography to cross disciplinary themes such as global citizenship, sustainability, or community development. It involves curricular knowledge and understanding. However, content cannot be considered in isolation but as part of any learners’ cognitive development and intercultural understanding” (p. 89). Indeed, CLIL is

implemented mostly during the curricular hours of non-linguistic subjects, such as those cited, or through cross-curricular projects, involving foreign language teachers in teams. But it is to make clearer the last sentence of Coyle.

If the concern is finding a strategy to teach languages as long as possible at school, to reach goals in this European aim, as the same original intent of CLIL was for, it has to be considered as a “‘language-driven approach’ and focused on L2 acquisition, where ‘content’ may be seen as a mediating tool for language learning” (Banegas, 2012, p. 118). Indeed, most studies and surveys so far are focused on this important aspect, because CLIL has been strongly pursued by the foreign languages, in particular English, and linguistic area, even though its implementation concerns mostly non-linguistic subject teachers (Nikula et al., 2013). Good evidence of this can be found in the European Universities, where CLIL is researched by the foreign languages and linguistics departments, where CLIL teachers training is also implemented.

Yet any curricular non-linguistic subject or cross curricular topics (see Banegas, 2012; Coyle, 2015) could be involved in a CLIL implementation (Eurydice, 2017), though a particular relevance must be done to the learning process and moreover through a different language than usual (Marsh & Frigols, 2012). In fact, what through CLIL is done as *content*, strictly embedded to the language, would be a way to enhance students’ skills not only in foreign languages (Marsh & Frigols, 2012), but also in the specific academic language applied to a specific subject (Dalton-Puffer, 2008; Kiely, 2011; Marsh, 2002; Meyer et al., 2015); as well as it would raise the deepening of the topics in a multilingual and multicultural way (Coyle, 2015; Czura & Papaja, 2013; Marsh, 2002; Marsh & Frigols, 2012), like recommended by the European Council (e.g.: Barcelona European Council, 2002; Council Resolution 2008; Council Recommendation 2012), with the

result that students are led to High Order Thinking Skills (HOTS), hence to the key skills for their future (Coyle, 2015; Kovacikova & Luprichova, 2018; Meyer et al., 2015). And these are exactly the goals expected for the content learning by the CLIL provision (Coyle, 2002; Marsh, 2002; Marsh & Frigols, 2012) and underlined by the higher level of their motivation, pointed out in field than non-CLIL students (Banegas, 2012; Cinganotto, 2016; Czura & Papaja, 2013; Dallinger et al., 2016; Goris et al., 2017; Guillamón et al., 2015; Kovacikova & Luprichova, 2018; Lorenzo et al., 2010; Marsh, 2002; Marsh & Frigols, 2012; Meyer et al., 2015; Pérez, 2016b).

A useful consideration is reported by Coyle (2015) about another aspect of *content* into CLIL: "In subject or content learning, the development of academic literacy skills is not usually to made transparent in more subject-oriented classes—especially in the foreign or second language. It would seem, therefore, that conceptual progression and the language used to enable that to happen are rooted in neither the traditions of language learning nor subject learning and hence are rarely explicitly taught at any level or context" (p. 95). So, also the "academic literacy", as a deep language awareness, related to Culture, i.e. both the cultural context of each learner, of the topic's context and of different languages through learning, other element of CLIL for Coyle, is to be included into CLIL content, because it is the key for students to "concept development and knowledge construction" (Coyle, 2015, p. 95).

Concluding, Content within the acronym CLIL can be seen as what students should learn, both as a part of a specific subject or more subjects for cross-curricular projects, so as an aim for students to acquire, that is concrete knowledge, and as a progress within the language and cultural awareness in the achievement of HOTS, so as a tool for the students' growth.

2.3 Language into CLIL

The dual focus of CLIL, in his first “L”, was originally and generically indicated by Marsh as *foreign language* (as cited in Biçaku, 2011, p. 3822), given that the aim was, as said, spreading the multilingualism. Indeed, CLIL was successful thanks to the aims of the European Commission (1995) about Education, in particular in order to lead to the proficiency in three Community languages, then reduced by one (Barcelona European Council, 2002); but also thanks to multilingual countries (Eurydice, 2017), like Spain (Guillamón, & Renau, 2015), and/or elitist scholastic contexts of L2 as well (Eurydice, 2017; Bruton, 2011), which often adopted the *hard* CLIL, quite close to the Canadian “Content-Based Instruction” (CBI) (Banegas, 2012; Dalton-Puffer, 2011; Muñoz, 2014; Pérez, 2016a).

The choice of what language should embed in content is left to the different context of implementation and, although the same European Union policy has never suggested the teaching of a particular language among the majority ones, actually leaving the freedom of using CLIL also for the minorities (Eurydice, 2017), English is by far the most studied in almost all European countries (Eurydice, 2017; Marsh & Frigols, 2012), to such an extent that it is often likely to speak of CEIL rather than CLIL (Dalton-Puffer, 2011). Hence, in spite of the best intentions by the UE in the regard of spreading multilingualism (Council Resolution 2008), the European creation of a lingua franca as dominant could be taking place also through the CLIL implementation (Dalton-Puffer, 2011; Marsh & Frigols, 2012). However, French and German, but also Spanish are widely targeted languages within CLIL provision (Eurydice, 2017), as minority ones are wider taught in countries where more than one official language exists (Eurydice, 2017), like hugely in Spain (Eurydice, 2017).

It is really important underlining that the feature of CLIL is not to be entirely practised in the target language like CBI (Content Based Instruction), though it happens, due to its frequent inclusion of generic bilingualism, but in a percentage of the curricular hours of non-linguistic subjects usually less than 50% by subject and year (Nikula et al., 2013). Thus, if the CLIL language is the same of a curricular foreign language, students stand under a wider exposure of it than non-CLIL ones (Bruton, 2011; Dalton-Puffer, 2011; Marsh & Frigols, 2012), as recommended by European Council (Council Resolution 2008). On the other hand, it can be considered as relevant that CLIL enriches both the mother tongue and the target language (Marsh 2002), so within CLIL the former has to be considered to implement as “language” and to improve as well as the latter.

Indeed, it is crucial for students to acquire the academic language of the subjects involved in CLIL, related to the topics the students have to treat. Particularly, it allows students to learn foreign languages in various contexts, correspondent, as possible, to different subjects (Agolli, 2013; Banegas, 2012; Marsh, 2002; Marsh & Frigols, 2012; Ramírez, 2012), so with different academic languages (Dalton-Puffer, 2011; Kovacikova & Luprichova, 2018; Llinares & Morton, 2010; Meyer et al., 2015), conducing them to improve their autonomy of research in at least a curricular foreign language and in a variety of literature and sources (Doiz et al., 2014; Gaisch et al., 2017; Guillamón et al., 2015; Pfenninger, 2014). Yet different languages and their awareness must take into account the cultural element of CLIL (Coyle, 1999), that is expanding students’ horizons, let them grow in a multicultural or, better, intercultural perspective (Ramírez, 2012) with the discovery of the European common roots. Moreover, with this aim it has been

Figure 2

The Language Triptych



Note: Reprinted from *CLIL: Content and language integrated learning*. by D. Coyle P. Hood, and D. Marsh, 2010 (p. 36), Cambridge University Press, 2010. Copyright 2010 by Cambridge University Press. Retrieved from Researchgate, https://www.researchgate.net/publication/303685209_Special_Issue_on_CLIL_CLIL_in_the_Business_English_Classroom_From_Language_Learning_to_the_Development_of_Professional_Communication_and_Metacognitive_Skills

funded the European Erasmus+ programme, which, having supported CLIL as an important strategy for language learning, (Cinganotto, 2016; Eurydice, 2017; Kovacikova & Luprichova, 2018), has been making easier students' mobilities so far, really important to make them feel European citizens, to meet foreign people with their diversity, to give them the insight of personal opportunities abroad. This is the reason why *language* should be taken into account in its communicative functions, not primarily as a fact of teaching/learning grammatical rules. As a matter of fact, Coyle suggests the progression of learning through a "Language Triptych" (Fig. 2), so as to plan content acquisition of students and map their progression of learning. Indeed, it has been firstly related by the author (Coyle, 2005) to a planning tool, "The 3 As" (Analyse – Add – Apply), which considered, in increasing order of difficulty, the language **of** the content of a period

of teaching (“conceptual learning”), the language linked to content by each student **for** learning (“meta-cognitive or learner strategies”), the language **through** learning (application of thinking skill and cultural awareness). A next author’s resumption of this frame (Coyle, 2015) links language and content, clearly reinterpreting and simplifying the Cummins’ Matrix, always taken into account for CLIL (e.g. Coyle, 1999), as below:

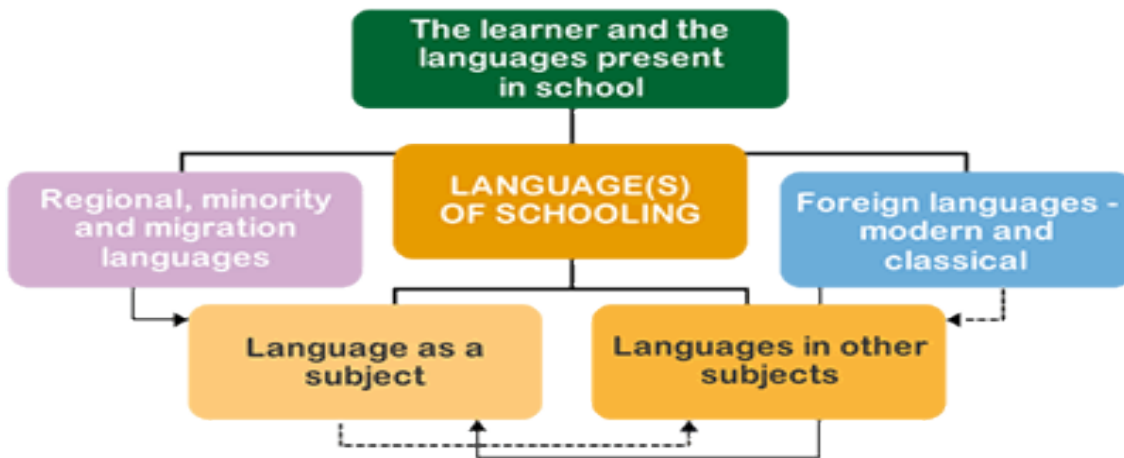
- Language **of** learning = content-obligatory language;
- Language **for** learning = content-compatible language;
- Language **through** learning = content-enriching language, i.e. “linked to deeper conceptual understanding on an individual level” (p. 91).

For example, supposing the topic of Enlightenment in History, content-obligatory language includes rights, declaration, equality before the law, etc; content-compatible language, absolutism, kingdom, society, etc.; whilst content-enriching language is, as said, related to the students’ personal rephrase to better understand the concepts of the topic.

Actually, like for content, CLIL is an umbrella term for language too and not only about the identification of the foreign or minority language to implement, but, above all, about its role. In fact, whilst learning foreign languages for European students is the aim for which CLIL was born, Coyle, admitting its huge “flexibility to respond to specific contexts for learning” (Coyle, 2015, p. 86), defines language (as in the Figure 3, not just *foreign*) “our greatest learning tool”, which “seeks to

Figure 3

Languages of schooling



Note: From "Towards a new era for pluriliteracies and intercultural learning", by D. Coyle, 2015, *Latin American Journal of Content and Language Integrated Learning*, 8(2), p. 87. CC-BY-NC-ND 4.0 by Latin American Journal of Content and Language Integrated Learning.

connect learners to the realities of using different languages at different times for different purposes", with the consequence that "it soon became apparent that for CLIL to be effective it had to be context-embedded and content-driven yet with specifically-determined target language outcomes" (p. 86). Twenty years of CLIL implementation led to the apparent conclusion that content is the very focus, yet through the more opportune language for the context of the implementation and/or of the subject or topic, with specific outcomes. But she moves to the aim of plurilingualism for European citizens, so to modern pedagogic practices, involving a language pedagogy.

Summing up, as for Content, Language in the acronym can be seen both as an aim, which is the acquisition of multilingualism for students, and as the greatest tool for content acquisition. But, in pair, language and content become pillars to make students achieve higher cognitive outcomes, at the point that the same definitions here given above appear reductive in some ways.

3. Models for CLIL

In order to plan and implement CLIL, there are for teachers many theoretical and strategical choices. It should be considered intrinsic to its open definition, as seen. Indeed, "identifying the programmatic, instructional, and student-related properties that are specific and perhaps unique to CLIL is complicated by the diverse and ill-defined range of learning contexts/opportunities that can be classified as CLIL" (Cenoz et al., 2014, p. 254-255). Actually, CLIL is implemented by a "plethora of models or variants which can be identified within it.. dependent on a series of factors or parameters" (Pérez, 2016c, p. 14. See her list of them), which affect in practice the outcomes to achieve for the students, the role of the teacher within the class, the tools to use for the activities and also the disposition of students and workstations in the class. Sometimes models are suggested by central government recommendations (Eurydice, 2017) about, for instance, what foreign or minority language is to be used and the percentage of it (Nikula et al., 2013). They concern:

- the content and language, as well as educational objectives for the pupils (Agolli, 2015; Coyle, 2015; Marsh & Frigols, 2012; Meyer et al., 2015), so as to choose the topics of their subject or cross-sectoral (Coyle, 2015);
- the strategies to adopt (Banegas, 2012), depending on:
 - the class context (Agolli, 2015; Dalton-Puffer et al., 2014) and the goals to reach per whole class, groups or singular student (Marsh, 2002; Marsh & Frigols, 2012);
 - the policy of the schools (Dalton-Puffer et al., 2014; Doiz et al., 2014; Kovacikova & Luprichova, 2018; Llinares & Morton, 2010; Pérez, 2016a);

- teachers' previous training (Bruton, 2011; Cinganotto, 2016; Dalton-Puffer et al., 2014; Kovacikova & Luprichova, 2018; Marsh, 2002);
- their awareness of language both in L1 and L2 (Meyer et al., 2015; Pérez, 2016b) and its relation with learning skills (Dalton-Puffer, 2008; Doiz et al., 2014; Muñoz, 2014);
- emotional factors, like motivation and enthusiasm both of students and teachers (Dallinger et al., 2016; Doiz et al., 2014).

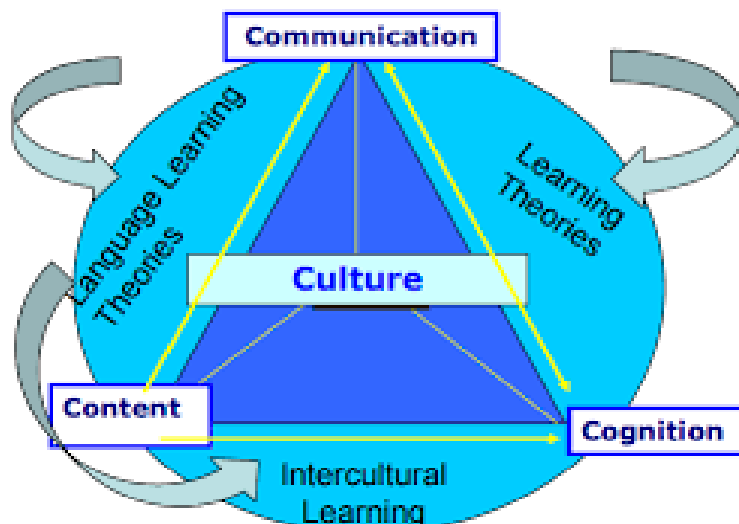
This complexity is often increased by the fact that wide models are put into practice by subject-teachers, who are not used to bilingual approaches, whether alone and in team with language colleagues and/or others (Agolli, 2015; Banegas, 2012; Cinganotto, 2016; Guillamón et al., 2015; Marsh, 2002; Marsh & Frigols, 2012; Nikula et al., 2013; van Kampen et al., 2017), but it addressed the creation of the most widespread models, which are four:

- 1) The 4 Cs-Framework in Figure 4 (Coyle, 2015, adapted from 1999), which, as seen before, put forward the integration of Content – Cognition – Communication - Culture for the CLIL teachers' planning. In order to clarify what this framework was, Coyle associated the key words of this framework in this way (Coyle, 1999, p. 53):

| | | |
|----------------------|---|--------------------|
| CONTENT | – | PROGRESSION |
| COGNITION | – | ENGAGEMENT |
| COMMUNICATION | – | INTERACTION |
| CULTURE | – | AWARENESS |

Figure 4

4 Cs conceptual framework



Note: From "Towards a new era for pluriliteracies and intercultural learning", by D. Coyle, 2015, *Latin American Journal of Content and Language Integrated Learning*, 8(2), p. 87. CC-BY-NC-ND 4.0 by Latin American Journal of Content and Language

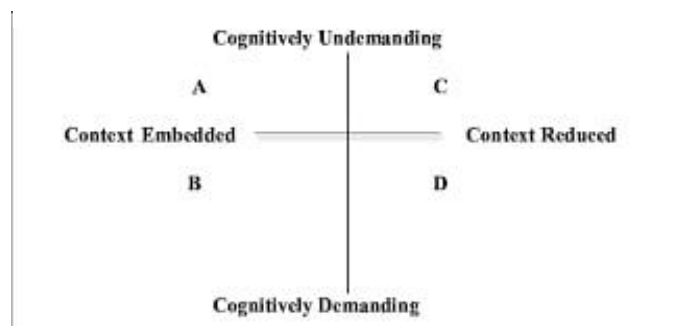
It is aimed at making the students learning personalised, but in particular, "it was a means of enabling both language teachers and subject teachers to be supported in a basic understanding that CLIL was not about deciding which content or which language needed to be taught but involved a much deeper and complex conceptualisation of learning including cognitive demands and intercultural understanding" (Coyle, 2015). The Language Triptych (in Coyle, 2015; see here [p 20](#)) completes it, so as to create a unifying visual of different needed language functions in CLIL implementation.

After having seen what Content refers to (pp. [15-18](#)), the other components of this important framework are to clarify, including Context, which was added by Agolli (Agolli, 2015).

COGNITION: It is a crucial point to take into account to relate CLIL tasks and thinking skills. Coyle initially founded this concept on the “knowledge framework” of Mohan (Coyle, 1999), which links structures of knowledge (in a bottom-up: classification, principles, evaluation) to matching thinking processes, so as to obtain a linguistic, content and learning progression, passing from experiential to expository learning. But, being her first concern on the relationship between language and cognition in task planning, she arrived to adapt (as in Figure 6) the “Cummins’ Matrix” (Figure 5) “by plotting cognitive demands against linguistic demands during task planning”, because, in her experience as a trainer, “the

Figure 5

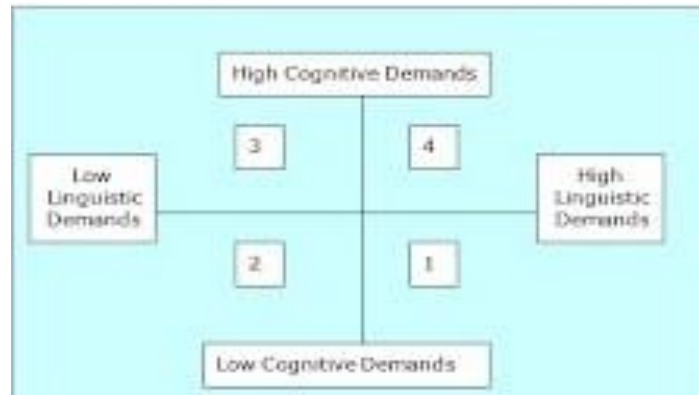
Cummins’ Matrix



Note: From “Defining and teaching academic language: Developments in K-12 ESL.”, by S. Ranney, 2012, *Linguistics and Language Compass*, 6(9), p. 562. Copyright by Cummins 2000. Retrieved from Researchgate, https://www.researchgate.net/publication/264341662_Defining_and_Teaching_Academic_Language_Developments_in_K-12_ESL

Figure 6

Coyle's CLIL Matrix



Note: Reprinted from *CLIL: Planning tools for teachers*, by D. Coyle, 2005, p. 8, University of Nottingham. Copyright D. Coyle, 2005. Retrieved from https://www.unifg.it/sites/default/files/allegatiparagrafo/20-01-2014/coyle_clil_planningtool_kit.pdf

challenge is to create cognitively demanding tasks, yet using less demanding language” (Coyle, 1999, p. 50).

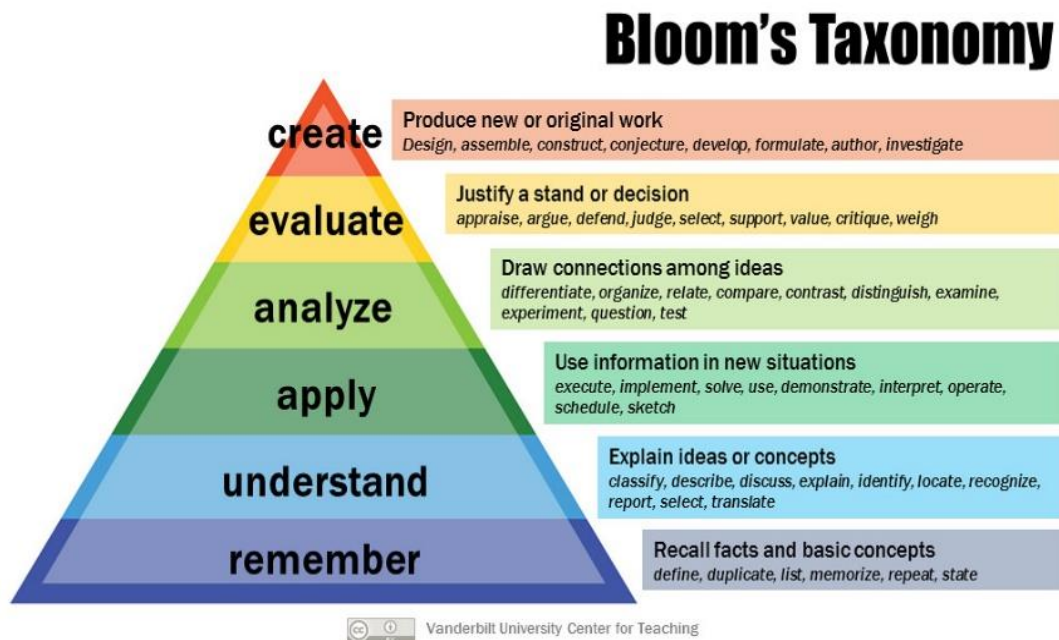
Indeed, learners are involved by teachers in a path, from the third to the fourth quadrant, of increasing difficulty in language, but their comprehension of the tasks should be always ensured to guarantee their engagement.

It is Cognition, in this framework, which makes clear that CLIL is rooted in social-constructivism (Meyer, 2010; Muñoz, 2014), because the engagement of students depends on their involvement in the challenge of the construction of their knowledge, through adequate tasks to make them acquire always higher thinking skills, step by step and thanks to their teachers as scaffolders (Nikula et al., 2013).

This is why CLIL, definitely student-centred (Marsh, 2012; O’Dowd, 2018), see the planning of its tasks bearing in mind the Bloom’s taxonomy, as revised in 2001 by Anderson and Krathwohl (Krathwohl, 2002), in the respect of individualities to reach

Figure 7

Bloom's revised taxonomy



Note: Reprinted from Bloom's Taxonomy, Vanderbilt University Center for Teaching.

Retrieved from <https://cft.vanderbilt.edu/guides-sub-pages/blooms-taxonomy/>. CC-BY

successful educational outcomes (Coyle, 2005). Indeed, "when learners are able to accommodate cognitive challenge – that is, to deal with new knowledge – they are likely to be engaged in interacting with 'expert' others and peers to develop their individual thinking" (Marsh, 2012). So, it can be seen as an application of the *Zone of Proximal Development* (ZPD) by Vygotskij (1978), as well as of *Scaffolding* by Bruner (1978).

Classrooms are, hence, communities of practice, where learning is collaborative built by interaction with all the participants, so teachers and students, to the educational event (Kaye, 1994).

Content and Language, in this regard, are both tools to make students rise from "Low Order Thinking Skills" (LOTS), i.e. the lower three categories in the Bloom's pyramid, to "High Order Thinking Skills" (HOTS), i.e. *Analyse, Evaluate, Create*. In fact, "achievement

of the next more complex skill or ability required achievement of the prior one" (Krathwohl, 2002). And these are exactly the goals expected for the content learning by the CLIL provision (Coyle, 2002; Marsh, 2002; Marsh & Frigols, 2012) and by the higher level of their motivation, or, with Coyle, *engagement*, pointed out in field than non-CLIL students (Banegas, 2012; Cinganotto, 2016; Czura & Papaja, 2013; Marsh, 2002; Dallinger et al., 2016; Goris et al., 2017; Guillamón et al., 2015; Kovacikova & Luprichova, 2018; Lorenzo et al., 2010; Marsh & Frigols, 2012; Meyer et al., 2015; Pérez, 2016b).

COMMUNICATION: This concept, as Cognition, with which is strongly related, takes part to the social-constructivist view of learning about CLIL. According to it, knowledge is socially built. Cummins (2008) underlined that "Deeper understanding of the nature of academic language and its relationship both to conversational fluency and other forms of literacy will emerge from teachers, students, and researchers working together in instructional contexts collaboratively pushing (and documenting) the boundaries of language and literacy exploration" (p. 82). He had before (1979, 1981, 1984) distinguished what L2 students deal with between "basic interpersonal communicative skills" (BICS) and "cognitive academic language proficiency" (CALP), in line with Bruner's *communicative and analytic competences* and the Gibbon's linking them to HOTS (Cummins, 2008). Without going into the developments and critiques of this theory, it can be said that for CLIL it has been accepted, "since it allows teachers to consider the appropriateness and the contextual significance of different tasks they are planning for their learners" (Coyle, 1999, p.49). It is so clear that tasks should be in a progression of linguistic difficulty, in the path of foreign language (FL) academic literacy at school for

different subjects, at same time in social context, hence through BICS, embedded in a contemporary path of HOTS acquisition. This is the reason why input and output are concerned together in tasks within the specific context of any group of learners, and not planned apart from it: "What is significant in collaborative learning with both special needs learners and CLIL is that it gives the teacher extra support in identifying specific input needs, and the learner more options for accessing learning", as well as "appropriate scaffolding... that may be individualized according to need within a specific group" (Marsh, 2012, p. 45). This is aimed at making learners autonomous and responsible of their knowledge in their common building a final product for each task, in a shared communication with peers and teachers in FL, but also in mother tongue (MT), so as to enrich vocabulary and, above all, meanings along the learning process (see Marsh, 2012).

It is also to be said that learning FLs influences positively students' brain and minds (Marsh, 2012). "New insights from the fields of psychology, neurology and neurolinguistics clearly state the different functioning of the multilingual and the monolingual mind. In fact, it has been demonstrated that bilinguals/multilinguals have a better ability to memorise (in particular, short-term memory), a greater flexibility of mind, a better capacity for creative hypothesizing, the ability to avoid distraction from irrelevant information, and a greater ability to multi-task" (Pavón & Ellison, 2013, p. 69).

So teachers are called to be able to accurately manage these processes, in order firstly to prevent students cognitive overload, yet mainly to acquire a teaching style conscious of "the way the materials 'communicate', to the way the teacher communicates, and to the possibilities the pupils have to communicate" (Coonan, 2011, p. 5), so as to guarantee the success of CLIL implementation. About

materials, it is to bear in mind that “Students of this generation readily manipulate ICT and do not hesitate to share their results via Web 2.0” (Arau Ribeiro, 2015, p. 33). For this reason, audio-visual resources and Information and Communication Technologies (ICTs) are the way to foster together content and language (Marsh, 2002; Oxbrow, 2018), as well as ensure students’ engagement and collaboration during the tasks to make them grow, according to the Bloom’s pyramid ([p 26](#)). Indeed, ICTs have been using so far in language acquisition, in non-CLIL as in CLIL lessons, as Computer/Mobile Assisted Language Learning (CALL or MALL) (Cinganotto, 2017). Inputs are so multimodal and also involve different types of feedback, in particular during the students’ construction of meaning (García Mayo & Lázaro, 2015), such as from peers or groups (Marsh, 2012), from the same online tools, other than, from teachers, explicit or implicit feedback strategies (Graaff et al., 2007), who has to systematically provide it to scaffold students’ tasks (Ball, 2016; Meyer, 2010). This richness can bring to unexpected, for teachers, communicative students’ output, as, for example, what can happen if students are free to use their choice of online tools (Marsh, 2012), or when students become more autonomous in their assigned tasks. Indeed, “in media-rich environments there are many often quite different forms of feedback that maximize interactivity, and of particular importance to education, help the user navigate. It is a different world from one where a teacher monologues in a classroom, and it is closer to a peer-learning CLIL learning environment where students work together to achieve joint outcomes” (Marsh, 2012, p. 89).

It results now evident that Communication and communicative strategies determine different matters of CLIL implementation (Nikula et al., 2013), according to their being related to Cognition, to Content, to the linguistic and methodological competence of teachers, to the

Context of implementation, as well as to language awareness, crucial for CLIL (Ángeles, 2016), and cultural awareness as well.

CULTURE: *Culture* is a wide-meaning term, arrived in English from Latin through French, which, etymologically, derives from *cultivate*, firstly in the sense of farming, then also concerning the religion, public and private interests and finally studies (the largest number of meaning can be found in the Italian <http://www.treccani.it/vocabolario/cultura/>). Actually, there are now many different meanings of this term, mainly referring, on the one hand, to shared patterns of groups such as behaviours, beliefs, foods, etc.; on the other, to the acquired, normally through study, knowledge of individuals of groups (<http://carla.umn.edu/culture/definitions.html>).

The European Commission has recognised a common European culture with difficulties, related to a common historical and artistic heritage and obtained as result after surveying the meaning and its importance along all the European countries, also in order to admit many cultural differences and the necessity of cross- and multi-cultural projects (European Commission, 2007). Indeed, it was clear also before that “the future of European culture depends on its capacity to equip young people to question constantly and seek new answers without prejudicing human values. This is the very foundation of citizenship and is essential if European society is to be open, multicultural and democratic” (European Commission, 1995, p. 10).

Being CLIL born between the rows of The European Union, it is strictly implied in this cultural *foundation of citizenship*, and in the effort of building a multi-cultural society, which justify the presence of the element Culture in this framework, which is now to deepen.

Coyle (1999) considers this concept as “a deepening awareness and positioning of cultural self and otherness” (p. 53), based on the

opportunities that teachers give students for making explicit and deep this awareness. Due to the fact that CLIL fosters European plurilingualism, students' cultural identity, rooted in the influence of their context on their world views, should be linked to intercultural awareness (Meyer, 2010), accepting the complexity connected to the concept itself of Culture, as also the European Commission solicits to build the European multicultural citizenship (European Commission, 1995, 2018). "In other words, language is part of an individual's 'linguistic DNA' that is context-related and culturally mediated" (Coyle, 2015, p. 93). And at school different subjects and topics are embedded in different academic cultures, with which students have to deal with through different academic languages (Coyle, 2015). Hence, "CLIL provides an ideal opportunity for students to operate in alternative cultures through studies in an alternative language. Studying a subject through the language of a different culture paves the way for understanding and tolerating different perspectives" (Coyle, 2002, p. 28). It makes students put into practice their communicative skills in intercultural contexts, facilitating the integration of diverse and processes of cultural/linguistic adaptation through tasks of experiential learning (Marsh, 2012), particularly with ICTs use (Cinganotto, 2016b; Ramírez, 2012).

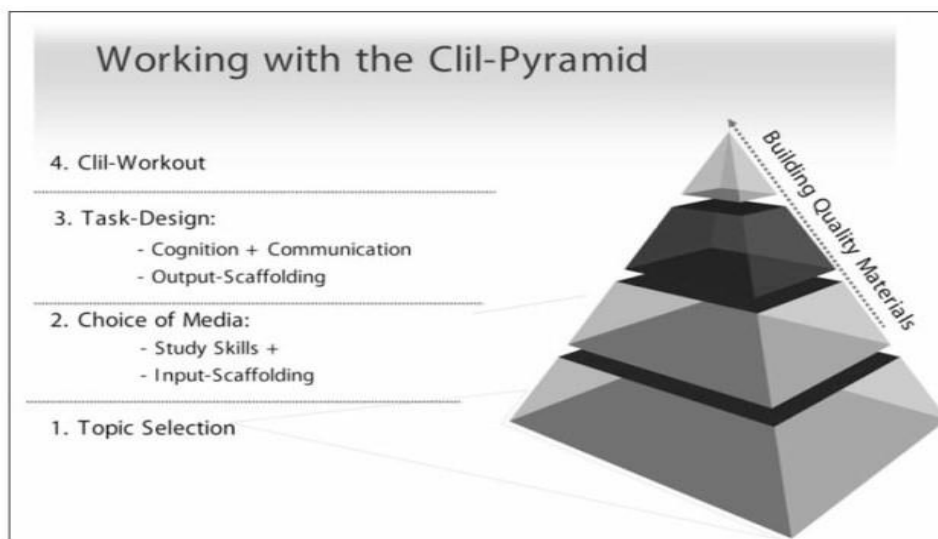
Context: It is not originally included in the Coyle's framework, but Agolli (2013) added this concept to it, vital according to her, "because it moulds the identity and flexibility of the constituents" (Agolli, 2015, p. 45). Indeed, CLIL is context oriented, by the means that students learn in social-constructivist collaboration (of groups or peers), where "language and content objectives are clear-cut and pervade diverse stages of the learning procedure relating learning to real-life situations by involving learners in natural ways" (Agolli, 2013, p. 146), so they are contextualised to concrete experiences of CLIL lessons.

Consequently, “CLIL implementation on an international level should evade a one size fits all approach, calling for the establishment of pluriCLILism, as an educational strategy, whilst CLIL methodology should exploit pedagogies that are inherent to both EFL terrain and subject matter area” (p. 153).

2) The *CLIL Pyramid* is based on the 4Cs tenets and was developed as an integrative “tool for lesson planning and materials construction or adaptation” (Meyer, 2010, p. 23. Fig. 8). It proposes sequential points to take into account to plan CLIL units: the selection of the topic, heart of the lessons; the choice of multimodal inputs through transmediation’s activities, comprehensive of input-scaffolding and the insight of the study skills required; the task-design, in order to lead students to reach HOTS and communicative and interactive outcomes through

Figure 8

The CLIL Pyramid



Note: Reprinted from “Towards quality-CLIL: successful planning and teaching strategies”, by O. Meyer, 2010, *Pulso*, 33(1), p. 24. Copyright 2010 by O. Meyer. Retrieved from Researchgate, https://www.researchgate.net/figure/The-CLIL-Pyramid-C-Oliver-Meyer_fig1_47734355

output-scaffolding; the CLIL workout, i.e. the review of key content and language elements (Meyer, 2010).

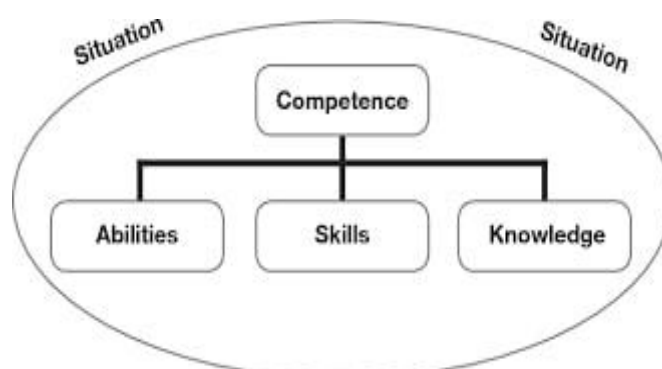
In this way, on the one hand all the 4 Cs are considered in planning, and, on the other, it is underlined something new: inputs become multimodal and, according to them, there are a suggestion of activities of transmediation. Indeed, "providing multimodal input and distributing it evenly across the new CLIL unit produces highly differentiated materials which accommodate different learning styles and activate various language skills. Multimodal input also facilitates the development of new literacies" (Meyer, 2010, p. 23). It is vital that students understand inputs so as to fund their path of knowledge, and it so to take into account how they learn, which, accordingly or not to the theory of learning styles, is various. So the attention to the transmedia literacy at school, as the closer-to-student way to foster the current participatory culture (González-Martínez et al., 2018), takes into account the importance today of ICTs in the field of Education, as highlighted by the European Commission too (e.g., European Commission, 1993; European Commission, 2011; Council of the European Union, 2019).

This framework put also the accent on interdisciplinarity, as a future opportunity to chance schooling: "The true potential of the CLIL-Pyramid, however, is in the support it provides to establish and maintain connections between different subjects/topics/units and by making explicit the study skills and literacies which might drastically change the way we think about curriculum planning and the way we structure classroom learning in the future" (Meyer, 2010, p. 26).

3) The “Three-dimensional Model” (Ball et al., 2015), in which the interaction of Concept-Procedure-Language eases planning through the 4c’s framework, as well as the understanding of the terms and thus the implementation. Indeed, Cognition, for instance, is here merged, as within L1 lessons, into both Concept, that is the “content to be taught”, and Procedure, that is “the way we teach it” (Ball et al., 2015). It is so proposed the idea of a *new hybrid teacher*, who should choose to emphasize one or another dimension for different aims, in different situations or contexts, but who should also acquire before some competences of foreign language teachers, since language is the key for students’ high performances, even though the priority should always be content (Ball et al., 2015). But the meaning of *Content* should be clarified. Indeed, all the 4 Cs can be seen as Content to teach and learn and CLIL, *ab origine* considered dual-focused (see p. [11](#)), become single-focused with three dimensions (conceptual, procedural and linguistic), given that academic topics, subject-specific skills and general/academic language are all included in scholastic curricula (Ball, 2016). Students should perform in all these aspects in given situations to

Figure 9

Situational competencies



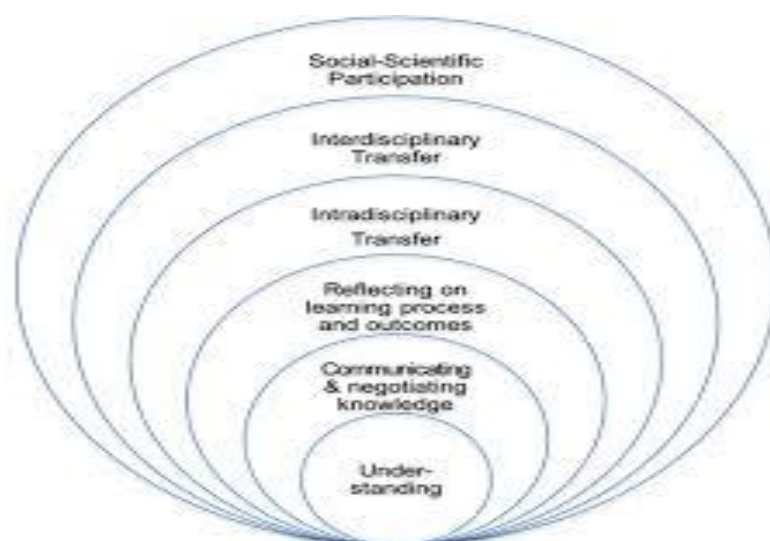
Note: Reprinted from “Using language(s) to develop subject competences in CLIL-based practice”, by P. Ball, 2016, *Pulso*, (39), p. 25. Copyright 2016 by Pulso. Retrieved from <https://revistas.cardenalcisneros.es/index.php/PULSO/article/view/212/182>

demonstrate the acquirement of specific competences. So, also FL teachers, not only subject ones, "might begin to see their pedagogic objectives in more multi-dimensional terms – not in mere linguistic ones... like subject teachers who work with explicit competence-based aims, language teachers may come to see procedural content as the main element of their curricular statements and planning, using the linguistic and conceptual dimensions as the willing servants of our changing educational landscape" (Ball, 2016, p. 33).

4) The "Pluriliteracies model" was born as a project of the ECML (European Centre for Modern Languages) in order to "sensitise teachers towards pluriliteracy as an end-goal in both content education and language learning and provide them with a guide towards more literacy-sensitive classroom practices" (Meyer et al., 2015, p. 48). According to European Union solicitations (European Commission, 2014), reflections about the role of language in all subjects, not only as a distinct subject, indicate a development in the meaning of the term *literacy*, originally designating the ability to read and write, yet become broader. Indeed, *scientific literacy*, i.e. subject-specific, "can be interpreted as a path towards critical thinking and knowledge application, as well as social participation. In concrete terms, it is composed of at least three different areas of competence, namely knowledge (linked to language and epistemological competence), action (in terms of learning competence, procedural, communicative and social competence) and evaluation (aesthetic and ethical/moral competence)" (Beacco et al., 2015, p. 25). Besides, six interdependent dimensions constitute a subject literacy (Figure 10).

Figure 10

The six Dimensions of subject literacy



Note: Reprinted from “Pluriliteracies Teaching for Learning: conceptualizing progression for deeper learning in literacies development”, by O. Meyer and D. Coyle, 2017, (based on Beacco et al., 2015), in *European Journal of Applied Linguistics*, 5(2), p. 203.

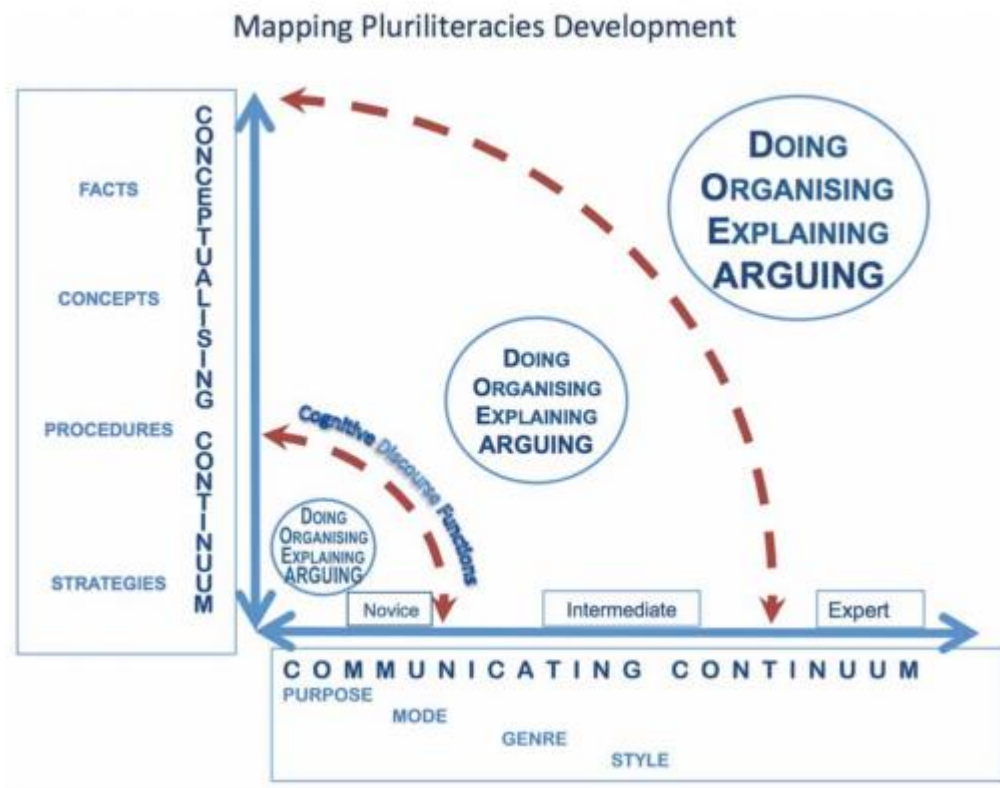
Copyright 2016 by O. Meyer. Retrieved from

https://aura.abdn.ac.uk/bitstream/handle/2164/10923/eujal_2017_0006_v1.pdf;jsessionid=23043941D87AC023B86F658594C02190?sequence=1

Starting from lacks in CLIL results, such as academic language use and high cognitive discourse functions, according to the Bloom’s pyramid (p 26), and from the importance of students’ deeper academic understanding and so learning, based on the related language, it is argued that “progress along the knowledge path in different subject domains involves increasingly mastering disciplinary literacies. Progression in this sense will require a growing capacity to language or articulate understanding as it emerges, which in turn requires learners to know how to draw on a developing and increasingly appropriate linguistic repertoire” (Meyer et al., 2015, p. 43).

Figure 11

The Graz Group Pluriliteracies Model ()



Note: Reprinted from “A pluriliteracies approach to content and language integrated learning – mapping learner progressions in knowledge construction and meaning-making” by O. Meyer et al., 2015, p. 49. Copyright 2015 by Graz Group. Retrieved from https://www.unifg.it/sites/default/files/allegatiparagrafo/21-07-2016/meyer_coyle_et_al._a_pluriliteracies_approach_to_content_and_language_integrated_learning.pdf

Figure 11 shows how it marks the important relationship between thinking and languaging, for which the lack of academic language adequate acquisition impacts negatively on the building and communication of deep knowledge. But “deeper learning will not be the automatic by-product of subject teaching and learning. Students will only successfully master subject specific literacies in an environment that focuses on building learners’ meaning-making potential by enabling them to actively demonstrate their

understanding, primarily through the adequate use of appropriate language" (Meyer & Coyle, 2017, p. 202). And since the ability of read *multimodal representations of knowledge* leads to hold subject-specific literacies, the active process of meaning-making, i.e. of knowledge, (*conceptual continuum*) and the process within subject-specific discourses should be focused in their pedagogic relationship (*communication continuum*), depending on this accord the integration of content and language for CLIL, as well as the effective learning in multimodal context, as in education (Meyer et al., 2015).

So, being necessary the assessment of students' progress within these related processes, its mapping-progress visual has been developed by the Austrian Graz Group, a cooperation of international experts, among which Coyle, so as to map the learners' progress not only along the knowledge of the embedded content and language, but also, and through them, along the subject-specific literacies (Meyer et al., 2015) across languages and culture, hence showing the contextual conceptual development and language development (Coyle, 2015).

5) In 2011 the *European Framework for CLIL Teachers Education* has been published online as the result of a project of the European Centre for Modern Languages of the Council of Europe (ECML) (Marsh et al., 2012). Essentially, it "aims to provide a set of principles and ideas for designing CLIL professional development curricula" (p. 3). Curriculum design is put as European aim, in its five functions from literature:

1. It "defines an educational programme", in which content has to be sequentially scheduled for learners.
2. It is "a source of innovation", renewing aims, content and methods.

3. It is "a tool for planning and carrying out teaching-learning sequences".
4. It is "an instrument to evaluate teaching and learning".
5. It is "a means for regulating, standardising and comparing teaching and learning at all levels".

Yet this framework can be also seen "as a tool for reflection" (p.3), so as a *model*, not as a *prescriptive template*, recognising significant differences about the CLIL implementation in the Council of Europe member states. It is to highlight that it was written after a European consultation and "an examination of teacher education learning and curricular needs in CLIL contexts" (p. 3).

Within the definitions of key terms, there is the CLIL one: "CLIL is a dual-focused educational approach in which an additional language is used for the learning and teaching of content and language with the objective of promoting both content and language mastery to pre-defined levels" (p. 11). While this definition sees definitely CLIL as an approach, what is new is referring content and language acquisition to predefined levels, that actually are not here defined explicitly for students, but only solicited along curricula which are still to build in each country. Nonetheless, it might be argued, reading the terminology section, that *predefined levels* are related to the eight levels indicated for the European Qualifications Framework for lifelong learning (EQF, Fig. 12), each "defined by a set of descriptors indicating the learning outcomes relevant to qualifications at that level in any system of qualifications" (European Parliament and Council of the European Union, 2008, Annex II) and recently revised (European Commission, 2018). In this last EQF, "responsibility and autonomy are described as the ability of the learner to apply knowledge and skills autonomously and with responsibility" (European Commission, 2018, p. 19), namely as, in other terms, competence.

Figure 12

The European Qualifications Framework

Appendix A The European Qualifications Framework (EQF)

| Level | Knowledge | Skills | Competence |
|------------------------|---|---|---|
| Level 1 | Basic general knowledge | basic skills required to carry out simple tasks | work or study under direct supervision in a structured context |
| Level 2 | Basic factual knowledge of a field of work or study | basic cognitive and practical skills required to use relevant information in order to carry out tasks and to solve routine problems using simple rules and tools | work or study under supervision with some autonomy |
| Level 3 | Knowledge of facts, principles, processes and general concepts, in a field of work or study | a range of cognitive and practical skills required to accomplish tasks and solve problems by selecting and applying basic methods, tools, materials and information | take responsibility for completion of tasks in work or study; adapt own behaviour to circumstances in solving problems |
| Level 4 | Factual and theoretical knowledge in broad contexts within a field of work or study | a range of cognitive and practical skills required to generate solutions to specific problems in a field of work or study | exercise self-management within the guidelines of work or study contexts that are usually predictable, but are subject to change; supervise the routine work of others, taking some responsibility for the evaluation and improvement of work or study activities |
| Level 5 ⁽¹⁾ | Comprehensive, specialised, factual and theoretical knowledge within a field of work or study and an awareness of the boundaries of that knowledge | a comprehensive range of cognitive and practical skills required to develop creative solutions to abstract problems | exercise management and supervision in contexts of work or study activities where there is unpredictable change; review and develop performance of self and others |
| Level 6 ⁽²⁾ | Advanced knowledge of a field of work or study, involving a critical understanding of theories and principles | advanced skills, demonstrating mastery and innovation, required to solve complex and unpredictable problems in a specialised field of work or study | manage complex technical or professional activities or projects, taking responsibility for decision-making in unpredictable work or study contexts; take responsibility for managing professional development of individuals and groups |
| Level 7 ⁽³⁾ | Highly specialised knowledge, some of which is at the forefront of knowledge in a field of work or study, as the basis for original thinking and/or research Critical awareness of knowledge issues in a field and at the interface between different fields | specialised problem-solving skills required in research and/or innovation in order to develop new knowledge and procedures and to integrate knowledge from different fields | manage and transform work or study contexts that are complex, unpredictable and require new strategic approaches; take responsibility for contributing to professional knowledge and practice and/or for reviewing the strategic performance of teams |
| Level 8 ⁽⁴⁾ | Knowledge at the most advanced frontier of a field of work or study and at the interface between fields | the most advanced and specialised skills and techniques, including synthesis and evaluation, required to solve critical problems in research and/or innovation and to extend and redefine existing knowledge or professional practice | demonstrate substantial authority, innovation, autonomy, scholarly and professional integrity and sustained commitment to the development of new ideas or processes at the forefront of work or study contexts including research |

Note: Reprinted from "Establishment of the European Qualifications Framework for lifelong learning", by European Parliament and Council of the European Union, 2008, Annex II.

Retrieved from <https://eur-lex.europa.eu/legal-content/EN/ALL/?uri=CELEX%3A32008H0506%2801%29>.

4. CLIL stakeholders

Students and teachers are the main characters as in any classroom as in CLIL implementation. It is now to better specify, about students, if there are selective criteria for them to be admitted to CLIL provision, at what age it is better to approach it, and what kind of goals are to achieve. Afterwards, it has been given the picture of the CLIL teacher needed competences and the role of History teachers for the CLIL practice at school.

4.1 Students

CLIL refers to Education, so it is addressed to students, who are protagonists, mainly in its being student-centred, but whose identity is here to specify about their age, so their starting and/or more adequate scholastic level for CLIL implementation; the existence of selection's criteria for its provision, which could invalidate the higher outcomes of the before-selected CLIL students and could make CLIL elitist and fostering educational discrimination, in socio-economic sense (Bruton, 2011); finally, learning outcomes, which validate whether CLIL could be effectively adopted or not.

4.1.1 Age of involved students

CLIL exists in all European educational systems, as recommended by European Directives (e.g., Eurydice, 2006, pp.8-9), although "it is quite clear that it is not very widespread except in a handful of countries...

at some stage" (Eurydice brief, 2017, p. 13), because of different policies.

In order to make clear for whom it is meant, it can be useful to check the starting age of CLIL students in Europe, since the UE calls for "improving the mastery of basic skills, in particular by teaching at least two foreign languages from a very early age" (Barcelona European Council, 2002, p. 19). It is a composite field to analyse, because of the extreme heterogeneity of the different implementations not only among countries, but among regions and also among schools' policies, due to the fact that only few countries have a precise government policy for CLIL and that in others, even though there is a CLIL provision, often there are not neither central recommendations nor a widespread implementation (Eurydice, 2017). The reason could be seen into the existence of what Dalton-Puffer calls a gap between "local grassroots activities and the supra-national level" (Dalton-Puffer, 2008, p. 4), that is, between the actions of individual teachers or schools and the transnational initiatives supported by European organisations (Czura & Papaja, 2013). Nonetheless, surveys have been conducted both in primary (e.g., Pfenninger, 2014; Ramírez, 2012), though less than in lower or secondary schools (e.g., see Agolli, 2015; Cinganotto, 2016; Czura & Papaja, 2013; Dallinger et al., 2016; Doiz et al., 2014; Fokides & Zampouli, 2017; Goris et al., 2017; Guillamón et al., 2015; Hüttner & Smit, 2017; Llinares & Whittaker, 2007; Nikula et al., 2013; van Kampen et al., 2016;), and sometimes at university level (Del Carmen & Ribeiro, 2015; Gaisch et al., 2017). The students' outcomes tend to reveal that the only early age is not a key factor to the proficiency acquisition (Pfenninger, 2014), since, in the field of the language learning, generally the older students of secondary schools perform faster because of achieved higher cognitive skills (see Lorenzo et al., 2010; Pfenninger, 2014), which the same CLIL implementation aims to increase and makes suitable for the content learning (Meyer, 2010).

This is the reason why, for instance, in Italy CLIL is compulsory in the last grade of upper Secondary schools, whereas often, in countries where CLIL is provided also for minority languages, involved pupils are younger at starting, like in Spain (Eurydice, 2017).

It is also to be said that in some countries in which CLIL is not generally provided, like Greece, some pilot projects were successfully implemented, starting at University level (Fokides & Zampouli, 2017). Summing up, it can be said that it is not relevant if early-age students are involved within CLIL provision, because the outcomes are highly influenced by older students' cognitive skills, definitely active in CLIL tasks, as highlighted before (see, for instance, p. [25](#)).

4.1.2 Access to CLIL provision

In most European countries there are not selection's criteria for students to be admitted to CLIL provisions (Eurydice, 2017). Even so, in part of them there are central recommendations concerning them, which are mainly about students' language skills, sometimes added to their "knowledge of specific curriculum subjects and/or general aptitude" (Eurydice, 2017, p. 57) and/or in relation with different levels of schools. In Spain there was the more complex situation, depending on different Autonomous Communities' policies, which has been unified by the Education Act (Ley Orgánica para la Mejora de la Calidad Educativa, LOMCE, 2013), also abolishing language skill requirements, but which still are valid if adopted by schools with their own selective criteria. Indeed, everywhere in European countries schools are free to select students for CLIL, especially in private education, for instance widespread in UK, and if there are apart CLIL courses (Eurydice, 2017). Notwithstanding, "educational discrimination is an important topic that would require a lot more focused attention, political as well as

academic" (Hüttner & Smit, 2014, p. 163), but it inheres particularly educational systems, that can adopt CLIL as other approaches, not CLIL itself (Hüttner & Smit, 2014).

4.1.3 Learning outcomes

It is now to understand if CLIL, in line with its European roots, and its being aimed to the development of HOTS and a wide citizenship for students, can be considered in line with the European learning outcomes as well, in order to be effectively adopted.

The EQF (European Parliament and Council of the European Union, 2008, Annex II) offers eight cycle descriptors, in each one is "a generic statement of typical expectations of achievements and abilities associated with qualifications that represent the end of that cycle" (p. 6), according to the framework for the Bologna process in the last four descriptors for the higher education. As admitted, they are rather generic and can be easily put near to the Bloom's pyramid ([p 26](#)).

Actually, educational learning outcomes are competences that students should acquire for their life. So, the European Council (2006) reported these eight key competences, "which all individuals need for personal fulfilment and development, active citizenship, social inclusion and employment...:

- 1) Communication in the mother tongue;
- 2) Communication in foreign languages;
- 3) Mathematical competence and basic competences in science and technology;
- 4) Digital competence;
- 5) Learning to learn;
- 6) Social and civic competences;
- 7) Sense of initiative and entrepreneurship; and

8) Cultural awareness and expression” (Annex).

These competences are exactly what the 4 Cs framework (p. 25), together with the Bloom’s pyramid, sets as gradual goals to achieve (infra, p 26).

At the same time, in America educational and economic associations worked together in order to define the 21st century skills (Fig. 13), spread by the Organization for Economic Cooperation and Development (OECD) and essentially accepted in citation by EU, *Rethinking Education: Investing in skills for better socio-economic outcomes* (European Commission, 2012), other than in the site for lifelong learning (<http://lllplatform.eu/policy-areas/xxi-century-skills/>). They call for the development of transversal and entrepreneurial skills, founded on the achievement of basic skills

Figure 13

21st century skills



Note: Reprinted from "New Vision for Education : Fostering Social and Emotional Learning through Technology", by World Economic Forum, 2016, p. 4. Retrieved from: <https://ischool.startupitalia.eu/education-main/education/57348-20160929-scuola-del-futuro-apprendimento-digitale>

(literacies), with a particular attention to language learning and the potential of ICTs and Open Educational Resources (OER) (European Commission, 2012).

As seen, for instance, about the CLIL pyramid (infra, [p 32](#)) and the Pluriliteracies model (infra, [p 34](#)), CLIL takes certainly into paramount consideration the aim of the acquisition of these skills for students, also innovating the didactics through learner-centred strategies and ICTs use. And training CLIL teachers to know and use OER can be considered the first challenge to make students fully achieve the XXI century skills.

4.2 Teachers

As seen (e.g., [p 23](#)), in CLIL implementations there are involved mainly non-linguistic subject-teachers, always because of its original aim of expanding the curricular time for FLs learning.

It is now opportune to check the role of teachers in this manner of teaching and their required competences, as well as if History teachers can have a space in it.

4.2.1 Teacher's role and competences

For ages and by now, education at school has been a top-down teaching, where normally every teacher, through their strong mentoring and teacher-centred approaches, should be responsible of teaching some well-defined curricular content or FL, for which they studied, and assess students in that precise form of content or L2 that they have transmitted.

CLIL, initially and apparently, put itself within this scheme, giving non-linguistic teachers a broader role, but asking them for a modern conception of teaching, based on social-constructivism (Meyer, 2010; Muñoz, 2014; Nikula et al., 2013), where their main aim in the

classroom is scaffolding students' social process of learning through cognitive-demanding tasks per groups, obviously accurately prepared by them, taking into account each student pre-requisite and giving them the opportunity to make progress both in the content and in the linked FL. Conversely from immersion's teachers, they are not FL native speakers, but speaking the community language of students, at the point that CLIL teachers should be competent in almost two languages: MT and FL, both in the academic regard for their subject, other than in informal expression. Being often difficult for them the acquisition of a FL at B2 or C1 CEFR level, as required (Eurydice, 2017), it is often suggested a collaboration between non-linguistic subject and FL teachers (e.g., Marsh, 2002), in order to build together tasks and assess each for their fields, which required collaborative competence and transversal management of the classroom. It is worth reminding here that a 'hybrid' teacher has been suggested instead of teams (Ball et al., 2015).

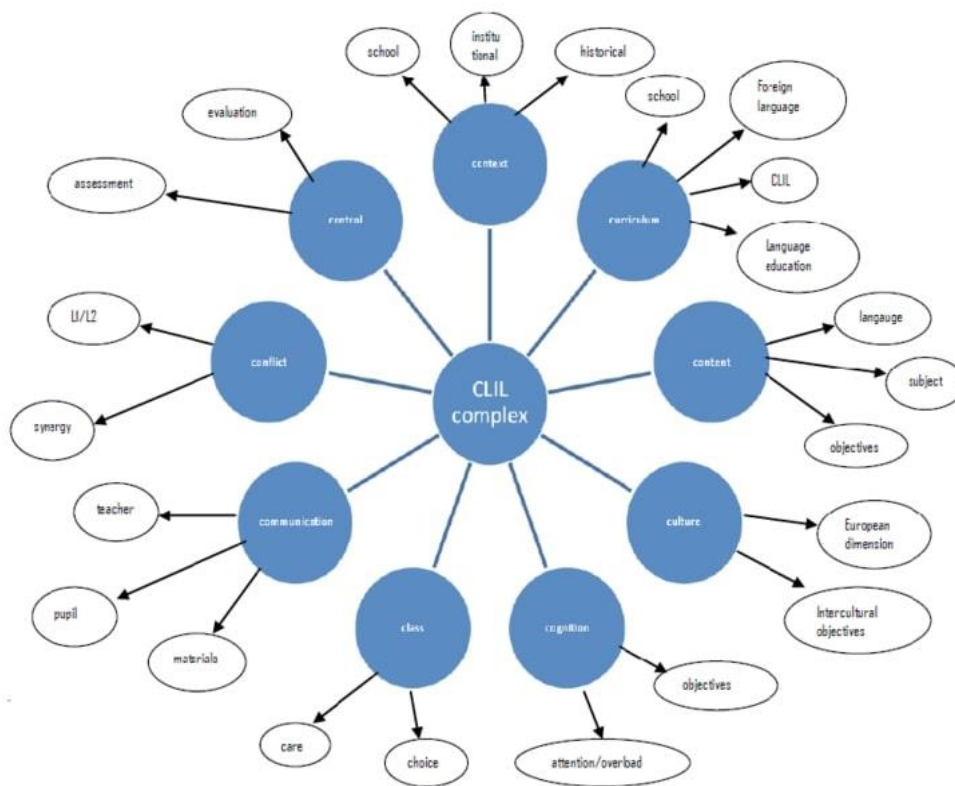
Obviously, a CLIL teachers should be competent in CLIL, namely in its peculiarities and strategies to adopt, both in content and language teaching, as well as in required didactic approaches, in which ICTs' management plays a huge role.

Coonan's "C Complex" (2011) evidences how a CLIL teacher should be competent in different fields (Fig. 14) and how "CLIL teaching is not the sum of the characteristics of subject teaching and foreign language teaching put together. It has intrinsic features that require the teacher to rethink normal procedures and to set in place new ones" (Coonan, 2011, p. 4). The figure shows the intrinsic complexity of CLIL, for which every constitutive component has the same importance (blue circles); each of them implies instructional outcomes (such as the 4 Cs, p. 25), or stresses a condition (like conflict), or, finally, indicates a path (curriculum). On the whole, they are all areas of rethinking the mainstream procedures in classroom, different for CLIL.

Without this rethinking, which also put in crisis the likewise mainstream teaching *one teacher one language*, non-linguistic subject teachers have many difficulties to find their role within CLIL practice, given that it is not evident where it aims at, apart from they would be involved in the double teaching of their subject and a FL.

Figure 14

CLIL 'C' complex for teacher competences



Note: Reprinted from "Clil in Language Teacher Training", by C. M. Coonan, 2011, *Studi Di Glottodidattica*, 2(1), p. 12. Copyright 2011 by Studi di Glottodidattica. Retrieved from Researchgate, https://www.researchgate.net/figure/CLIL-C-Complex-for-teachers-competences-Coonan-2011_fig2_313575573

4.2.2 History teachers

This research involves primarily the subject of History. It is, so, important, at this point, to consider whether this choice is founded, and why, in the CLIL literature.

“**Content** refers to the subject or theme of the learning in any curriculum which ranges from subject disciplines such as Science, History and Geography to cross disciplinary themes such as global citizenship, sustainability, or community development” (Coyle, 2015, p. 89). In this late definition of one of the 4 Cs, Coyle well highlights how History is an important subject to implement through CLIL, thanks to its referring to cross-curricular themes, crucial to make students achieve a broader citizenship. And about the importance of the adoption of such themes, Marsh (2012) underlines: “Although it is possible... to suggest that the development of European integration can be matched with the development of language teaching and learning, in the late 1990s we have also seen other influences affect how we ‘deliver and evoke’ education. One of these is the growing interest in the integration of subjects or themes around subjects” (Marsh, 2012, p. 134). Indeed, as seen ([p 10](#) and [p 30](#)), CLIL was born in line with this aim and the acknowledgement of common roots and history is at the basis of the European Union (e.g., Eurydice, 2017).

It is to add that CLIL aims to make students improve their learning methods, proceeding in their HOTS path and “in the history or geography classroom, for example, techniques like analysing tables, maps or diagrams, or reading historical sources are applied and thus learned. These strategies are highly important for language learning as well and can lead the learner to a certain degree of independence” (Wolff, 2002). So, what students usually do along their History curriculum, if implemented through CLIL, and hopefully ICTs, fosters the achievement of important skills for their life: “The kinds of activities

they were involved in with history and geography meant that they had to develop their analytical skills, their reflective skills, their hypothesizing skills, and they learned to be much greater risk takers in terms of their own linguistic confidence” (Marsh, 2012, p. 190).

Maybe thanks to these peculiarities, within Social Science, History is the first non-linguistic subject to be implemented through CLIL in Europe (Eurydice, 2006), and the first ever subject in Italy and Finland (Björklund, 2006; Cinganotto, 2016). Consequently, it can be definitely assumed as valid its choice to effectively implement the Techno-CLIL.

5. Discussion of the results

Since its comparison up to now, CLIL has been strongly pursued by the language and linguistic area, even though its implementation needs to be taught mostly by non-linguistic subject teachers (e.g., Coyle, 2015; Marsh, 2002; Nikula et al., 2013). Good evidence of this can be found in the European Universities, where CLIL is researched by the foreign languages and linguistics fields and where teachers training is also implemented. This is due, as seen, to the roots of CLIL from the Canadian CBI (Dalton-Puffer, 2011; Nikula et al., 2013), where English and French are the two languages of the country, and to the European Commission Directives (e.g., Resolution, 2008), in order to promote the European citizenship also through the multilingualism (European Commission, 1995; Council & Council, 2002; Resolution, 2008).

But, for instance, History teachers can ask themselves: why should it concern me? And why should I adopt a complex way of teaching, through another language, with no specific rules to apply, working more than usual to build lesson materials, risking the positive evaluation of students in the mainstream exam at the end of the

Secondary school, given that CLIL needs more complicated assessments? These are frequent questions to be answered, so as to make well-established the CLIL implementation, not only grassroots among the stakeholders (Dalton-Puffer, 2011; Lorenzo et al., 2010; Marsh, 2002; Pérez, 2016). And, in the literature, there is a lack of data concerning the point of view of subject teachers.

It can be said that, in this question, for a subject teacher, the starting point is to relate to the European Directives, which express the practical and mainly economic needs of the countries in the Union, as well as their demand of a modernisation process in education to ensure the European citizenship to students. It is really interesting how the European White Paper (European Commission, 1995), although not recent, but still valid for its analysis of needs, in one of its functions, that is "to draw attention to the crucial matter of teaching to promote innovation", strongly underlines that "an excessive standardisation of knowledge prevails", like "a question of mastering a deductive reasoning system based on abstract concepts" (p. 12), which is not conducive now to develop managerial skills, such as the judgement of the circumstances, or the decision making in an international and technological context. It is derived from the information society, that is precisely our society now more than ever. So "school must not only allow for critical faculties to be developed at all levels, among both pupils and teachers, it must also encourage it" (European Commission, 1995, p. 12). To achieve this extent, CLIL can be the key: in fact, it requires teachers plan step by step how to enhance students to HOTS, as seen for all the CLIL models, like a learning environment basically open to different strategies (Cinganotto, 2016; Coyle, 2015; Goris et al., 2017; Marsh & Frigols, 2012), depending on the group-class, on different kinds of chosen implementation, and on all the variables about the evaluation (e.g., per teacher, per team teaching, in the

regard of students' progression in the content, in the FL, in collaboration within their workgroup, in HOTS, and so on).

Hence, the lack of specific rules to implement CLIL, so its flexibility (Coyle et al., 2010), could be an advantage, in order to choose the best way to foster students' skills or knowledge in every moment or situation, suited to the various teacher training, or their attitude regarding a particular strategy to apply (van Kampen et al., 2017). This is the correct approach to stimulate motivation, which has been proved both within teachers and pupils (Banegas, 2012; Cinganotto, 2016; Czura & Papaja, 2013; Dallinger et al., 2016; Goris et al., 2017; Guillamón et al., 2015; Kovacikova & Luprichova, 2018; Marsh & Frigols, 2012; Nikula et al., 2013; Meyer et al., 2015; Pérez, 2016b), beyond the greater effort to adapt lessons and materials over and over again for teachers, as well as tackling new content in a foreign language for the latter. On the contrary, it can be an advantage, because teachers and students have to effectively cooperate to create their own tailored materials and lessons (Banegas, 2012), at the point that they can be seen as a *collaborative community of learners* (Vygotsky, 1978). Indeed, "theory and practice are connected when learners work like research teams. This is not quite the same thing as collaborative knowledge building but something more... The resemblance with team research is seen in the process of knowledge encapsulation, the continuous application of knowledge in the context of practical experiences... This happens also in CLIL when content and language elements are linked, especially through the large ZPD and discovery learning" (Björklund, 2006, p. 30).

Obviously, this must respect the soul of CLIL, that was born under the idea of integration (Marsh, 2002), not only concerning content and language, but to give value to the different contributions of different-level students in a class, to make students arrive, individually but in cooperation, at their highest level of HOTS (Dallinger et al., 2016;

Marsh & Frigols, 2012; Meyer, 2010), which they will spend for all their life: that is, to create the student-centred education for our times. Indeed, it can be seen that all the four CLIL frameworks tend to be the base of a new kind of schooling, in which, on the one hand, teachers strongly encourage the development of critical faculties, scaffolding the growth process of pupils along the contextual conceptual development and language development (Coyle, 2015); on the other, students are the main characters, being implicated in the entire process of learning (Muñoz, 2014), which implies their oral and written exposure for the meaning making, their knowledge construction, their cooperation with classmates (Dalton-Puffer, 2011), all aspects to be taken into account for a new evaluation of them. At this point, it is not relevant whether all data would show great differences or not between CLIL and EFL classes in English, as well as whether the mainstream lessons for a subject provide students more theoretical and standardised knowledge, in order firstly to simplify the evaluation. The effectiveness would be measured, as the European Commission asked for, in terms of quality of the knowledge, i.e. of the importance of the process along each student's *learning to learn*, through:

- a broad acquisition of knowledge base and methodological skills as they "enable people to find their way in the information society, that is to say to be able to interpret in a critical way the images and information they receive from a variety of sources" (European Commission, 1995, p. 11). In other words, now more than then, it is urgent to start from the mastering reading, writing and arithmetic, sometimes scarcely learnt, to arrive to the achievement of transliteracy skills (Meyer, 2010), as nowadays they are called. The always ongoing research on CLIL, as seen, has been setting on these needs during the last 20 years, underlining the importance of the content acquisition along with the cognitive process, and has provided models to improve

all this. The four more widespread CLIL models have been setting in this way. Moreover, the feeling to be part of the information society for students requires now the use of ICTs during the learning process (Cinganotto, 2016; Marsh & Frigols, 2012; Ramírez, 2012), as normally in the CLIL implementation, both to find resources about various topics and to build personal *products* of knowledge, i.e. personal or group tasks (Dalton-Puffer, 2011; Meyer, 2010), through the lots of available online tools that a teacher or a student can choose (Ramírez, 2012).

- the strengthening of social attitudes, like the cooperation as a part of a team, “creativity and the quest for quality” (European Commission, 1995, p. 14), in order to be able to fit into the world of work. As seen, CLIL is implemented to achieve important high-order skills for the students’ life and their future working-life (Gaisch et al., 2017), basically adopting social-constructivist and task-based approaches (Meyer, 2010; Muñoz, 2014), to take advantage of the interaction’s potential of students (Hüttner & Smit, 2017; Llinares & Morton, 2010), to make them achieve common concrete and creative products per group and per topic/module, to evaluate their deep understanding (Agolli, 2013; Coyle, 2015; Dallinger et al., 2016; Dalton-Puffer, 2011), the own and the management of the knowledge they have acquired during their interaction for a common task (Meyer et al., 2015; Nikula et al., 2013), hence the quality.

- linguistic skills, firstly in one’s mother tongue, which is the base of learning and interaction and whose competence fosters, in a mutual enrichment, foreign languages learning (Agolli, 2015; Coyle, 2015; Dalton-Puffer, 2011; Guillamón et al., 2015; Lorenzo et al., 2010). Furthermore, it is well proved that foreign languages learning “has become a precondition if citizens of the European Union are to benefit from the occupational and personal opportunities open to them in the

border-free Single Market”; it is “the key to know other people”; it “helps to build up the feeling of being European with all its cultural wealth and diversity and of understanding between the citizens of Europe”; it “opens the mind, stimulates intellectual agility and, of course, expands people's cultural horizon” (European Commission, 1995, pp. 42-49). So non-linguistic subject teachers have to admit the wide and proved benefits deriving from the study of foreign languages (Resolution, 2008) and the important attention which is to give to the language of a specific subject to reach also other aims, in particular the cognitive ones (e.g., Lorenzo et al., 2010; Meyer et al., 2015; Nikula et al., 2013). Indeed, often teacher training for CLIL is prerogative of English, as the CLIL most important foreign language, and Linguistics departments at Universities. CLIL, in this field, which is the reason why it is implemented in Europe (Resolution, 2008; Eurydice, 2017), and allows students to learn foreign languages in various contexts, corresponding to different subjects (Agolli, 2013; Banegas, 2012; Marsh, 2002; Marsh & Frigols, 2012; Ramírez, 2012), so with different academic languages (Dalton-Puffer, 2011; Kovacikova & Luprichova, 2018; Llinares & Morton, 2010; Meyer et al., 2015), enabling them to autonomously research in at least a foreign language and in various literature and sources (Doiz et al., 2014; Gaisch et al., 2017; Guillamón et al., 2015; Pfenninger, 2014). Moreover, CLIL, as seen, must take into account the cultural element (Coyle, 1999), that is expanding students’ horizons, let them grow in a multicultural or, better, intercultural perspective (Ramírez, 2012) with the discovery of the European common roots. It is important also to cite the fact that the European Erasmus+ programme, having supported the CLIL as an important strategy for language learning (Cinganotto, 2016; Eurydice, 2017; Kovacikova & Luprichova, 2018), has been funding students’ mobilities, really important to make them feel European citizens, to

meet foreign people with their diversity, to give them the insight of personal opportunities abroad.

Finally, it is highlighted that CLIL enriches both the mother tongue and the target language (Marsh, 2002), as well as the motivation to learn (Doiz et al., 2014), making students perform better whether they have to construct meanings with academic language (Meyer et al., 2015) and the explanations (Llinares & Morton, 2010; Llinares & Whittaker, 2007), passing from one language to another, from the context of a topic to another. In fact, it could be strategically better to implement CLIL in more than a curricular subject, possibly in an interdisciplinary and transmedia way, so as to adopt different learning environments, including the online ones. But we do not see as the best choice the full immersion in foreign language (and English is the more beneficial for its spoken and written world widening), in order not to delete the constant cognitive effort of the knowledge construction in both the almost two languages and in different significant contexts. In this way, a student, performing better in a subject, can cooperate with whom would be better in another, both enhancing their accuracy in the content (Muñoz, 2014). The aim of fluency in the foreign language, often stated for CLIL (Dalton-Puffer, 2011; Marsh, 2002), though easier to achieve in immersion programmes (Pfenninger, 2014), could be also improved within interdisciplinary models, where longer exposures to the foreign language involve students and the team teaching could spend more time during the scholastic year than in a single subject, other than giving the cross-curricular insight of topics and the needed security of the knowledge to communicate (Dalton-Puffer, 2011; Llinares & Morton, 2010).

6. First objective: definition of CLIL

The first objective of this thesis concerns with finding out an engaging definition of CLIL for subject teachers and, after the insight on its implementation, the affordances into the results of surveys and researches to make CLIL appealing not only for foreign language teachers. We tend to agree with Dalton-Puffer (2011), who says "that CLIL provides a space for language learners that is not geared specifically and exclusively to foreign language learning but at the same time is predefined and pre-structured in significant ways by being instructional and taking place within the L1 matrix culture" (p. 196). And in this purpose, CLIL is not selective, as it was said (Bruton, 2011), because students are all involved and motivated to go ahead with their personal processes. Conversely, it tends to create an integration as high as possible in the community of implementation, thanks to the adoption of cooperative strategies of communication and learning, transmedia based, in order to give value to any personal contribution, through any tool for cognitive tasks, which finally, after being shared in the same community firstly and then also online, so enriched of content and collaboration, can bring day by day to higher knowledge and to the XXI skills. This is the participative culture in practice (Jenkins, 2009).

It can be said that CLIL, defined as an open and significant environment in education, far from top-down policies or methodological impositions (Agolli, 2013), might be the valid chance for teachers, hopefully in team, to change the mainstream schooling and the evaluation of students. Indeed, nowadays they need different skills for their life than in the past, underlined by EU and OECD, and, consequently, different approaches and tools to achieve their goals. If this is the aim, the results of the CLIL implementation can be considered at least

interesting for any subject teacher, despite their need of training, and, in particular, for History teachers, as seen. As a matter of fact, its complexity while planning, preparing lessons, choosing tools, using a foreign language, evaluating process is intrinsic in its being a challenge, that permits the construction of a new schooling, opened to the outside world, student-centered and so more effective, but which also demand *hybrid teachers* (Ball et al., 2015), being able to scaffold pupils in their paths to the knowledge and to take advantage of the wide potentials of language learning in an enriched context.

CLIL subject teachers, in this way and as much as possible in team with language teachers, are going to make students able to get their European citizenship through their social, linguistic, thinking skills, acquired through the open and highly significant environment of CLIL. It is a demanding aim for the future, whose achievement requires the consideration of evaluation as the core of further researches. Besides, CLIL teacher training and different strategies to apply to different subjects should be accurately studied, in order to prevent lip service participation of the entire scholastic community.

7. Mind map of the first part's main elements

Figure 15

Mind map of concepts related to our CLIL definition



Note: This map summarises the theoretical part 1.

***THEORETICAL FRAMEWORK 2
TRACING A PATH TO TECHNO-CLIL TRAINING***

INTRODUCTION

As seen in the part one, Content and Language Integrated Learning (CLIL) is a complex approach, involving many aspects which need to be considered in each stage of its planning, implementation, and evaluation. This is the reason why it is primarily perceived to be as engaging for students as demanding for teachers: indeed, CLIL is learner-centred, needs a large use of ICTs and online tools, and its implementation implies a new collaborative pedagogy and modern teaching strategies, such as flipped-classroom and task-based approach. This is also the theoretical starting point of the differentiation of actions and policies set up in the countries to train teachers for CLIL. Becoming a CLIL teacher, hence having the awareness that “CLIL teaching is not the sum of the characteristics of subject teaching and foreign language teaching put together” (Coonan, 2011, p. 4), has always been a difficult path, depending on its intrinsic nature of both language and content teaching and evaluation. Traditionally, teaching is typically organised using the *one teacher one language* or *one subject one language approach*, whilst the linguistic awareness into transversal and inclusive curricula can “provide more authentic learning geared towards real-life situations” (European Commission Note, 2019, p. 24).

That is why an exhaustive pre-service training for teachers might be not enough without thinking of a long-life in-service one, because real-life situations constantly change over time, as well as the needs of students and classrooms (Dalton-Puffer, 2011). Consequently, though CLIL is mainly aimed at achieving multilingualism at all ages, teacher training should also consider how their students learn, so becoming able to understand how to guide them step-by-step along their own way. Besides, it has also to take into account the importance today of

the Information and Communication Technology (ICT), so the adoption of the transmedia literacy, as the closer-to-student way to foster the *participatory culture* (González-Martínez et al., 2018).

Furthermore, a lack in interaction between researchers and teachers, or teachers' activities and European organization initiatives, is sometimes perceived (Czura & Papaja, 2013), whereas their cooperation might be the key for widespread CLIL implementation. This is particularly important if we think that CLIL is a European top-down choice, created by researchers for teachers, as seen ([p 10](#)), as well as settled down by the same researchers through their frameworks for CLIL teachers planning and implementing (pp. [25-38](#)). In this regard, it deserves to be at least here mentioned, as example of this difficulty of collaboration, the field of evaluation, often problematic for CLIL teachers, due to the fact that it concerns many aspects, related to the above models. Indeed, with this aim it is suggested to make use of grids and other models, such as the "Lesson Observation Critical Incident Technique" (LOCIT), by Aberdeen University (Coyle, 2005), whose process, although not specifically born for CLIL lessons, is applied to them, in order to share successful learning processes in the classroom between teachers and students, after the teachers' evaluation of the strengths and weaknesses of the lessons. As a matter of fact, these tools have been entirely introduced apart from the cooperation with teachers, and might result not completely adequate to concrete CLIL implementations or with lip-service.

Moreover, CLIL involves non-linguistic subject teachers, to widen the opportunities of FL adoption. They, on the one hand, are often enthusiastic about this relatively new approach (Cinganotto, 2016), whilst on the other there is a large part of them who does not quite feel up to the task (Pérez, 2016b), due to its complexity, which makes their initial training not exhaustive and with lacks to be filled.

In the light of these premises, this section, conducted through a systematic literature review, aims to give voice to the stakeholders of CLIL at the same level of the researchers, so as to sketch where, when and how to train future teachers for CLIL, in order to achieve all the goals, which constitute the second objective of this thesis. Consequently, answering to the questions related to it, there are firstly highlighted lacks and suggestions and/or good practices in CLIL teacher training in Europe; then there is the underlying of good practices, as suggestions to fill the lacks, in order to contribute to reach an optimal level of training for CLIL teachers.

1. METHODOLOGY

In order to approach what kind of path teachers need to implement CLIL, and in particular Technological CLIL, we should be conscious that “there is a well-documented paucity of researches into the needs of teacher training for CLIL” (Pérez, 2016a, p. 6). Nevertheless, the focus is here on checking in the literature if primarily the CLIL stakeholders, in the same way as the researchers, underline lacks within CLIL training, as well as suggestions and relevant practices, related to the lacks, so as to evaluate pros and cons in the present teachers’ training implementation for future improvements of this approach.

Following Okoli and Schabram (2010), it has been chosen to carry out a systematic literature review as “a systematic, explicit, and reproducible method for identifying, evaluating, and synthesizing the existing body of completed and recorded work produced by researchers, scholars, and practitioners” (p. 4).

In order to collect the qualitative data for this research, on May 29th 2019 the key words “CLIL teachers training” were entered into three academic repositories, relevant for their results: Scopus (Elsevier),

Educational Resources Information Centre (ERIC) and ScienceDirect (Elsevier). Google Scholar was added as a broader-glimpse database, but with occurrences limited to the key words in the title, because the full results were more than 11.400. They each produced the number of references below:

- **Scopus:** 64
- **ERIC:** 44
- **ScienceDirect:** 119
- **Google Scholar:** 57

After excluding book reviews, indices, summaries, books and conference proceedings, the selection of academic articles has been done by analysing the abstracts through the parameters:

- English or Spanish language;
- experience-based articles, centred on teacher training, including reports, proposals, qualitative and/or quantitative analysis;
- European data collecting.

The latter allowed us to include two reports from books about Slovakia and Hungary, European countries otherwise not represented.

Table 2 illustrates the final results so obtained by the repositories:

Table 2

References per repository

| Scopus | ERIC | ScienceDirect | Google Scholar |
|-------------------------------|---|---------------|--------------------------------|
| 14/64; 2 also in ERIC; all PR | 17/44; 2 also in Scopus and 1 in Google Scholar; 1 not PR | 4/119 | 7/57; 1 also in ERIC; 6 not PR |

Note: PR = Peer Reviewed

Double references removed, the final 39 articles are mainly peer reviewed (only 6 are not, but included for their experiential relevance) and focus on all different fields (Preschool, Primary, Secondary, University) and areas (Pre-service, In-service teachers; students) of teachers training.

With regard to the location, nearly the entire Europe is hereby represented, although Spain holds by now “the greatest number of investigations into the topic under scrutiny” (Pérez, 2016a), as it appears from the majority of our results.

They have been scheduled:

Table 3

Data sheet of the selected papers

| <i>Author</i> | <i>Database</i> | <i>Field</i> | <i>Area</i> | <i>Location</i> | <i>Type of article</i> |
|--------------------------------|-----------------|-----------------------|------------------------------------|---------------------------|--|
| <i>1 Aiello et a. (2017)</i> | S | Secondary | In-service linguistic training | Italy | Reflection and mixed data analysis (survey and observation) |
| <i>2 Alcaraz (2018)</i> | E | Primary | In-service survey | Spain, Murcia | Mixed data analysis (survey) |
| <i>3 Bueno et a. (2018)</i> | S | Primary and Preschool | Pre-service training, ICT for CLIL | Spain, Navarra and Alcalà | Mixed data analysis (questionnaire, transcriptions, written reflections) |
| <i>4 Campillo et a. (2019)</i> | E | Primary | In-service perspectives | Spain, Murcia | Mixed data analysis (questionnaire) |

| <i>Author</i> | <i>Database</i> | <i>Field</i> | <i>Area</i> | <i>Location</i> | <i>Type of article</i> |
|-------------------------------|-----------------|--------------|-------------------------------------|--|--|
| | | | | | es and discussion forum) |
| 5 Carrió & Romero | E (not PR) | University | Online service training | in- Spain, Valencia | Qualitative data analysis (questionnaires, online University platform) |
| 6 Cenoz (2013) | E | Generic | CLIL Pedagogy/perspectives | Austria, Finland, Germany, Italy, the Netherlands, Poland, Spain, Sweden, and UK | Reflection |
| 7 Chaieberras & Rascón (2018) | E | Secondary | Students perspective | Spain, Madrid | Qualitative data analysis (questionnaires, interviews) |
| 8 Cinganotto (2016) | E (not PR) | All levels | Pre-/In-service online training/ICT | Italy | Report |
| 9 Cinganotto (2017) | S | All levels | In-service training, ICT | Italy | Discussion and report |
| 10 De Santo & De Meo (2016) | S | Secondary | In-service training, ICT | Italy | Report |

| <i>Author</i> | <i>Database</i> | <i>Field</i> | <i>Area</i> | <i>Location</i> | <i>Type of article</i> |
|---|-----------------|-----------------------|--|---------------------------|--|
| 11 Durán & Beltrán (2016) | S | Primary and Secondary | In-service perspectives | Spain, Castile and Leon | Report and mixed data analysis (forum observations and monitoring checklist) |
| 12 Favilli et al. (2013) | E | Primary and Secondary | In-service EMI training/linguistics | Italy | Qualitative data analysis (questionnaire) |
| 13 Fernández Costales & Lahuerta (2014) | ScD | All levels | Pre-/In-service | Spain, Oviedo | Reflection |
| 14 Garcia-Esteban et al. (2019) | E | Primary | Pre-service training, ICT | Spain, Alcalá and Navarra | Mixed data analysis (questionnaires, self-evaluation essays) |
| 15 Gierlinger (2015) | SE | Secondary | In-service linguistics | Austria | Qualitative data analysis (interviews, observations, reflections) |
| 16 González Davies (2016) | G (not PR) | All levels | Pre-/In-service CLIL Pedagogy/perspectives | Spain, Barcelona | Report |
| 17 Gutiérrez et al. (2012) | EG | Primary | Pre-/In-service | UK, Nottingham, Spain, | Report |

| <i>Author</i> | <i>Database</i> | <i>Field</i> | <i>Area</i> | <i>Location</i> | <i>Type of article</i> |
|-----------------------------------|-----------------|-----------------------|---|--|---|
| | | | | Salamanca | |
| 18 Hodaňová & Laitochová (2015) | ScD | All levels | Pre-service/ICT | Czech Republic | Report |
| 19 Jauregi & Melchor (2017) | E (not PR) | Secondary | Pre-/In-service ICT | Belgium, France, Germany, the Netherlands, Spain, and UK | Report and mixed data analysis (survey, interviews) |
| 20 Jerez (2016) | G | Primary and Secondary | In-service/ICT | Spain, Andalusia | Qualitative data analysis (questionnaire) |
| 21 Lancaster (2016) | E | Secondary | Stakeholders perspective | Spain, Jaen | Mixed data analysis (questionnaires) |
| 22 Lucietto & Rasom (2011) | ScD | Primary | In-service perspectives | Italy, Alto Adige/South Tirol | Report |
| 23 Marti & Portolés (2019) | E | Primary | Pre-service or initial teacher training | Spain, Valencia | Qualitative data analysis (argumentative essays, tests) |
| 24 Martín del Pozo (2017) | S | All levels | In-service EMI training | Spain | Proposal |
| 25 Melara & González López (2016) | S | Primary | In-service perspectives | Spain, Andalusia | Qualitative data analysis (LR, group of discussion, |

| <i>Author</i> | <i>Database</i> | <i>Field</i> | <i>Area</i> | <i>Location</i> | <i>Type of article</i> |
|--------------------------------|-----------------|-----------------------|-----------------------------------|-------------------------------|---|
| | | | | (Cordoba) | experts' group) and proposal |
| 26 Milla & Casas (2018) | S | Primary and Secondary | In-service perspectives | Spain, Andalusia (4 province) | Qualitative data analysis (questionnaires, interviews) |
| 27 Moore & Dooly (2010) | SE | Primary | Pre-service linguistics | Spain, Catalonia | Qualitative data analysis (observation, multimodal transcription) |
| 28 Nightingale & Safont (2019) | E | Primary | In-service linguistic observation | Spain, Castellón | Qualitative data analysis (observation) |
| 29 Oattes et al. (2018) | ScD | Secondary | In-service perspectives | The Netherlands | Mixed data analysis (questionnaires, interviews) |
| 30 O'Dowd (2018) | S | University | In-service EMI training | 70 European Universities | Mixed data analysis (survey) |
| 31 Pérez (2016a) | S | Primary and Secondary | In-service perspectives | Europe, in particular Spain | Mixed data analysis (questionnaires) |

| <i>Author</i> | <i>Database</i> | <i>Field</i> | <i>Area</i> | <i>Location</i> | <i>Type of article</i> |
|-------------------------------------|-----------------|-----------------------|------------------------------|--|--|
| 32 Pérez (2016b) | S | Primary and Secondary | Pre/In-service perspectives | Europe, in particular Spain | Mixed data analysis (questionnaires) |
| 33 Pérez (2018a) | G | Primary and Secondary | In-service CLIL competencies | Spain and general overview | Proposal |
| 34 Pérez (2018b) | S | Primary and Secondary | Stakeholders perspective | Europe, in particular Spain (Madrid, Andalusia, Extremadura, Canary Islands) | Mixed data analysis (questionnaires, interviews) |
| 35 Pokrivčáková (2015) | G (not PR) | Primary and Secondary | Pre-/In-service | Slovakia | Report |
| 36 Rizzo & Carbajosa (2014) | G | University | Stakeholders perspectives | Spain, Cartagena | Report |
| 37 Reitbauer et al. (2018) | E | All levels | In-service training | Austria | Reflection and report |
| 38 San Isidro & Lasagabaster (2019) | E | Secondary | In-service perspectives | Spain, Galicia | Qualitative data analysis (interviews) |
| 39 Trentinné-Benkő (2016) | G (not PR) | Primary and Preschool | Pre-/In-service | Hungary | Report |

Note: E = Eric, G = Google Scholar, S = Scopus, ScD = ScienceDirect, PR = Peer Reviewed, EMI = English-Medium Instruction, LR = Literature Review

The analysis of data has been conducted manually, highlighting along the documents firstly the correspondent references to the key-words “lack” (in yellow) and “need” (in blue); then, after various readings, it has been removed what not inherent CLIL teacher training and highlighted what was indicated as lack, or as need, suggestion, and good practice in this field, so reporting them in two Words files. Every reference reported also the number of its deriving paper. In order to code them through a Word text-grid, eleven macro-concepts in CLIL teacher training emerged as lacks and sixteen as related needs and/or good practices, which are here reported as results (see paragraph [2](#)). Since this, a Roman number (for lacks) or a letter (for needs) has been assigned to each reference of the two Word files, in order to build two organic tables, here reported (see pp. [73-81](#) and [84-98](#)). Finally, the coded results have been crossed and analysed together, so as to obtain relationships between lacks and suggestions (these emerged also as good practices), considered by fields and areas.

2. Results

Before considering the results, it is opportune to consider whether they could be distinguished by country or not. Nonetheless, it appeared that the location is not relevant, apart from the aforementioned importance of the CLIL research in Spain. Indeed, fields of training, lacks and suggestions are similar whenever CLIL is trained and implemented, thanks to the concerning European top-down policy since its adoption. This is an important point, because the resulting data might be assumed as whenever valid and so analysed all together.

2.1 Actual CLIL teachers training

Answering to how CLIL teacher training is implemented implies the way through which it is done; hence, whether in their attendance (and at what site) or online (and by whom, or by what institution).

The results from 30 of the collected articles (9 of them do not specify the location) show that this training is almost completely set at University (approximately 65%), due to its prerogative to certify teachers' acquisition of CLIL and where the main fields of teacher training concern:

- FLs (88%), in particular English and rarely minority languages;
- CLIL methodology (80%), referring to its multiple-focus approach, modules for planning and the scaffolding role of teachers;
- Linguistics (60%);
- CLIL fundamentals (56%), namely its history, definitions and diverse opportunities to be implemented (as hard or soft, content or language centred, etc.);
- strategies for CLIL (52%), like task-based and input approach, flipped classroom, cooperative learning;
- ICTs and online tools (40%);
- Pedagogy for CLIL (32%), as socio-constructivism or bilingual education;
- evaluation (20%);
- and materials' development (16%).

For the most part, there are only in-presence training and updating, or specialisation courses, for in-service teachers (52%), 32% for both pre- and in-service, and rarely only for pre-service (16%), through specific Degree or Master programs (almost all in Spain).

Trainers can be lecturers or CLIL experts, often from British Council, with English considered as a lingua franca, therefore the most taught. Universities also provide a few online CLIL courses, offering telecollaboration and blended modality, other than training materials, tools, networks for collaborative learning and sharing of practices. Sometimes they have successfully collaborated with other institutions, such as Official School of Languages and the Educational Departments (Spain), Teachers' Associations, and KIE (Hungary's network). Other institutions, whether collaborating or not with Universities, like INDIRE, "National Institute of Documentation Innovation and Educational Research" (Italy), "eTwinning", EVO ("Electronic Village Online"), TESOL ("Teaching English to Speakers of Other Languages") International Association, the Trinity College and Cambridge have supported primarily the FL language acquisition for CLIL teachers, and also the widespread diffusion and sharing of good practices, materials and tools.

2.2 A glimpse to Italy

This research provides for an empirical part (see [part 4](#)), which was conducted in Italy and with Italian teachers. So here it seems opportune to sketch in brief to whom is addressed the CLIL training in Italy and why.

In Italy CLIL is compulsory in the upper Secondary schools since 2010 (DPR 88/89), when it was ratified that in the last year of Licei and Technical Institutes a non-linguistic subject has to be addressed in a FL, preferably for the 50% of its number of hours. On the other hand, Linguistic Licei have to start CLIL implementation in their first FL in the third year and in the fourth one in their second FL too, always suggesting the same CLIL percentage of 50% per year.

Two years later the requirements for being CLIL teachers were outlined (DD n. 6 04/16/2012 DGPS): C1 level of FL certificated, according to the CEFR descriptors, and a methodological course (20 CFU/ECTS⁴) at University for in-service non-linguistic subject teachers and pre-service ones (60 CFU/ECTS, so annual master classes), whose title qualifies to teach a non-linguistic subject through CLIL. But, acknowledging the need of time to prepare teachers with those requirements, also the B2-level teachers, involved in further FL training, were allowed for implementing CLIL, recognising the B2 as the lower level for partially experimenting it (DD n. 89 11/20/2013 DGPS). Then, team teaching was suggested, so a non-linguistic subject teacher with the support of a FL one, in order to start the CLIL implementation at schools (prot. n. 240/R.U./U del 01/16/2013 e Note prot. n. 4969 07/25/2014). Finally, this solution has been definitely recommended, so as to share strategies and methods for the CLIL teaching (Note prot. n. 11401 10/13/2016). This implicit admission of the importance of FL teachers for CLIL has opened them the doors of CLIL training within the methodological courses at University (for instance, the last online at "Italian University Line" (IUL) of Florence, "Disciplines and Foreign Languages in integrated approach – CLIL"), after being included yet in EVO/INDIRE online courses generically updating for CLIL, so with no precise qualifying inclusivity.

It is worth noting that the final exam at Secondary schools admits the evaluation of CLIL writings or oral exam only if their non-linguistic CLIL teachers takes part to it (Note prot. n. 4969 07/25/2014). Indeed, the commission is made up of a president (external teacher or manager of another school), three internal teachers and three external ones, whose subjects are decided by the Ministry at the end of January every

⁴ The Italian Academic System sees the precise correspondence between 1 CFU (*Academic Formative Credit*) and 1 ECTS (*European Credit Transfer and Accumulation System*).

year with no rules, not taking into account the presence or absence of CLIL teachers within the commissions.

2.3 Lacks

With regard to the second question of this paper, teachers and researchers highlight the following lacks:

- I. Foreign language (FL) competence
- II. Instructional/planning problems
- III. Prior CLIL training, experience or knowledge
- IV. Availability/management of ICTs
- V. Knowledge in language acquisition
- VI. Motivation
- VII. Teachers' lack of time
- VIII. CLIL specific materials
- IX. Support/cooperation from educational authorities or among colleagues
- X. Pedagogical/educational preparation, as in integration
- XI. Language awareness

The number has not been assigned to lacks by order of importance, but simply as gradually emerging from the analysis of the documents. It is to say that a few concepts have been included in two lacks, not being univocal (e.g., "EMI training courses", both in I and III).

The labels attributed to each lack, as macro-concepts including different aspects, are according to what the authors conceptually highlight, often using precisely our same definition. But the resulted more various lacks within the references are: IX, due to the fact that it is marked the aspect of collaboration both at school and between

schools and educational authorities, which foster the former; and X, because pedagogical preparation involves many aspects, such as evidence-based research, educational strategies, consideration to students' cognitive and intercultural development and many others. Precisely, Table 4 shows the concepts attributed to each lack, so as to make these results clear and reproducible:

Table 4

Definitions per macro-concept of Lacks

| | LACKS | CONCEPTS |
|---|---|--|
| I | Foreign language (FL) competence | FL competence; Monolingualism of content teachers; Low level of target language; L2, both academic and non-formal; Fluency; Lexical resources to translanguage; Insufficient language skills; Low proficiency level of English; Target language low level; Linguistic dimension; L2 competence; Language proficiency; English knowledge; Lack of FL proficiency level of both language and content teachers involved in CLIL schemes (max B2 in English); Insufficient mastery of the target language; Language competence for teachers with less than 3 years of experience in CLIL programs, particularly of non-linguistic area, primary and infant education (BICS, pronunciation, fluency, and the language for daily communication and interaction in the classroom); Higher demands on teachers' performance in a foreign language; Low level of English. |

| | LACKS | CONCEPTS |
|----|--|--|
| II | Instructional/planning problems | <p>Instructional language; Instructional planning and implementation; Difficulties in communication, cooperative work, task understanding and completion; Attention to planning, ... context and culture; Necessity to make materials accessible for students, especially when the concepts are difficult, as well as scaffolding; Teaching individual subjects separately; Administrative duties; Oral component not yet assessed; Subject knowledge is perceived to weaken; Scaffolding in tasks; Neglecting of oral skills; Development of critical intercultural awareness; CLIL curriculum (in particular a holistic one); Complexity of CLIL instruction; Right balance between language and content; Tendency to adopt traditional teaching models; Oral component in the evaluation; Catering to diversity and mixed-ability groups; Elaboration of an integrated curriculum design; Planning CLIL lessons and managing them for mixed ability classes with weak learners or learners with special educational needs; Difficulties of curriculum integration and its effects on both the different languages of instruction and the learning of content; Difficulties of language and content integration; Neutral effect of CLIL on content learning.</p> |

| | LACKS | CONCEPTS |
|-----|---|--|
| III | Prior CLIL training, experience or knowledge | <p>Prior CLIL experience; Changing only the language to implement CLIL; Large use of textbooks by not trained teachers and their opinion of CLIL inefficiency for its aim; CLIL training, Improve teachers' training to adjust their teaching practice to CLIL core principles more accurately; CLIL learning environments peculiarity; Acquisition of the strategies and techniques typical of CLIL; Theoretical references; Gap between theoretical tenets of CLIL methodology and its application in the classroom (not factual dual-focused approach); Many CLILs, depending on its being context sensitive; Scant offers of trainings; Guidelines, not as a taxonomy of strategies; Not fitting curriculum; Effectiveness of teacher training in bilingual contexts; Dearth of teacher training and inexperience; Unconsciousness of methodological training; Professional CLIL teachers; Training and support for teachers; Attention to CLIL methodology; EMI training courses; Familiarity with the theory of language and learning underlying CLIL; Teachers not updated with the effects of CLIL in evidence-based research; Shortage of training programmes; Lack of information and knowledge about CLIL; Linguistic and intercultural competence for teachers' trainer, as for pre-service teachers (for in-service and provincial coordinators</p> |

| LACKS | CONCEPTS |
|--|---|
| | <p>adequate results); Insufficient training and "lip service"; Sufficient or adequate CLIL training for in-service teachers; Specific CLIL methodological training for pre-service teachers in existing undergraduate degrees; Familiarity of CLIL teachers with CLIL models, variants, and parameters; Insufficient information to be up-to-speed with the latest goings-on in the CLIL arena, with evidence-based researches, with publications on CLIL; Mastery in bilingual instruction, balancing both working languages, Demanding preparation; Knowledge and application of the learner-oriented CLIL method depending on long-standing culture of traditional, teacher-oriented teaching.</p> |
| <p>IV Availability/management of ICTs</p> | <p>Preparedness and experience to use ICT for pedagogical purposes; Suitable multi-media resources for specific teaching purpose; Educators do not ponder enough about how technology can help students to actively construct their knowledge and about reflection process in their own learning; Technical equipment for telecollaboration; Multimodal input; Mediocre use of ICT and of computer-mediated communication (CMC) techniques; Sufficient grounding on ICTs options, (except for IWB); ICTs availability; Blogs, wikis, WebQuests, and CMC scarcely employed.</p> |

| | LACKS | CONCEPTS |
|------|--|---|
| V | Knowledge in language acquisition | Theoretical assumptions on bilingual education and the implementation of the integrated curriculum; Training about effective pedagogies for language learning; Gap between theory and practice in language teaching; Methodological issues about 'classroom discourse'; Strategies for the development of language; Monolingual ideologies of teaching through a foreign language; Non-specific training on how languages are learnt prior to instruction; Linguistic dimension; No coherence between the training in class and the "real" classroom about languages and communicative situations; Functioning of bilingual programs; Teachers did not focus on pragmatic aspects of language use; Language pedagogy; Specific knowledge of bilingual methodology; Lexical approach; Familiarity of CLIL teachers with the theory of language and learning. |
| VI | Motivation | Lack of motivation; Not taking advantage of methodological upgrade courses and study licenses; Reflective approach to professional development; Stress, insecurity and detachment from the lack of English proficiency. |
| VII | Teachers' lack of time | Teachers' lack of time; Time to organise; Teachers' workload; Poor access to materials in English, so increased workload; Work overload. |
| VIII | CLIL specific materials | Large use of textbooks by not trained teachers and their opinion of CLIL |

| LACKS | CONCEPTS |
|--|---|
| | <p>inefficiency for its aim; Availability of resources; Published materials for CLIL; Necessity to make materials accessible for students, especially when the concepts are difficult; Use and design of rubrics to assess; Dearth of CLIL/EMI teacher training materials for autonomous work; Use of not adequate materials; CLIL materials and/or their quality, practicality, and feasibility; Poor access to materials in English; Poor access to materials; Materials adaptation and creation, and evaluation; Finely-tuned CLIL materials.</p> |
| <p>IX Support/ Cooperation from authorities or among colleagues</p> | <p>Different certifications for different regions to teach bilingual programs and often no specific methodological requirement; More efforts by local authorities to promote good practice among CLIL teachers; CLIL training or school coordination with other members of the educational community; Lack of opportunities that open doors to students for exchange programs abroad; Difficulties in interaction, communication, cooperative work; Number of native speakers and language assistants; Attention to cooperation; Teaching individual subjects separately; Team teaching; Clarity in university, institutions and networks on the CLIL teachers' preparation and their national system of accreditation; Consensus on the acceptable level of English for teaching</p> |

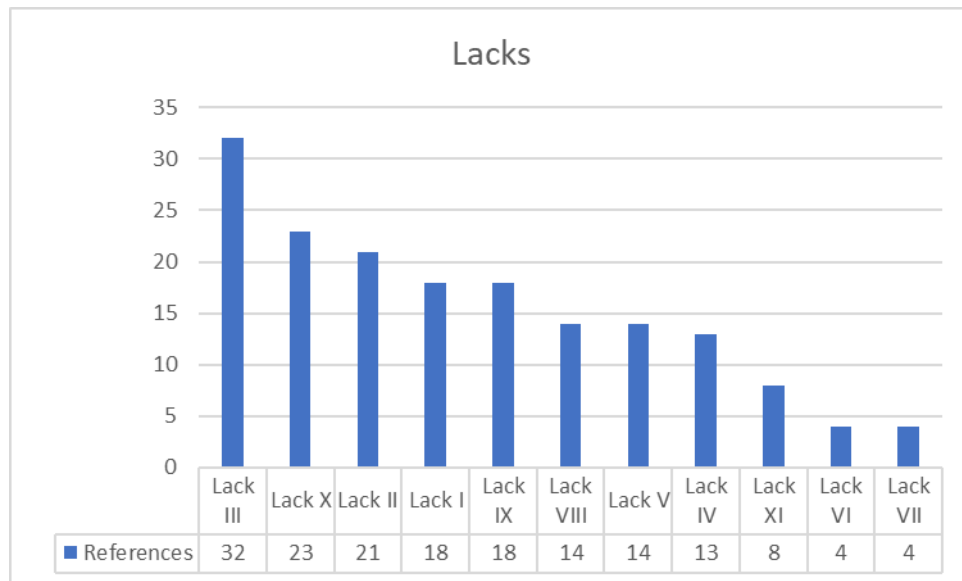
| LACKS | CONCEPTS |
|--|---|
| | <p>at university; Whether and how evaluating and certifying teachers' methodological competence; Sufficient grounding on collaborative work for integrated curriculum design; Support for teachers from educational authorities; Clear-cut guidelines for CLIL implementation; Collaboration with colleagues and guidance; Collaboration and coordination with colleagues; Lack of support from the Education Department.</p> |
| <p>X Pedagogical/educational preparation, as in integration</p> | <p>Lack of classroom methodology; Preparedness and experience to use ICT for pedagogical purposes; More pedagogical training for language assistants; Training about effective pedagogies for language learning; Attention to multimodal teaching and learning, cooperation and reflection, context and culture; Learning to Learn (LtL) competence; Attention to didactics; Gap between different cultural and pedagogical visions; Communicative competence; Strategies for the development of language and thinking skills, particularly for CLIL; Project-based learning; Pedagogical language teaching and practice awareness; Little or no consideration to students' cognitive and intercultural development; Learner-centred strategies; Learning-teaching processes; Functioning of bilingual programs; Training and support for</p> |

| LACKS | CONCEPTS |
|-------------------------------------|---|
| | <p>teachers; Lecture-based teaching; Teachers not updated with the effects of CLIL in evidence-based research; Initial problems rooted in student-centred methodologies; Project-based learning (PBL); Insufficient information to be up-to-speed with the latest goings-on in the CLIL arena, with evidence-based researches; Planning CLIL lessons and managing them for mixed ability classes with weak learners or learners with special educational needs; Cognitive architecture of the learner ignored within the teachers training.</p> |
| <p>XI Language awareness</p> | <p>Language awareness, both in the subject taught and in FL; Students' linguistic awareness; Connection between languages not emphasized; Pedagogical language teaching and practice awareness; Unconsciousness of methodological training, not only of language; Teachers did not focus on pragmatic aspects of language use; Strong focus on academic language, low on interpersonal one; Professional communicative skills; Content teachers rather unwilling to see themselves as language teachers.</p> |

Graphic 1 shows the references' number attributed to each lack, so as to determine their perceived order of importance:

Graphic 1

References per lack.



Note: Own source.

It results that “Prior CLIL training, experience or knowledge”, in its specificity, is felt as the main lack by far, followed by “Pedagogical/educational preparation, as in integration” and “Instructional/planning problems”, which together underline the complexity of CLIL teachers training and its holistic tendency (Martí & Portolés, 2019).

If only pre-service is considered (bearing in mind that only four papers exclusively address it), there are mentioned lacks I, II, IV, V and X, with a particular attention to II and X, which marks the need of learner-centred and collaborative methodologies acquisition.

3. Suggestions and/or good practices

Figura 16

Word cloud of topics of Clil suggestions in the literature.



Note: Own Word Art 2.

In this section, there are listed suggestions and good practices, highlighted by CLIL authors. Within parenthesis, we show first their whole number of occurrences, namely the sum of any occurrence reported by the authors as suggestions/good practices; whilst the second number is the sum of suggestions/good practices only given as answers to precise lacks:

- a. Foreign language courses/updating (26/25)
- b. Language acquisition strategies (codeswitching; negotiation of codes, genres, discourse, etc.; translanguaging) (34/31)
- c. CLIL methodological training/courses/experts (69/67)
- d. Pedagogical-Educational updating/training (64/61)
- e. Inclusion of ICTs and online tools (48/43)

- f. Sharing practices and knowledge (29/26)
- g. Language awareness focus (22/21)
- h. Collaborative learning/practices (50/45)
- i. Learning to Learn and Life-long learning (14/11)
- j. Mobility exchanges (6/6)
- k. Cooperation with authorities/University (26/26)
- l. Multimodal/cross-curricular teaching (20/18)
- m. Different students' evaluation than the mainstream (14/13)
- n. Training in planning/building specific materials (24/23)
- o. FL lecturers support (5/4)
- p. Experiential learning (8/6)

It is here valid the same clarification on our labels and order in the list, reported here above about lacks (p. [74](#)).

Table 5 reports the authors' definitions, which have been included in each macro-concept, warning that they are not univocal, as well as lacks (see p. 74), so they are sometimes part of more than one category:

Table 5

Definitions per macro-concept of Suggestions/good practices (GP)

| | <i>MACRO-CONCEPTS</i> | <i>SUGGESTIONS/GP</i> |
|----------|--|---|
| <i>a</i> | Foreign language courses/updating | FL training courses; Training qualified professionals who not only are proficient in the foreign language of instruction, but who are familiar with specific techniques and strategies for the integrated teaching of content and language; Become fully confident and proficient in their use of English; Interaction in L2 (to prevent misunderstandings); Academic listening comprehension; Nuevas metodologías que requieren de un estudio y puesta en práctica; Study of the FL; Further training in both theoretical and linguistic aspects; English language proficiency,... and multilingualism; EMI training courses; Greater training on interpersonal social language, ... and pronunciation and improvisation; Initial pivotal linguistic competence (both BICS and CALP); English courses and CLIL instructors as support; Training in teaching literacy in the foreign language; Continuous linguistic upgrading courses; Intensive language courses for in-service teachers. |
| <i>b</i> | Language acquisition strategies | Code-switching as plurilingual talk-in-interaction, summing verbal and nonverbal resources; Improve the quality of education and adaptation to the EHEA with respect to English; |

Bilingual practice institutions integrating theory and practice; Need of communicative functions knowledge, so courses on academic skills; Use of L1 when learning an L2 (codeswitching or translanguaging), as it supports communicative and cognitive learning tasks, and strengthen the self-confidence of the students; Continuous improvement of teacher training, particularly in the field of multilingual pragmatics; Mediate both language and content through the use of talk in interaction; Development of communicative skills; Integrating Plurilingual Approach (IPA); Primacy of fluency over accuracy; Didactic training in the L2 and ... development of bilingual programmes; Adopting a multilingual focus to additional language learning to achieve the multilingualism; Look at the way multilinguals navigate between languages and are able to negotiate the multiple varieties of codes, modes, genres, registers, and discourses; Intensive staff training in pedagogical and theoretical aspects of language acquisition; Knowledge, tools and materials from English for Specific Purposes (ESP) and English for Academic Purposes (EAP); Training in language skills; Communicative methodology; Strategies to boost the development of strong oral language competence; Introducing new and effective ways to combine two working languages in CLIL classes; Development of communicative skills; Codeswitching as an essential component of any CLIL teacher training, whether in-service or pre-service;

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| | | Mediate both language and content through the use of talk in interaction. |
| c | CLIL methodological training/courses/experts | Teacher education programmes to improve, taking into account also indicators as pre-service subject teachers' prejudices and misunderstandings about the aims and language principles of CLIL; Nuevas metodologías que requieren de un estudio y puesta en práctica; Further training in both theoretical and linguistic aspects; EMI training courses; Specific CLIL training in pre-service teaching modules or Master's, with a special focus on language and methodology; Reinforcing CLIL preparation in university teacher trainers for pre-service teachers; Further updated training on CLIL focusing on: improving CLIL teachers' skills to define educational objectives clearly and to integrate both content and language objectives; Methodological training; Blended training, with the regular presence of online tutors scaffolding trainees; Pre-service training on language and methodologies for CLIL; Methodology-oriented training prior to start any CLIL program; Training qualified professionals who not only are proficient in the foreign language of instruction, but who are familiar with specific techniques and strategies for the integrated teaching of content and language; Extensive application of CLIL methodological guidelines that enhance interculturality, activation of pupils' prior knowledge; Significant differences in the demand for training among less well-trained teachers in CLIL to take into account; Design and offer courses on CLIL (normally at graduate |

level), on the example of other European universities; Specific training in order to enrol in teaching content through an additional language, in language skills and methodology; Training in integration of content and language teaching; Differentiate effective CLIL teaching strategies; Specific training for bilingual schools for the design of a technology-enhanced CLIL classroom; Further methodological training to teach in the technology-enhanced CLIL classroom; Continuous linguistic upgrading courses and well-developed methodological training as regards the inner-workings of CLIL and its application in the classroom; Theoretical underpinnings of CLIL; Scientific knowledge (content taught and the theoretical underpinnings of CLIL); Reinforcing CLIL preparation in university teacher trainers for pre-service teachers; Accredited CLIL teacher training courses (continual teacher education); More and better CLIL courses, with specific methodological training, which can provide with solid knowledge on theoretical and practical CLIL principles; Didactic training ... in basic theoretical aspects of CLIL and development of bilingual programmes; Prevent individual teachers to intuitively decide when, how and how much L1; Well-developed methodological training as regards the inner-workings of CLIL and its application in the classroom; Continuous improvement of CLIL teacher training; Highly-qualified experts as speakers, as most effective online learning experience; Develop the most appropriate methodologies for each subject.

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| d | Pedagogical-Educational updating/training | Learner-centredness through a variety of online tools, to choose according to the learner's learning style; Total rethink of content subjects and teaching methodologies; Psychological and pedagogical foundations of early CLIL; Continuous improvement of CLIL pedagogies; Pedagogical approach learner-centred, task-based; Learner-centred methodology; Pay attention to learners' experiences, language levels, and needs in learning the subject; More interactive style of teaching; Developing competences to manage CLIL classes with the inclusion of more learner-oriented activities; Organizational competence (vast gamut of groupings and learning modalities, with classroom management and control strategies); Pedagogical competence (student-centred methodologies, more diversified learning environments and resources); Acquaint in-service teachers with the basics of evidence-based research both to carry out action research in their classrooms and to interpret the findings of other investigations in specialized publications; Student-centred learning; Revisiting of teacher roles both in class and in the wider institutional context; Project-Based Learning and Cooperative Learning; Attention to pedagogical aspects; Job shadowing, and attention to diversity; A log-book, as a diary of events, reflections and doubts for the pedagogical reflection, and data gathering tools (recordings, field notes, videos, photos, classroom materials); Continuous adaptation to complex and very different primary, secondary and tertiary education scenarios; Highly |
|---|--|--|

interactive and communicative, learner-centred methodology, practically focussed, based on a “learning by doing” approach; Training in a combination of cognitive, metacognitive and socio-affective (cooperation, mental control, etc.) learning skills and strategies; Efficient teaching strategies (scaffolding, interacting, being flexible, checking for understanding or designing learning materials at the appropriate level); Scaffolding needs to be consistent with students understanding and cognitive development; Development of techno-pedagogical content skills in dialogic practice, of cognitive psychology paradigm, enhancing the mechanisms used to internalise knowledge and the social paradigm (with the student as the agent of learning and by the application of experiential learning and meaningful learning co-construction) and the learning embedded definition (ability to access, gain, process and assimilate new knowledge and skills, followed by the ability to reflect critically on the purposes and aims of learning); Effective pedagogies for CLIL, as any language teaching program; Telecollaboration, to widen the scope of teachers’ knowledge, ... justifying their methodological and technological choices in their lesson plan designs, to increase critical thinking; Pre-service teachers training in technology integration (through the TPACK as knowledge of content, of pedagogy and of technology) to evaluate lacks and progress; Introducing new methods which affect organisational issues such as pupils’ groupings, ... and more project-oriented teaching styles;

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| | <p>Scaffolding needs to be consistent with students understanding and cognitive development; Teacher training programmes with gamified telecollaborative tasks and online pedagogical guides; Practical student-centred methodologies; Training courses in pedagogical techniques and classroom management; Attention to pedagogical aspects.</p> |
| e | <p>Inclusion of ICTs and online tools</p> <p>Telecollaboration, to widen the scope of teachers' knowledge, to raise their awareness about effective ICT use, through cooperation and justifying their methodological and technological choices in their lesson plan designs, to increase critical thinking and to develop collaboration skills, to make the participation of all members more equal, to boost knowledge exchange and collaborative practices; Blended training, encouraging to build a virtual community of learning, with the regular presence of online tutors scaffolding trainees; Telecollaboration in teacher training, for the development of techno-pedagogical content skills in dialogic practices and to experience an increase in their digital competence and the development of multimodal communicative competence, multiliteracy, autonomy, and the teacher competences required for teaching with multimodal technologies; Creation of new sorts of electronic study texts, using of information systems and dynamic computer systems; Computer-mediated communication (CMC) techniques; Use of ICT and other resources in the classroom; Experiment in an active way with new methodologies and environments of</p> |

learning; CLIL teachers need training in materials development (including here, the use of ICT and audio-visual resources); Teacher training programmes with gamified telecollaborative tasks and online pedagogical guides; Specific training for bilingual schools for the design of a technology-enhanced CLIL classroom; Pre-service teachers training in technology integration (through the TPACK as knowledge of content, of pedagogy and of technology) to evaluate lacks and progress; High-cognitive challenge tasks to raise the how-to-learn awareness, through ICT or CLIL based teaching; IWB usage, as meeting the needs of learners with diverse learning styles (aural, visual and kinaesthetic) through the use of multiple media; Integration of technology in the classroom; Familiarity with ICT options; A greater use of technological resources; Clear need for online material and digital equipment; Highly interactive and communicative, learner-centred methodology, practically focussed, based on a "learning by doing" approach; Use of ICTs and the continuous updating about it, to match the students need; Link between CLIL and CALL; Access to global resources, in particular Open Educational; Forum and blog interactions for teachers training; eTwinning can help develop a wide array of competences, referring to the 8 Key Competences Framework, such as learning to learn, co-working, international cooperation, team working, digital competences, intercultural exchanges, etc.; Integration of technology in the classroom and

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| | | a full-fledged methodological model based on the CLIL approach. |
| <i>f</i> | Sharing practices and knowledge | Blended training, encouraging to build a virtual community of learning; Sharing best practices to become better professionals and create a better working environment; Learning from the good practices of other European countries in terms of the way in which pre- and in-service training for CLIL is envisaged and set up; Exchange programs; Providing more examples of good practice and finely-tuned CLIL materials compatible with national curriculum; Diffusion of CLIL good practices; Interpersonal and collaborative competencies (create an adequate classroom atmosphere, collaboration and teamwork); Asynchronous and synchronous activities, to elicit reflections and discussion among teachers and sharing good practices from different countries through the activities; Community of practice, to foster collaboration, mutual aid and the sharing of ideas, materials and good practices at international level; Telecollaboration ... through cooperation; Greater networking with schools abroad, increased teamwork, external support; Building-up learning environments that allow for the exchange of knowledge and results, in particular creating university-school partnerships, as a breeding ground within the teachers community. |
| <i>g</i> | Language awareness focus | Plurilingual repertoires, also with local languages; Raising teachers' awareness of the centrality of language, of its epistemic function and of the students' cognitive architecture; Language and culture awareness; Encourage |

students' academic language skills through an increasing complexity of the FL and the language awareness; Attention to language awareness; Teacher education programmes to improve, taking into account also indicators as pre-service subject teachers' prejudices and misunderstandings about the aims and language principles of CLIL; Encourage students' academic language skills through an increasing complexity of the FL and the language awareness; Further training in linguistic aspects; Adopting a multilingual focus to additional language learning to achieve the multilingualism; Methodological training, to build awareness of foreign language issues; Teaching the text types and typical language patterns and value in the subject areas—subject literacy; Communication competence and awareness of language competence; Greater training on interpersonal social language, awareness of cognitive academic language, and pronunciation and improvisation.

h

Collaborative learning/practices

Cooperation between subject and language teachers; Telecollaboration in teacher training, for the development of techno-pedagogical content skills in dialogic practices; Consulting others when setting the learning goals; Interpersonal and collaborative competencies (create an adequate classroom atmosphere, collaboration and teamwork); Collaborative methodology; Teacher training programmes with gamified telecollaborative tasks; Telecollaboration, to experience an increase in their digital competence and the development

of multimodal communicative competence, multiliteracy, autonomy, and the teacher competences required for teaching with multimodal technologies, other than LtL and motivation; Techniques for successful tandem teaching among language teachers, content teachers, and Tas; An effective, hard-working and cohesive team, teachers' coordination; Collaboration, coordination, and teamwork; Materials collaboratively prepared by teachers; Introducing new methods, which affect organisational issues such as pupils' groupings, coordination between teachers, teamwork; "Team teaching", as the ideal situation in CLIL settings; Collaborative learning, input and task based, through institutional channels and informal environments; Sharing good practices from different countries through the activities; Forum and blog interactions for teachers training; Community of practice, to foster collaboration, mutual aid and the sharing of ideas, materials and good practices at international level; eTwinning can help develop a wide array of competences, referring to the 8 Key Competences Framework, such as ... co-working, international cooperation, team working, intercultural exchanges; Telecollaboration, to widen the scope of teachers' knowledge, to raise their awareness about effective ICT use, through cooperation ..., to increase critical thinking and to develop collaboration skills, to make the participation of all members more equal, to boost knowledge exchange and collaborative practices; Greater networking with schools abroad, increased

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| | | teamwork; Greater levels of coordination for collaborative planning, performing, assessing and reporting on the teaching of both content and foreign language; Collaborative and distributed learning, and the Integrating Plurilingual Approach (IPA); Collaborative seminars contribute to the acquisition of various communication skills. |
| <i>i</i> | Learning to Learn and Life-long learning | Continuing Professional Development; Reflective and developmental competence (need for lifelong learning); Continual teacher education through accredited CLIL teachers training courses; Telecollaboration in teacher training, to experience an increase of LtL and motivation; High-cognitive challenge tasks to raise the how-to-learn awareness; Personal Learning Environments (PLE) and Personal Learning Networks (PLN); Experiential learning: teacher as a reflective practitioner (on and in action), which is the key dimension for personal and professional growth; capable of preparing students for a society and an economy in which they will be expected to be self-directed learners, able and motivated to keep learning over a lifetime (OECD Report), so rethink their teaching strategies; Collaborative seminars contribute to the acquisition of various communication skills, to the development of the LtL competence. |
| <i>j</i> | Mobility exchanges | Exchange programmes of mobility; Access to mobility; Linguistic upgrade courses abroad; Experience abroad and training; Methodological upgrade courses abroad. |
| <i>k</i> | Cooperation with authorities/University | Greater institutional effort in teacher's formation for a bilingual programme; Teacher |

education programmes to improve; Specific CLIL training in pre-service teaching modules or Master's, with a special focus on language and methodology; Reinforcing CLIL preparation in university teacher trainers for pre-service teachers and creation of plans for the promotion of plurilingualism in universities; Greater networking with schools abroad, increased teamwork, external support and teacher training; Master's, with a special focus on language and methodology; Creating university-school partnerships, as a breeding ground within the teachers community; Design and offer courses on CLIL (normally at graduate level), on the example of other European universities; Creation of new degrees at both graduate and undergraduate level; Specifically tailored courses for pre- and in- service teachers; Whole support of education authorities in terms of allocation of human and material resources (favourable International resources); Theoretical researchers (academics) in continuous collaborative work with practitioner researchers (teachers); Need of a net of CLIL teachers, schools and other educational institutions, to set clear assessment criteria and set objective procedures and standardized evaluation instruments for CLIL classes; Specific MA degrees in CLIL; Study licenses for further research, specific MA degrees in CLIL.

/ **Multimodal/cross-curricular teaching**

Less traditional and more active methodologies; Enhanced attempts at curricular integration; Multidisciplinary, crosscurricular, and transversal tasks and projects; Development of

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| | | <p>pluriliteracies through CLIL; Consider CLIL as an educational program, so it involves the whole curriculum, not only the learning of a FL; Multimodal teaching and learning; Relevant intercultural experiences in teacher training; Telecollaboration, to experience the development of multimodal communicative competence, multiliteracy, autonomy, and the teacher competences required for teaching with multimodal technologies; More personalised teaching and greater levels of coordination for collaborative planning, performing, assessing and reporting on the teaching of both content and foreign language; Further methodological training to teach in the technology-enhanced CLIL classroom.</p> |
| <p><i>m</i></p> | <p>Different evaluation for students than the mainstream</p> | <p>Evaluation, due to the mixed outcomes regarding CLIL; Competency-based evaluation and evaluation procedures, instruments, and criteria; A more transparent, holistic, and formative and holistic type of evaluation; Need of a net of CLIL teachers, schools and other educational institutions, to set clear assessment criteria and set objective procedures and standardized evaluation instruments for CLIL classes; Use of a variety of resources to evaluate pupils; Greater levels of coordination for collaborative ... assessing.</p> |
| <p><i>n</i></p> | <p>Training in planning/building specific materials</p> | <p>Cooperation between subject and language teachers in preparing materials; More planning, moving from less to more language demand in units, integrating content and language objectives—planning; Creation of new sorts of electronic study texts, using of information systems and dynamic computer systems; Need</p> |

| | | |
|----------|------------------------------|--|
| | | <p>of teachers training in materials development (including here, the use of ICT and audio-visual resources); CLIL teaching handbooks and manuals for pre-service teachers training; Lessons design constructed with fully embedded interactive technology as a new pedagogy; Familiarity with materials design; Materials development; Appropriate materials; Guidelines for appropriate materials design; More originally designed materials; Instructing how CLIL materials should be selected, adapted and assessed; Efficient teaching strategies (...designing learning materials at the appropriate level); Total rethink of content subjects and teaching methodologies; High-cognitive challenge tasks; Materials authentic, interesting, innovative, and collaboratively prepared by teachers.</p> |
| <i>o</i> | FL Lecturers support | <p>Process assisted by lecturers on English in terms of design, development and evaluation; Language assistants; Language assistants when motivating pupils and fostering their oral skills and intercultural awareness.</p> |
| <i>p</i> | Experiential learning | <p>Experiential learning: teacher as a reflective practitioner (on and in action), which is the key dimension for personal and professional growth; capable of preparing students for a society and an economy in which they will be expected to be self-directed learners, able and motivated to keep learning over a lifetime (OECD Report), so rethink their teaching strategies; Integration-based classroom practices; Procuring teacher trainees with the same learning process undergone by children; Collaborative seminars contribute to the</p> |

| | |
|--|---|
| | <p>acquisition of various communication skills; Experiential and peer learning, so as to become a reflective practitioner; Experiment in an active way with new methodologies and environments of learning.</p> |
|--|---|

Actually, not all the suggestions refer to lacks, but sometimes are given in absolute value: their definitions have been included in Table 5, in order to give a complete picture of suggestions.

As it can be seen, there are some more various macro-concepts than others. Indeed, as seen in the first part of this research, CLIL can indicate many different *approaches*, and Table 5 shows that definitions are more numerous and richer of suggestions in b, c and d, namely where methods and strategies are concerned. But, above all, cooperation and collaboration at all levels are suggested as first, being possible to sum up the results of f, h and k and, added to these, elements of all the categories (for example, telecollaboration, collaborative assessment, etc.).

4. Crossed results

The suggestions/good practices refer to each lack, according to the authors, as in Table 6:

Table 6

Relations between lacks and suggestions/good practices in terms of occurrences' number

| | (a) FL updating | (b) FL learning strategies | (c) CLIL training | (d) Pedagogical training | (e) ICTs inclusion | (f) Sharing of practices | (g) Language awareness focus | (h) Collaborative practices | (i) Learning to Learn | (j) Mobility exchanges | (k) Institutional coop. | (l) Multimodal teaching | (m) Different evaluation | (n) Materials management | (o) FL lecturers support | (p) Experiential learning |
|---------------------------------------|-----------------|----------------------------|-------------------|--------------------------|--------------------|--------------------------|------------------------------|-----------------------------|-----------------------|------------------------|-------------------------|-------------------------|--------------------------|--------------------------|--------------------------|---------------------------|
| (I) Foreign language competence | 13 | 8 | 9 | 2 | 0 | 0 | 5 | 1 | 1 | 3 | 4 | 0 | 0 | 0 | 1 | 0 |
| (II) Instructional problems | 1 | 3 | 8 | 11 | 5 | 2 | 5 | 7 | 0 | 0 | 3 | 4 | 4 | 3 | 1 | 1 |
| (III) Prior CLIL training knowledge | 4 | 3 | 23 | 7 | 6 | 8 | 2 | 1 | 2 | 1 | 6 | 4 | 0 | 3 | 0 | 2 |
| (IV) Digital competence | 0 | 0 | 2 | 5 | 12 | 1 | 0 | 4 | 3 | 0 | 1 | 2 | 0 | 2 | 0 | 0 |
| (V) Knowledge in language acquisition | 3 | 9 | 7 | 0 | 1 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 |
| (VI) Motivation | 3 | 9 | 1 | 1 | 3 | 1 | 2 | 1 | 0 | 1 | 0 | 1 | 1 | 0 | 0 | 0 |
| (VII) Teachers' lack of time | 0 | 0 | 0 | 1 | 2 | 3 | 0 | 7 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 |
| (VIII) CLIL specific materials | 1 | 1 | 4 | 4 | 6 | 3 | 0 | 5 | 1 | 0 | 2 | 2 | 5 | 7 | 0 | 0 |
| (IX) Support/co operation | 0 | 0 | 7 | 1 | 2 | 6 | 0 | 13 | 0 | 1 | 7 | 2 | 1 | 2 | 0 | 0 |
| (X) Pedagogical preparation | 1 | 2 | 3 | 25 | 7 | 2 | 2 | 5 | 4 | 0 | 1 | 4 | 3 | 4 | 1 | 1 |
| (XI) Language awareness | 1 | 4 | 1 | 4 | 0 | 0 | 4 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |

Note: Stressed in black the highest values over 10, in grey the highest under 10

It is to underline that the same suggestion could be given by the authors for more than one lack at the same time, which determine the differences between the number of occurrences per lack and what is reported in the table.

For in-service teachers it is first suggested *Pedagogical preparation*, then there are *CLIL training* and *Collaborative practices*. It also emerges that the collaborative approach is seen as highly relevant for CLIL training and, summing its percentual with the sharing of practices, which can be another way to collaborate, it is perceived as the second macro-suggestion (79 occurrences, including f and h), after the linguistic ones (87 occurrences, including a, b, g, o).

These results firstly show the main focus of attention by the authors and stakeholders on filling the Pedagogical-Educational, as well as the specific CLIL preparation lacks through further training. Secondly, *FL updating* and *Collaborative practices* are seen as important, both as lacks and as suggestions, but not as the training on generically educational and specifically CLIL strategies. It also appears that the *Lack of motivation* could be solved by further competence in FL acquisition. Finally, the common feeling among CLIL teachers of not having enough time, both in general and to manage CLIL specific materials, are not pointed out here as relevant.

As far as pre-service is concerned, Table 7 reports the results:

Table 7

Relations pre-service lacks and suggestions/good practices in terms of occurrences' number

| | <i>(b) FL learning strategies</i> | <i>(c) CLIL training</i> | <i>(d) Pedagogical training</i> | <i>(e) ICTs inclusion</i> | <i>(f) Sharing of practices</i> | <i>(g) Language awareness focus</i> | <i>(h) Collaborative practices</i> | <i>(n) Materials management</i> |
|--|-----------------------------------|--------------------------|---------------------------------|---------------------------|---------------------------------|-------------------------------------|------------------------------------|---------------------------------|
| <i>(I) Foreign language competence</i> | 0 | 2 | 0 | 0 | 0 | 1 | 1 | 0 |
| <i>(II) Instructional problems</i> | 0 | 2 | 1 | 2 | 1 | 1 | 1 | 1 |
| <i>(IV) Digital competence</i> | 0 | 0 | 2 | 2 | 1 | 0 | 1 | 0 |
| <i>(V) Knowledge in language acquisition</i> | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| <i>(X) Pedagogical preparation</i> | 0 | 0 | 6 | 2 | 1 | 0 | 1 | 0 |

Note: Stressed in grey the highest value.

The paucity of occurrences does not allow for considering these pre-service results as significant, but emphasis is placed on the importance of pedagogical training and it is given a different answer from in-service to lack II (Instructional/planning problems). It is to say that CLIL training and ICTs management are here mainly cited.

5. Discussion of the results

It is worth starting here the discussion of the rich results concerning the crossed data of lacks and suggestions, in order to be clear about the emerging needs and answers within the macro-concepts above detected, and so drawing the conclusions.

5.1 Lack I: FL competence

The first remark is that it is mainly considered by authors English as FL to implement through CLIL, according to what said in the previous part (e.g., p. [18](#)). So, it is mainly English language to need improvements, about fluency more than accuracy, and both in academic and non-formal phrase, especially if orally. What does not emerge, and undoubtedly needs further researches, is if the same high results would occur within CLIL implementations with other FLs or minority ones.

The big effort to train teachers in FLs and Linguistics make them perceive this field not as defective as others, at least among teachers with a certain experience with CLIL (Pérez, 2018b): we can so affirm that the way to multilingualism is focused within CLIL trainers and researchers. It is also remarkable that the suggestion of ICTs, emerging for any lack, does not almost include FL competence and the pedagogical preparation. Does the main and in-presence University training in these fields influence this result? Or do teachers consider them as a prerogative of theoretical experts? It could be opportune to answer to these questions, at the moment open and to be verified in field. But it might be too that they are felt as strong lacks due to the fact that they are not improved by collaborative practices and information on CLIL research (Pérez, 2018b).

Codeswitching and translanguaging are felt as important and peculiar strategies of CLIL, although generally not admitted by bilingual education. Whilst the first one can reduce the “foreign language anxiety” (Aiello et al. 2017), translanguaging concerns more than one FL to implement and fosters the interculturality and the plurilingualism, definitely to promote at University (Pérez, 2018a), where pre-service teachers are trained, so as to make students achieve the same goal at school.

It is also to highlight that, to fill this lack, there are suggested teams, which see FL and non-linguistic subject teachers, in order to plan, implement and evaluate together their students.

5.2 Lack II: Instructional/planning problems

This lack and the related suggestions are both various, but all related to the complexity of CLIL. Indeed, they really show the voice of the stakeholders, who try to manage the difficulties to implement subjects in this way.

It is particularly relevant the accent they put on the strong need of a CLIL holistic curriculum (Pérez, 2016b), which go beyond the teacher-centred traditional models (Pérez, 2018a). This new curriculum would see a strong collaboration among teachers during all the phases of the implementation and especially during their planning and evaluation (Bueno et al., 2018), considered as highly difficult and needing of many time. There should be the same collaboration during their training too, so as to get them used to avoiding the current monodisciplinary (Hodaňová & Laitochová, 2015) and the practice of one-language/one teacher .

ICTs highly support this sharing among teachers, and so, during their training, they can concretely acquire:

- their organisational (Pérez, 2018b), communicative (Aiello et al., 2017) and collaborative competence (Bueno et al., 2018; De Santo & De Meo, 2016), not mainly in presence, but through blended courses, telecollaboration, wikis, blogs, socials, etc. (Bueno et al., 2018; De Santo & De Meo, 2016; Pérez, 2018a);
- how to balance content, often perceived as weakly learnt (Martí & Portolés, 2019; Pérez, 2018b; San Isidro & Lasagabaster, 2019) and language, through an increased teamwork, transversal tasks and projects (Pérez, 2016a), aiming to develop pluriliteracies (San Isidro & Lasagabaster, 2019);
- how to cater to diversity and mixed-ability groups (Pérez, 2018a; Pérez, 2018b; Pokrivčáková, 2015), to achieve CLIL inclusivity through differentiating learning environments and tools with CMC techniques (Pérez, 2018b);
- how to build materials, which should be accessible to all students (Bueno et al., 2018; Coonan, 2011), through telecollaboration and teachers' collaboration;
- shared assessment criteria and standardised CLIL evaluation instruments (Pokrivčáková, 2015), in order to make evaluation competency-based in its procedures (Pérez, 2018a).

It is also stressed that further training is needed to take into account students development of oral skills (Campillo et. al., 2019; Milla & Casas, 2018) and their evaluation (Lancaster, 2016), which is related to the instructional language to acquire and use (Aiello et al., 2017). Finally, how and when scaffolding students is perceived as problematic, because it implies a complete change of the traditional role of teachers. They have to pay attention to the cognitive development of students, especially while they work in groups for tasks, which can be demanding for their understanding (Garcia-Esteban et al., 2019; Milla & Casas, 2018). It is here to remind that the authors mostly refer to in-service

teachers, who have taught for years in a different way, whilst pre-service ones can be trained by online tutors, scaffolding them in a virtual community, so being for them models in scaffolding (De Santo & De Meo, 2016).

5.3 Lack III: Prior CLIL training, experience or knowledge

This is the first perceived lack for importance, though any CLIL teacher has previously attended specific methodological courses. It highlights the need for continuous updating, both of methods and linguistically, and of environments for sharing experiences and good practices (De Santo & De Meo, 2016a). On the other hand, this result stresses the shortage (Pérez, 2016a), insufficient (González Davies, 2016; Lancaster, 2016; O'Dowd, 2018; Pérez, 2018b) and not always concrete (Campillo et al., 2019; Fernández Costales & Lahuerta, 2014) training of many programmes, in particular whether completely in presence and for in-service.

As a matter of fact, CLIL preparation is demanding (Pokrivčáková, 2015), hence it emerges a clear need of lifelong learning for teachers (Pérez, 2018b; Pokrivčáková, 2015) to be constantly up-to-speed about researches on CLIL, in particular through evidence-based researches and publications on CLIL, and so to acquire reflective and developmental competences, paying particular attention on the other European good practices (Pérez, 2018b).

Clearly likewise, it emerges that it is not yet considered highly important to provide training in CLIL to pre-service teachers at University, in order to certify their methodological competences, apart from in Spain. This is a relevant point, because this approach concerns many educational aspects to acquire, which are perceived as the main lacks when the preparation for CLIL happens later (in order of

importance: *Prior CLIL training, experience or knowledge; Pedagogical/educational preparation, as in integration; and Instructional/planning problems*). This is why the creation of new degrees is crucial, at both graduate and undergraduate level: they have to guarantee that pre-service teachers receive enough methodological and theoretical preparation on CLIL, preferably through specific MA degrees in CLIL and the inclusion of mobility programs and methodological upgrade courses abroad (Pérez, 2018b), especially if it is not concerned only a minority language of the country. Whether in case of degrees or of tailored courses, a virtual community can support the methodological and pedagogical experience through enjoyable tasks, such as in collaborative gamified environments (Jauregi & Melchor, 2017). And this can be also a way to prepare teachers, who have to become able to teach in a technology-enhanced CLIL classrooms (Jerez, 2016).

5.4 Lack IV: Availability/management of ICTs

Although this is not perceived as a relevant lack, the inclusion of ICTs and online tools is a suggestion for almost any lack. Indeed, this field, with Pedagogy for CLIL, Evaluation and Materials' development, so the last lacks resulting in the perception of the stakeholders, are essential for proper CLIL implementation and in particular to finally achieve a major change in teaching, expressly required by the European Directives, starting from the White Paper (European Commission, 1995).

The authors underline particularly the dearth of ICTs at schools (e.g., Durán & Beltrán, 2016; Jauregi & Melchor, 2017; Pérez, 2018b) and of preparedness to manage them pedagogically (Bueno et al., 2018; Garcia-Esteban et al., 2019; Pérez, 2016a).

Actually, it is yet to realise the power of the educational use of technologies at school and they are often fully included only in pilot projects, so not completely widespread. But ICTs can, on the one hand, foster strategies for successful cooperation among language teachers, content teachers, and TAs (Pérez, 2016a); on the other, through multiple media, they offer multiple input to students, being in this way highly inclusive, favouring different learning styles (Jerez, 2016) and autonomous construction of knowledge.

And about CLIL training, telecollaboration is seen as an engaging way both for training and for sharing experiences among teachers, because it especially fosters the competencies of *Learning by Doing* and *Life-long Learning*, and can be useful to improve planning and instructional needs as well.

CLIL takes so many advantages from ICTs that important worldwide experiences of online teacher training have been successfully provided from Italy by EVO-TESOL (Cinganotto, 2016); by eTwinning and INDIRE, always international and from Italy for a Learning Event (Cinganotto, 2017); through an *Erasmus+* project of telecollaboration involving Belgium, France, Germany, the Netherlands, Spain, and UK (Jauregi & Melchor, 2017); as e-learning at "Orientale" University for their trainees in Italy, through blended courses (De Santo & De Meo, 2016); and in Spain, through online CLIL courses (Carrió & Forteza, 2019) and telecollaboration (Bueno et al., 2018; García-Esteban et al., 2019).

5.5 Lack V: Knowledge in language acquisition

It is clear that this lack is typical of non-linguistic subject teachers, who implement CLIL not bearing in mind its dual focus, being used to strategies concerning only content (Martí & Portolés, 2019; Pérez,

2018b). Actually, it can be seen as a pedagogical aspect (Cenoz, 2013; Oattes et al., 2018), as well as of didactics (Milla & Casas, 2018; Pérez, 2018a), and it underlines a “a gap between theory and practice in language teaching” (Fernández Costales & Lahuerta, 2014, p. 20). They can be definitely useful knowledge of communicative functions and theory of language (Milla & Casas, 2018; Pérez, 2018b), and of bilingual strategies (Cenoz, 2013; Jerez, 2016; Martí & Portolés, 2019; Milla & Casas, 2018; Nightingale & Safont, 2019; Pérez, 2018a), as well as linguistic strategies, such as codeswitching or translanguaging (Fernández Costales & Lahuerta, 2014; Milla & Casas, 2018; Oattes et al., 2018), or CLIL through interactive methodologies (Jerez, 2016), with the help of language assistants (Milla & Casas, 2018). Nonetheless, it might not be enough.

As said, this lack does not concern FL teachers, and it is surprising that there are here no suggestions for team teaching, so for a collaborative CLIL implementation, with sharing of knowledge and competences. Indeed, in the first part of this research (pp. [15-21](#)), it has been highlighted how Content and Language of the acronym CLIL concern every subject involved (e.g., they can be History, as well as Spanish, and so on), every language (so FLs, but MT as well), like, and especially, “any learners’ cognitive development and intercultural understanding” (Coyle, 2015, p. 89). So, if the embedded acquirement of content and language should also merge different strategies to achieve both of them, in which FL and non-linguistic subject teachers are trained and competent, each for their field. Moreover, teams with FL teachers might help their colleagues to stress the importance of language for learning in MT too.

5.6 Lack VI: Motivation

If teachers show a CLIL lip service, without taking advantage of methodological update (Lancaster, 2016), low engagement of students and theirs, as well as their insecurity about FL proficiency (Oattes et al., 2018) can produce this lack. It is scarcely perceived, which is a good sign, and the suggestions are mostly regarding further collaboration among teachers (Lucietto & Rasom, 2011), through blended learning, and virtual communities (De Santo & De Meo, 2016b) or mobilities (Lancaster, 2016). It can happen also through a reflective approach to professional development, and a pedagogical reflection on their teaching, after registering it in various matters (recordings, field notes, etc.) (Lucietto & Rasom, 2011), or stimulating the motivation in experimenting new environments of learning (De Santo & De Meo, 2016). Surely, continuous linguistic upgrading courses and well-developed methodological training too (Lancaster, 2016) can contribute to enhance teachers' motivation. This is also why getting close teachers to the continuous update of the CLIL research is crucial.

5.7 Lack VII: Teachers' lack of time

This is the last perceived lack and it is strictly related to the teachers' workload, determined by the needed time to accurately plan and organise the interventions (objectives, strategies, FL level, materials and tools, tasks, and rubrics to evaluate) (Garcia-Esteban et al., 2019; Jauregi & Melchor, 2017; Pérez, 2016d) and by the necessity to build appropriate CLIL materials to the concrete need of their classrooms (Pérez, 2016a; Pokrivčáková, 2015). Collaboration and telecollaboration with other colleagues (Garcia-Esteban et al., 2019; Pokrivčáková, 2015), as well as networking with schools abroad (Pérez,

2016b), other than training to become familiar with creation of CLIL materials (Pérez, 2016a; Pérez, 2016b) are suggested to improve this demotivating lack.

It can be asked: are there precisely any collaborative time-saving methods for teachers implementing CLIL? It is not said by the authors, perhaps underestimating this lack in its implications. As a matter of fact, it can be supposed that this perceived lack of time is related to the management of CLIL provisions in absence of precise CLIL curricula, the former not competency-based and with no cross-curricular activities (Coonan, 2011).

5.8 Lack VIII: CLIL specific materials

CLIL is student-centred and calls for adequate materials for each classroom, for each students' workgroup, if not for each single student. As seen, it is task-based, but tasks should be prepared accurately by teachers, taking into account their own and of students' level of FL, what and how exactly they have to learn, so as to make them achieve higher cognitive goals and skills. Finally, it is highly recommended to use personalised rubrics for the self-assessment in the classroom and the evaluation. It results so understandable why this lack, although not among the more cited, is fairly perceived, representing a danger as for the reaching of goals of students, as for the correctness of CLIL implementation.

Nevertheless, the first suggestion, and good practice, is cooperation with colleagues, in order to create authentic, innovative and finely-tuned materials (Campillo et al., 2019; Durán & Beltrán, 2016; Garcia-Esteban et al., 2019; Pérez, 2016b; Pérez, 2018a; Pokrivčáková, 2015), preferably through ICTs, which allow them to adjust and share what they need (Campillo et al., 2019; Garcia-Esteban et al., 2019;

Pérez, 2016b; Pérez, 2018a), other than getting them used to multiple media (Jerez, 2016), so aiming at multiculturalism also thanks to their being part of transversal tasks (Campillo et al., 2019; Pérez, 2018a). But the basis should be in the previous CLIL training they have to do, both theoretical and practical (Alcaraz, 2018; Martín del Pozo, 2017; Pérez, 2016b; Pérez, 2018b), requiring the support of the authorities and other educational institutions for guidelines (Pokrivčáková, 2015; Pérez, 2016a), and to validate and share their materials (Durán & Beltrán, 2016; Pokrivčáková, 2015).

5.9 Lack IX: Support/cooperation from educational authorities or among colleagues

Undoubtedly, CLIL implementation demands collaborative practices and requires support from educational authorities and collaboration among teachers, which is perceived as another aspect to improve; but it is also to highlight that its implementation, if it is not a lip-service and thanks to this multi-collaboration (Pérez, 2018a), almost withdraws other lacks, e.g. of motivation, of time for teachers, of needs of new materials, and so on.

Indeed, if cooperation is an important skill of the XXI century (p. [45](#)) for students to acquire, it must be funded firstly among teachers and between teachers and educational institutes and authorities, despite its difficulty, often due to bureaucracy.

Up to the present, there are neither official CLIL-integrated curricula (Pérez, 2016a; San Isidro & Lasagabaster, 2019), nor “clarity in university institutions and networks as to how teachers around Europe were being prepared, ... what systems of accreditation existed in this area” or “whether and how teachers’ methodological competence should be evaluated and certified” (O’Dowd, 2018, pp. 556 and 560).

So, for example, in Spain there are different certifications for different regions to teach bilingual programs and often no specific methodological requirement (Alcaraz, 2018), which makes not clear and spendable the teachers training.

Problems of cooperation with authorities can also determine lacks of opportunities that open doors to teachers and students for exchange programs abroad (Chaieberras & Rascón, 2018), which can be only partially fill through online exchanges programmes, such as E-Twinning. Perhaps for this reason, mobilities are scarcely adopted, though the support of European projects such as Erasmus+, but they could be an effective path for teachers to achieve the multilingualism and create personal networks for CLIL collaborative environments.

Another often difficult relationship is between Departments of Education and schools, which has to be reinforced, if CLIL remains a highly significant environment for the students' growth (infra, [p 56](#)), really opened to different strategies (Cinganotto, 2016; Coyle, 2015; Goris et al., 2017; Marsh & Frigols, 2012).

If collaboration among teachers is concerned, unfortunately it is not really common, being teachers used to monodisciplinary contexts since their preparation at University, but, above all, depending on the static mainstream curricula of schools.

Notwithstanding, there are good practices to take as example. For instance, in Spain micro-sharing environments have been designed, which was created through successful in-house CLIL training at school, which provides for Spanish before-trained teachers as trainers of colleagues, with the support of associations of teachers, as promotion of cross-curricular teaching (Fernández Costales and Lahuerta, 2014).

5.10 Lack X: Pedagogical/educational preparedness, as in integration

It is a strong dearth, so perceived, which is involved in all the other lacks and which depends mainly on previous specific training in the holistic CLIL.

Defective aspects are seen in attention to the cognitive system of students and teaching (Martí & Portolés, 2019; Moore & Dooly, 2010; Reitbauer et al., 2018), to mixed ability classes with weak learners or learners with special educational needs (Pokrivčáková, 2015), or generically to student-centered methods (Lancaster, 2016; Martín del Pozo, 2017; O'Dowd, 2018; Pérez, 2016b; Pérez, 2018b).

This lack deeply affects the figure of the CLIL teachers, their competence of calibrating language and content (Alcaraz, 2018; Cenoz, 2013; Favilli et al., 2013), of auto-reflection and Ltl (García-Esteban et al., 2019; Lucietto & Rasom, 2011; Pérez, 2018b), of multimodal teaching and learning, in cooperation, to give value to context and culture (Favilli et al., 2013). With this aim, not only further continual training for in-service teachers is suggested, through presential teams or online networks, but some pedagogical faculties have incorporated CLIL courses into the pre-service teacher training, like in Slovakia (Pokrivčáková, 2015) and Spain (Fernández Costales & Lahuerta, 2014). Indeed, the detected relevance of this lack could depend on the fact that almost the references refer to in-training. Then, it allows trainers to correctly sketch out the awareness of the so various pedagogical preparation of future CLIL teachers' management of classes, and fosters their acquirement of the above competences through the construction of a more interactive teaching style (Reitbauer et al., 2018), the same learning by doing (González Davies,

2016; Gutiérrez et al., 2012) and project-based (Lancaster, 2016; Moore & Dooly, 2010) to implement with students.

5.11 Lack XI: Language awareness

Are teachers aware of the importance of language awareness, so as to promote it through CLIL? The low resulting percentage of references for this lack could be a negative sign, given that the European Union highlights this point as to massively improve (Council of the European Union, 2019), at the point that there are annual online courses for teachers on this topic by the European Schoolnet (<https://www.europeanschoolnetacademy.eu/>).

As a matter of fact, “as a rule, content teachers are rather unwilling to see themselves as language teachers” (Reitbauer et al., 2018, p. 91), not taking value, in their unwillingness, to its importance for MT too, as well as to the academic language to be acquired by students in all the contents they learn (Gierlinger, 2015). Conversely, it can be seen as a path to achieve multiculturalism, emphasising the connections between languages (Lancaster, 2016) and pragmatic aspects of language use (Nightingale & Safont, 2019). So CLIL training should concern language awareness and guide them to acquire related communicative skills (Rizzo & Palmero, 2014).

6. Second objective: Suggestions for Techno-CLIL training

The second objective of this research was to examine and analyse qualitative European data, in order to highlight previous positives, negatives and/or lacks emerged in the actual CLIL training for teachers, so as to suggest improvements and a proper path for Technological CLIL training.

Far from presuming to be able to design a perfect CLIL training course (which, besides, is not opportune to imagine, given that it should be finely-tuned to diverse implementations), taking into account the above results and the previous conclusions, we can make some considerations about what is surely to enhance in this field.

It has been underlined that, apart from Spain, pre-service training at University is not widespread, but definitely recommended by the literature. It is absolutely to agree with them, because, as seen, in-service teachers are used to adopting a traditional education and they can easily run into more difficulties, such as the dual focus of CLIL, the management of materials and ICTs, etc.; but, above all, as their different role in the classroom, as well as the complex CLIL evaluation (content, FL, growth in the cognition level, cooperation within groups, etc.), which is currently not concerning students' holistic growth.

Future teachers, firstly, have to be trained in a collaborative way, getting them used to the community of teaching and learning they will face with their classrooms (see pp. [55-57](#)), to allow them to acquire their competences of cooperation, learning by doing (not only by studying!), and the related learning to learn in a multimodal way, which all prevent lip-service and demotivation during their teaching career. Yet, in order to make their CLIL knowledge *holistic*, as needed, it is opportune that, at University, cross-curricular modules are

implemented, in presence and/or online, where the pre-service cooperatively learn more disciplines through CLIL, better if using ICTs.

In particular, it emerges that they have to deepen:

- their subjects, starting from the language awareness in mother tongue and in the target language, so giving value to the communicative skills to acquire, which, in the open and multilingual environment of CLIL, so in a versatile context of transliteracy, leading students to multiculturalism;
- the target language, both in academic and non-formal phrases, especially if orally, and knowledge of linguistic and bilingual approaches and strategies, to scaffold students in learning FLs and content together, taking advantage of it especially for their acquisition of HOTS, for autonomy in multilingual academic research and understanding of resources, as well as for multiculturalism;
- student-centered pedagogies and methodologies, which, through concrete practice in teams, prepare them to high interaction in their classrooms, being they scaffolders of students' construction of knowledge in various cognitive paths and learning styles, so paying attention to the integration of the weakest;
- the construction of authentic competence-based and technology-enhanced tasks, also managing existent materials, taking into account the students' pre-knowledge and cognitive pre-levels, balancing new content and new language elements to learn, as ways to allow their autonomous work;
- the relevance of the evaluation of students' cognitive growth, other than their knowledge, and their self-assessment, both through rubrics, to make them acquire the skill of *learning to learn*;
- ICTs pedagogical management, with which adopting several inclusive and meaningful engaging learning environments, also

gamified, as well as communicative tools, transmedia practices, in order to give students multimodal effective input, and to ease the self-evaluation of their products for tasks, other than to foster their lifelong learning;

- CLIL opportunities of implementing diverse mix of content and language, diverse educational strategies and collaborative methodologies, to adapt its provision to different contexts and students.

Table 8 summarises these needs:

Table 8

Topics to deepen in CLIL training, related to consequent actions of teachers, and pros for students

| To deepen in training | Teacher’s consequent actions | Pros students |
|---|--|--|
| Subjects in the open and multilingual environment of CLIL, so in a versatile context of transliteracy, starting from the language awareness in mother tongue and in the target language | <ul style="list-style-type: none"> • Giving value to the communicative skills to acquire • Cross-curricular activities | <ul style="list-style-type: none"> • Plurilingualism • Multiculturality • Pluriliteracy |
| Target language, both in academic and non-formal phrase; Knowledge of linguistic and bilingual approaches and strategies | <ul style="list-style-type: none"> • Scaffolding students learning of FLs and content together | <ul style="list-style-type: none"> • Acquisition of HOTS • Autonomy in multilingual academic research and understanding of sources • Multiculturality |

| To deepen in training | Teacher's consequent actions | Pros students |
|---|---|--|
| Student-centered pedagogies and methodologies | <ul style="list-style-type: none"> Practice in teams, which prepare them to their classrooms Scaffolders of students' construction of knowledge | <ul style="list-style-type: none"> High interactivity Given value to various cognitive paths and learning styles Integration of the weakest |
| Construction of authentic competence-based and technology-enhanced tasks | <ul style="list-style-type: none"> Building them, or managing previous materials Attention to students' pre-knowledge and cognitive pre-levels Balancing new content and new language elements | <ul style="list-style-type: none"> Working in autonomy |
| Evaluation of students' cognitive growth, other than their knowledge, and their self-assessment | <ul style="list-style-type: none"> Building and managing of rubrics | <ul style="list-style-type: none"> Acquirement of the skill of learning to learn |
| ICTs pedagogical management | <ul style="list-style-type: none"> Adopting several inclusive and significant engaging learning environments, also gamified Use of multiple media, communicative tools and transmedia practices | <ul style="list-style-type: none"> Multimodal effective input Easier self-evaluation of their products for tasks Fostering of their lifelong learning |

| To deepen in training | Teacher's consequent actions | Pros students |
|--|---|---|
| CLIL opportunities of implementing diverse mix of content and language, diverse educational strategies and collaborative methodologies | <ul style="list-style-type: none"> Adapt CLIL provision to different contexts and students | <ul style="list-style-type: none"> Effective and file-tuned learning environments, paths and tasks |

Only starting from teachers' groundwork the aim of the change of the mainstream schooling is possible: the *participatory culture* should begin from professors, who mould teachers into new *hybrid* ones, ready to prepare open-minded students for their acquirement of the skills of XXI century (p. [45](#)), because they have previously learnt in the same way, not simply the same things, one by one, to spread. Indeed, it is true that new curricula are expected for CLIL, but it is also sure that there are not enough trained teachers to conceive new ways and new environments to teach, and so to design collaborative curricula: it might be hard to lose the sceptre in their classrooms...

Building *communities of teaching and learning* would be the maieutic method suggested by the Departments of Education, in collaboration with those of Applied Linguistics, of specific subjects, FLs and experts of ICTs online tools. Pedagogical and instructional knowledge and experience are crucial to guide mixed-ability groups, as always at school, and to reach full inclusivity through the differentiation of strategies, which have to be the most important cultural baggage of whoever teacher, but in particular of the holistic CLIL teacher.

Making teachers experiment collaboration in all the phases of the CLIL implementation helps not only them, but in particular students, who can finally understand and acquire a multi-faceted culture, for which their own language and culture awareness is at the basis of their

opening to others and other cultures. This is why at school, and previously at University, teams would be as wide as possible, not of two people (i.e., FL and non-linguistic subject teachers), as suggested with the only concern of a FL improvement. If CLIL is an open and significant environment for learners, the more the teachers and guides/scaffolders are, other than subjects and FLs teachers, the richer the opportunities of knowledge and growth for students are developed. Indeed, FLs could take full advantage of translanguaging; teachers and students could use FLs or minority ones they know, enriching the tasks of multiculturalism; topics might be seen as multi-faceted and linked to many subjects, as they are; the evaluation can finally be funded on students' path, not on their performance in different subjects, and also on the emotive relationship with different teachers, who have to judge that performance. With this aim, teachers have to get used to sharing doubts and good practices, and mobilities are very important, starting from their pre-service training.

Regarding the building of materials which teachers have to do for CLIL, it is worth saying that, if it is really student-centred, input- and task-based, as seen in the first part, students have to work more than teachers. As a matter of fact, the latter have to plan, suggest, scaffold, and prepare rubrics for self-assessment and evaluation; whereas the former have to autonomously work to cooperatively learn and build through tasks concrete products. This is to highlight, because too often in the repositories of CLIL there are wonderful and complex products of teachers for students, not of students, so it is easily imaginable their workload and consequent lack of time. It is the instructional initial training, which has to promote this view and the use of multiple media for building materials, which at school fosters the transmedia inclusive education. In this regard, finally, it can be considered interesting the fact that in Italy it has been promoted by the Ministry (2015) "Bring Your Own Device" (BYOD), originally created by INTEL for its workers,

so as to make students use ICTs and to allow teachers to adopt an interactive method, although their dearth in schools.

To sum up, apart from the above suggestions for CLIL training at University in Table 8, Table 9 lists the here emerging results:

Table 9

Resulting suggestions for CLIL training and related advantages

| Suggestions | Advantages |
|---|---|
| Pre-service Techno-CLIL training at University | <ul style="list-style-type: none"> • Avoid traditional schooling and difficulties in instructional aspects, as traditional roles and evaluation |
| Cross-curricular multidisciplinary CLIL modules at University, in presence and/or online, using ICTs | <ul style="list-style-type: none"> • Participatory culture since pre-service training at University • Education of <i>hybrid</i> teachers with a CLIL holistic knowledge |
| Departments of Education promotion of CLIL degrees and training, but in collaboration with those of Applied Linguistics, of specific subjects, FLs and experts of ICTs online tools | <ul style="list-style-type: none"> • Holistic training of CLIL teachers • Acquirement of different approaches, strategies and tools for CLIL teaching |
| Collaborative learning by doing within lifelong learning | <ul style="list-style-type: none"> • Building of communities of teaching and learning at school • Networks of teachers, to share practices and materials |
| CLIL curricula | <ul style="list-style-type: none"> • New environments and methods at school • Student-centered strategies • Stressed European citizenship • Main importance of students' cognitive development • Competence-based evaluation |

| | |
|--------------------------------------|---|
| Team teaching (as wider as possible) | <ul style="list-style-type: none"> • Richer opportunities of knowledge and growth for students • Larger learning environments for students • Sharing of competences, skills and knowledge in teaching and evaluating |
|--------------------------------------|---|

Finally, there are indicated underneath detected fields of further researches:

- The results of this review have underlined the need of pedagogical and instructional knowledge, or refer to a generic “CLIL pedagogy” (e.g., Oxbrow, 2018), leaving implicit the pedagogical models in which CLIL is founded;
- Stakeholders and researchers have suggested training in FL teaching and linguistic approaches, but it did not emerge here which of them are linked to CLIL;
- ICTs are always stressed as highly relevant within the implementation of CLIL, although their relevance in the fields of *communication* and *cognition* (two of the 4 Cs, so amid the most important elements of CLIL) has not been specified yet. Further specifications concern as well if there are models for ICTs integration at school, that CLIL teachers should know, and if there are references, in the CLIL literature, of integrated active methodological approaches to suggest to teachers, useful for the embedded learning of content and FL;
- Do ICTs can be important also in FL competence and pedagogical preparation, though here not emerging, or do teachers consider them as an exclusive prerogative of theoretical experts (see p. [102](#) and [113](#))?

- Is team teaching an answer to the lack of knowledge in language acquisition (see p. [108](#))?

In the next section it is going to answer to the first three gaps, whereas the last two will be part of the empiric investigation of this research.

***THEORETICAL FRAMEWORK 3
PEDAGOGY, STRATEGIES AND ICTs FOR CLIL***

INTRODUCTION

This section is the theoretical preparatory part to the surveys, courses and observations related to third objective: looking for the best strategies and tools within the implementation of Techno-CLIL into History in the last triennium of Secondary schools (namely for 16-18 years old students). Indeed, it aims at making clear what have been considered as important points in CLIL training teacher, i.e. the rather generic pedagogy of CLIL and its instructional problems, concerning bilingual teaching. As a matter of fact, any CLIL course or implementation should be founded on this basis.

There are, actually, several points to analyse, after having reviewed the literature about the meaning of CLIL and how to prepare CLIL teachers. But the same CLIL literature, although not so wide in these particular fields, is called here to answer to the points below, presented in their general characteristics, then linked to CLIL exclusively according to the authors, in particular about relevant concerns, as pedagogies, linguistic approaches and integrated methodologies.

So, firstly, due to its relevance among lacks in the previous section (pp. [79-80](#)), it is to understand whether there is a precise CLIL pedagogy, or CLIL can be an *open and significant environment* in this field too, deriving from his linking content and language, namely merged pedagogies and methodologies. It is also to underline that the target of students taken into account is especially 16-18 years old.

The second point concerns technologies. Their importance has been subtended here before, but it is now crucial to explicit why using them in classroom for a deeper learning and more engaging lessons, or, better, for tasks.

Thirdly, there are to present the more opportune adopted methodologies in teaching History in a Techno-CLIL environment. As a

matter of fact, CLIL offers the opportunity to achieve high cognitive skills through a high demanding, but meaningful and engaging communicative environment in the classroom (see, for instance, p. [27-29](#)). With the addition of technologies, as it will be seen, this communicative environment is absolutely wider (Jauregi & Melchor, 2017), being open to infinite significant learning scenarios, which can take advantage of students' out-of-school communicative tools (such as social media), to online collaboration with schoolmates and all over the world, to autonomously search sources and create products of their meaning-making. There is not the pretension to be exhaustive about possible strategies, because teacher's creativity in their adaptation is sovereign, but to see in the literature what concretely means *ICTs*, the role that Web has to play at school, thanks to its powerful communication which students are used to, how to plan effective strategies and the more validated for CLIL.

Consequently, these topics have been conducted through narrative literacy reviews, with the aim to concretely plan what and how teachers might have to implement in their classrooms, which is the theme of the next empirical section.

1. CLIL and pedagogies

Analysing the literature about the adoption of CLIL, it is often said *CLIL pedagogy* or *CLIL pedagogical approach* to refer to its simultaneous educational dual focus in teaching and learning (e.g., Agustín-Llach, 2016; Davies, 2016; Oxbrow, 2018; Rubtcova & Kaisarova, 2016), thanks to its aiming at, and concretely supporting, a didactic innovation (Banegas, 2012). Sometimes, also the distinction from other bilingual educations is seen, by important field authors in CLIL, because it “planned pedagogic integration of contextualised content, cognition, communication and culture into teaching and learning practice” (Coyle et al., 2010, p. 6). Besides, recently the European Commission has included CLIL within modern pedagogical approaches to language development, highlighting that its “pedagogical goal is ... supported by the authenticity of the communicative situation” (Note, 2019, p. 28). On the other side, there are authors who call for CLIL assumption of bilingual pedagogies, considering bilingualism exactly as its prevailing aim. So they refer as specific for CLIL: codeswitching pedagogy (Gierlinger, 2015), translanguaging pedagogy (San Isidro, 2018), genre-based pedagogy (Morton, 2009; Morton & Llinares, 2017). But the perception of teachers is: “The CLIL methodology is useful to improve the students’ motivation in learning because it involves the use of different means of communication and it integrates a wide variety of pedagogical methodologies. The lessons built in this way are more interesting for students” (Gimeno et al., 2014, p. 110). Conversely, researchers report this as “pedagogical vagueness of CLIL” (Pérez, 2016a, p. 18). Indeed, “quality CLIL calls for innovative pedagogies, for a ‘new didactics’. Unfortunately, an agreement about what this ‘new didactics’ should consist of is still missing” (Martí & Portolés, 2019, p. 19). And “without understanding that CLIL is ‘a type

of instruction that fuses the best of subject matter and language teaching pedagogies' (Morton, 2010, p. 27) or by failing to see that multilingualism cannot be boosted without adopting a multilingual focus to additional language learning, quality CLIL will not be possible and the pedagogical potential of this teaching approach to content, language, cognition and culture will be irremediably wasted" (Martí & Portolés, 2019, p.28).

So it is important that pedagogies and methodologies linked to CLIL, as well as tools, come to light, especially in order to plan teachers training, so as to give them the opportunity, in their turn, to plan and implement CLIL "in more multi-dimensional terms – not in mere linguistic ones" (Ball, 2016), and "and select the pedagogical strategies and techniques that best fit the class' needs" (Guinda, 2013).

This is why a literature review appears here necessary, in order to highlight pedagogies, linguistic approaches and integrated methodologies linked to CLIL by the authors, briefly analyse them and finally underline the advantages of each of them in CLIL environment.

1.1 Social-constructivism

As seen (e.g., p. [25](#)), CLIL is founded on social-constructivism (Meyer, 2010; Muñoz, 2014; Nikula et al., 2013), as it gives an enormous importance to:

- the centrality of students in their acquisition, or better, their construction of knowledge, so their learning to learn (Shifflet & Weilbacher, 2015);
- the collaboration and cooperation among peers in a path of active and dialogic learning, with teachers in the role of scaffolders, to make them arrive to a metacognition, as the highest grade of knowledge (Callahan, 2013; Coyle, 2015; Mercer, 2001);

- communicative functions and language building in context (see [p 20](#)), as well as the importance of language, as the most important tool (see pp. [18-22](#)) (Mercer, 2001), in the same social-construction of different conceptual categories;
- cultural roots of students, so the awareness of their own language (Marsh, 2012) and culture, with the potential of “foreign language used opens a wide view to societies and cultures of other kinds, interpreted by the learners in very personal ways” (Jäppinen, 2006, p. 24);
- meaningful learning in diverse meaningful context for students, so stimulating emotions and, consequently, engagement in their personal meaning-making and cognitive challenge (Coyle, 2015);
- being task-based, for which students have to actively participate in groups to create concrete products of their assignments (Jäppinen, 2006), which should contain whatever iconic representation and speeches, oral and/or written, according to the Bruner’s three modes of representation (Tardieu & Dolitsky, 2012), other than the given importance to the narrative function. In this way, “school subjects have been compared to open windows on the world, ideal for observation, developing means of interpretation, and changing personal understanding” (Marsh, 2002, p. 77).

Jäppinen (2006, p. 24), distinguishing CLIL environments from the others of learning, underlines these four peculiar characteristics, in line with social-constructivism: “First, there is a large Zone of Proximal Development (ZPD)... That is, in order to be able to reach the upper limit of their learning potential the learners need a great deal of pedagogical help from their teachers and fellow-learners... The second characteristic is a complex interaction between social and cultural

factors related to two or more languages... The third characteristic is a learning process heavily related to discovery learning.... The fourth characteristic is a development of the learner's foreign-language competence that resembles, in many respects, the development of her/his competence in her/his mother tongue."

1.2 Genre pedagogy

Genre Pedagogy was born from social-constructivism, being based on cognitive educational developments, as the ZPD of Vygotsky (1978) and, above all, the Systemic Functional Linguistics (SFL) of the linguist Halliday (1993), for which contexts become linguistically and functionally crucial in the process of content and words meaning-making of students, who are involved by teachers in several educational activities in groups of discussions for the negotiation of meanings, from readings to autonomous writings. His SFL "emphasises the social functions for which language is used, not only at the level of grammar and vocabulary (or lexicogrammar in SFL terms) but also at the level of whole texts" (Morton, 2009, p. 2).

In particular, Halliday criticises the dichotomy of narrative and paradigmatic modes of *cognitive functioning* in Bruner (1990), which reach "distinctive ways of ordering experience, of constructing reality" (Bruner, 1990, p. 11) and, finally, bring to another dichotomy in the "educational knowledge", i.e. "the language of natural science and the language of the humanities" (Halliday, 2007, p. 370). But "in much of contemporary learning theory and educational practice in the West it is assumed that the narrative mode (in Bruner's sense) is somehow cognitively prior, and that common sense learning is overwhelmingly in terms of 'good stories'" (p. 372), whilst it has to been recognised to

them the same importance in the students' construction of reality, but different codes and genres. Indeed, "at the same time both learning language and using language to learn with", they so evidence that "...learning language and learning through language are just one integrated process – namely, learning" (p. 373).

Within CLIL, it is to recognise this pedagogy, widespread in Australia, as Australian is Marsh, its founder, in:

- the given importance to different subjects' specific literacy (Morton, 2009; Morton & Llinares, 2017), as the enrolment of different subject teachers for CLIL;
- the students' process of meaning, namely their simultaneous *learning language* and *learning through language*, like *learning about language*, because "language is the essential condition of knowing, the process by which experience becomes knowledge" (Halliday, 1993, p. 94), at the basis of the same concept of CLIL and interpreted in the Language Triptyc (Coyle, 2005; Julián-de-Vega & Fonseca, 2017) (infra, [p 20](#));
- allowing "for a genuine integration of language and subject matter content in that it provides students with the tools for moulding meanings in ways which are appropriate to, and valued by, the discipline they are studying" (Morton, 2009, p. 13; see also Nikula et al., 2013; Coonan, 2011): namely, "Content-focused teaching, without leaving formal aspects aside, is what CLIL can offer" (Muñoz, 2014);
- underlining the starting point of language awareness, both in teaching and learning (Morton, 2009; van Kampen et al., 2017), genre related (Marsh, 2002);
- being at the basis of Cummin's BICS and CALPS (see p. [28](#)), related to HOTS acquisition (Cummins, 2008; Vázquez, 2007);
- considering the classroom as a "the main (or even only) context for L2 use and learning" (Nikula et al., 2013, p. 87), as for L1

(Llinares & Pastrana, 2013) and every language repertoire itself (Cenoz, 2013), which is the design of the dynamic and significant community of teaching and learning in different subjects (Gierlinger, 2015);

- its grounding the Pluriliteracies Model for CLIL (Meyer et al., 2015), where two processes, the *conceptual continuum* and the *communication continuum*, are pedagogically strictly related in students' meaning-making, and mapped in multimodal contexts (infra, [p 34](#)).

Moreover, "CLIL researchers have used Halliday's (1978) three meta-functions of language (ideational, textual, interpersonal) to look at how learners construct content-relevant knowledge, organise their discourse, and evaluate aspects of what they are learning in both spoken and written production" (Morton & Llinares, 2017, p. 7). So, it can be said that this pedagogy can be at the basis of the CLIL evaluation too.

1.3 Competency-based Education

Competence-based teaching and learning firstly appeared in the Education field in the '70s in USA, then in Europe, as an answer to the request of the industrial background for efficient and well-trained workforce (Barbero, 2012), taking into account the psychological theory of *Multiple Intelligence* of Gardner (1983). Indeed, it recognises that students have various learning styles, but it is crucial that they practically demonstrate the acquisition of knowledge and skills together, as competences.

It is to be said that the meaning of competence and of competency-based education is not univocal, because it depends on the contexts

and professional field: “One person's playing of a piano piece, one person's operations plan, is by definition not exactly the same as another's, and cannot be fitted mechanistically to either a written list of criteria or to an exemplar” (Wolf, 2001, p. 465). So “competency... refers to an integrated set of skills, knowledge, and attitudes that enable one to effectively perform the activities of a given occupation or function to standards expected at school and later in public, in the private sector or for self-employment” (Mosha, 2012, p. 16). As seen (p. 40), the European Qualification Framework has unified the learning outcomes, indicating corresponding knowledge, skills and competencies per level.

What authors highly underline for this approach is the importance of the *backwards design* (Wiggins & McTighe, 2004), for which, in a student-centered process, learning outcomes are made explicit as first and personalised for students; secondly, assessment evidences, in positive, their progress and how to go on; only as last, depending on the previous ones, learning activities are given, in which there is a domain of cross-curricular topics as tools, through authentic tasks, for the acquirement of meaningful learning in context.

CLIL, in its literature, is close to this pedagogy⁵ in:

- planning through an implicit *backwards design*, so as to make students acquire HOTS in the Bloom's pyramid (p 26), as also in the Coyle 3 As tool (Coyle, 2005) (see p. 21) and in the Three-dimensional Model (Ball et al., 2015; infra, p 33), but, above all and explicitly, in the European Framework for CLIL Teachers Education (David Marsh et al., 2012) (p 36);
- learning flexibility (Barbero, 2012), determined by authentic contexts for students (Bauer-Marschallinger, 2019; Dafouz et al.,

⁵ Although all the points indicated for CLIL as part of this pedagogy are also attributed to others (e.g., for instance, its being task-based, common to social-constructivism), in the references they refer explicitly to competency-based.

- 2010), with the aim to obtain authentic learning from different perspectives (Dalton-Puffer, 2008; Marsh & Frigols, 2013), for which topics are tools for competencies acquirement and not learning aims per se;
- considering ICTs, as they provide important significative learning contexts (Jauregi & Melchor, 2017; Kalinichenko et al., 2019), linked to outside-classroom world (Ball, 2016);
 - being task-based and possibly laboratorial (Gabillon & Rodica, 2015; García Mayo & Lázaro, 2015; Jauregi & Melchor, 2017), with authentic materials (Banegas, 2012; Marenzi & Zerr, 2012) and communicative functional purposes (Dafouz et al., 2010);
 - consideration, in FL teaching and learning, for linguistic strategies of input/output (Agolli, 2015; Ball, 2016; Björklund, 2006; A. Fernández Costales & Lahuerta, 2014; García Mayo & Lázaro, 2015; Hillyard, 2011; Koopman et al., 2014; Marsh, 2002a; O'Dowd, 2018; Tardieu & Dolitsky, 2012), deriving from Cognitivism (Muñoz, 2014; Reitbauer et al., 2018), and in particular multimodal input (Gimeno et al., 2014);
 - view of teachers as facilitators of students' correctness of output through feedback, but which can be given among peers too (Björklund, 2006; Meyer & Coyle, 2017; van Kampen et al., 2017);
 - including, both for students and teacher training, project (or design) based approach (Arau Ribeiro, 2015; Barbero, 2012; Ebenberger, 2017; Halbach, 2016; Galés, 2018; Marenzi & Zerr, 2012; San Isidro & Lasagabaster, 2019), so as to modify the mainstream transmissive education;
 - student' engagement. Indeed, "authentic integration of content and language would mean that learners have a more active role in their learning of content" (Dafouz et al., 2010, p. 15);

- given importance to authentic evaluation (Lorenzo et al., 2010; Marenzi & Zerr, 2012), as at the basis of this pedagogy (Wiggins, 1992), seen as holistic and focused on the learning process, so that, through rubrics “and evaluation procedures, instruments, and criteria are diversified to guarantee a reliable assessment of the vast gamut of activities which are now developed in class and outside it” (Pérez, 2018a, p. 12).

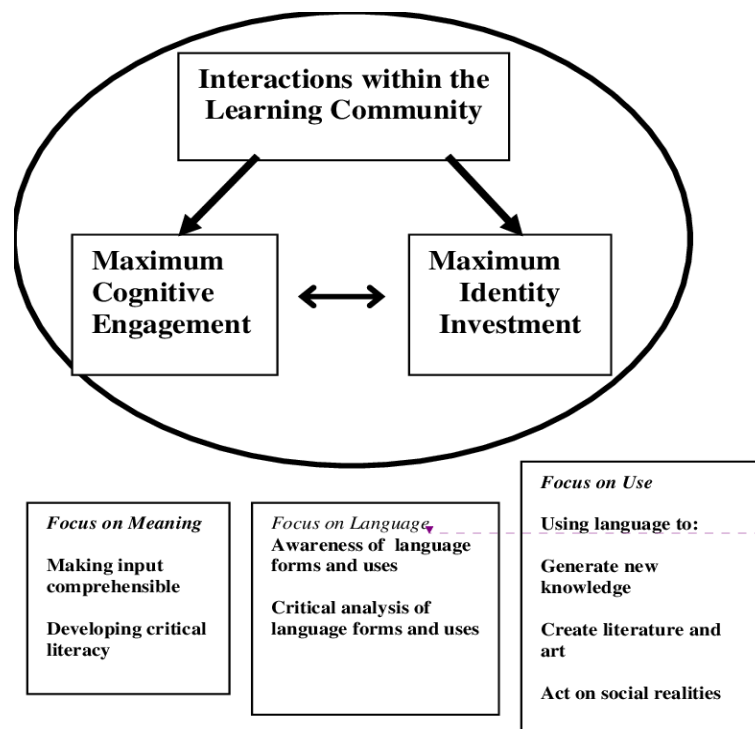
1.4 Transformative pedagogy

This pedagogy is born in the field of adult education. It underlines the importance of experience and contexts, from which the reflexion fosters adaptative learning during all life (Mezirow, 2003), as patterns of pragmatic rationality (Schön, 1983). It is on the cutting-edge in teacher training, so with whom has to deal with many didactical challenges all their work-life long.

But it is here interesting another field of involvement for this pedagogy. Indeed, “Cummins (2000) has called for a ‘transformative/intercultural pedagogy’ for language-minority students where students’ language and cognitive abilities are engaged in the learning process and where students’ identities are affirmed” (Navés, 2009, p. 28), so aiming at a greater inclusivity at school, starting from cultural awareness and respect of different cultures. Actually, he went further, explicitly referring to Freire’s approach (Cummins, 2000, p. 235), recalling Ada’s critical literacy framework in his framework for Academic Language

Figure 17

Cummins' framework for Academic Language development



Note: Reprinted from "Biliteracy, empowerment, and transformative pedagogy", by J. Cummins, 2000, p. 17, in J. Villamil and R. A. DeVillar (Eds), *The power of two languages 2000: Effective dual-language use across the curriculum*. McGraw-Hill School Division.

Retrieved from

<http://mpsportal1.milwaukee.k12.wi.us/portal/server.pt/doc/52025/Biliteracy+2.pdf>

Development within the Transformative Pedagogy, as Figure 17 shows. So, he highlights the positive outcomes of transformative pedagogy's programs in changing between educators and students "coercive relations of power" (p. 245), other than advocating collaborative ones. "Empowerment, understood as the collaborative creation of power, results from classroom interactions that enable students to relate curriculum content to their individual and collective experience and to analyse broader social issues to their lives. This process affirms and extends students' identities and at the same time develops the linguistic and intellectual tools necessary to collaborative critical inquiry. It is important to note that affirmation of identity is a critical

process that brings alternative perspectives into the open and encourages students to reflect on and evaluate their own experiences and beliefs" (p. 246).

For this pedagogy, teachers are practitioners-researchers like their students, who are "understood as whole persons with an identity as critical and intercultural target language users" (Farren, 2012, p. 17). They are all guided in their praxis, so in their modification of reality in taking critical decisions (Freire, 1972), by moral values, which are deeply culture-informed, but with a pretension of interculturality, as a wide citizenship, thanks to "the dynamic nature of cultures" (Barrot, 2014, p. 441).

Referring to CLIL, this pedagogy is reflected in:

- the given importance to Culture, as "a deepening awareness and positioning of cultural self and otherness" (Coyle, 1999, p. 53; *infra*, pp. [29-31](#)), which is derived from the complex context (other peculiar concept of this pedagogy) of plurilingualism of the classroom, herald of critical accidents for reflection to go on. Indeed, "studying a subject through the language of a different culture paves the way for understanding and tolerating different perspectives" (Coyle, 2002, p. 28);
- the participative role of teachers, as for social-constructivism, as mediator within the dialogue in the classroom, namely a cooperative community of practitioners-researchers, so as to bring students to their autonomy in meaning making and of citizens (e.g., *infra* p. [55-57](#));
- strategies as codeswitching and translanguaging, normally not included in bilingual education at school, but highly inclusive and attributing the same value to different languages (Cinganotto, 2016; Julián-de-Vega & Fonseca, 2017; Nightingale & Safont, 2019; Oattes et al., 2018);

- using meta-cognitive and socio-affective strategies (González Davies, 2016), as fostering favourable outcomes (Dalton-Puffer, 2008), given that the learning process necessarily involve social, emotional and meta-cognitive needs (Marsh, 2012);
- adopting collaborative and self-assessing strategies, as critical and reflective practice for the common good (Farren, 2012), to make students acquire transversal skills (like critical-thinking, leadership, and adaptability) and literacies (like in ICTs, and cultural/civic ones), spendable during all their lives, preparing them to Life Long Learning, as the more important skill of XXI century (p. [45](#)).

1.5 A CLIL pedagogy or pedagogies for CLIL?

The above pedagogies, and only these, are explicitly linked to CLIL in the literature, other than generically also to FL teaching and learning, like others. The given analysis of the CLIL pedagogical tenets clearly shows that there is not a specific CLIL pedagogy, but that it takes advantage from other pedagogies, which are merged in their convergent characteristics. Indeed, there is no “pedagogical vagueness” (Pérez, 2016a, p. 18), but, in line with the perception of teachers, an integration of diverse pedagogies, which enhances students’ motivation (Gimeno et al., 2014).

It is important, so, that an effective CLIL training makes explicit the different pedagogical opportunities, with their source and their related concrete outcomes within students. This implies that teachers, in the awareness of these opportunities, choose their line of implementation, founding it on their classroom’s characteristics and on the goals that students have to reach. Indeed, if some core aspects (as its being:

student-centered, so flexible for learners' needs and engaging; task-based through students' collaborative strategies; multiculturally informed; founded on communicative opportunities, deriving from the embedding of content and target language, as well as interactive contexts; with an authentic evaluation of students' paths of construction of meaning and cognitive growth) and outcomes (plurilingualism, deep understanding of content, collaborative skills, autonomy in studying and working for tasks, critical skills, self-assessment, pluriculturalism and European citizenship) are unavoidable, because at the basis of CLIL, there are others that can be considered only if they come to light in a deeper teacher training, but likewise important for both teachers and students. They are:

- addressing to the classroom reflective practices and metacognition, in the aim of the achievement of multicultural Life-long-learning skill, in CLIL more than in other environments;
- seeing students as capable of real contribution to the community, as practitioners-researchers, not only as learners, so able to participate to plan activities, and create and share materials, as well as teachers and with teachers, contributing to solve their lacks of time and in CLIL specific materials (see pp. [109-110](#));
- the use of Project-based approach, to better achieve collaborative critical thinking;
- the use of ICTs and laboratories, to widen authentic contexts and learning;
- cross-curricular and transmedia tasks, to enhance communication's value and adopt holistic visions of topics through diverse tools and fine-tuned for each student, as active contributor of content creation.

The holistic vision of topics, finally, requiring a strong collaboration among teachers in teams, has been recently considered as essential for CLIL, with the adoption in Finland of Phenomenon-based learning,

which aims at a change of the mainstream schooling, with separated subjects, for an inquiry-based education (Symeonidis & Schwarz, 2016), now under experiment by Marsh in Finland (<https://davidmarsh.education/a-signature-pedagogy/>).

Finally, it is now clear that this never-ending research in the pedagogical setting for CLIL should be meant to its being addressed primarily to offer an always better learning environment, for which the awareness of teachers of the opportunities given by these pedagogies is crucial to achieve the due change of traditional education.

2. Linguistic approaches and methods

It is now useful to have a look to the widespread linguistic approaches and methods of the XX century (Balboni, 2002), adopted in any teaching and learning L2, because they determine for CLIL concrete strategies and choices of tools for this goal (which will be illustrated here, in paragraph 4), according to the above pedagogies.

Essentially, in chronological order, they are (Balboni, 2002; Richards & Rodgers, 1986; Schmid, 2012):

- 1) The Direct method (or, better, approach), for which the L2 is acquired through authentic environments and materials, preferably orally, in the same way but in absence of MT, for which grammar is inductively known, the accent is put in pronunciation and the aim is that students think in FL. Teachers are mother-tongue and give input and feedback to students, using conversations, dramatizations, visuals and gestures.
- 2) The (American) Structuralist approach, teacher-centered, for which learning an L2 derives from the passive students' exposition to continuous stimuli-responses-reinforces through

taxonomic pattern drills in linguistic laboratories (Audio-Oral Method), with the aim of understanding and speaking.

3) The Communicative approach, inductive and learner-centered, for which is crucial the communicative competence, not only the linguistic one, taking into account also socio-pragmatic functions of FL and underlining the importance of curricula and threshold levels. Teachers, experts of strategies for language teaching, are guides and tutors, who embed FL to culture, civilisation and social rules of the foreign language country, often through videos, in didactic units. Two derived methods are to cite:

- the "Situational", which highlights communicative contextual learning, but including structuralist technics for grammar, such as pattern drills;
- the "Notional-Functional", which has the aim to reach authentic communicative goals in different contexts, included in social-linguistic FL curricula, articulated by functions, namely universal communicative aims. The most used technique is role-playing.

4) The Affective Humanistic approach, inductive and centred on student's particular learning needs and process, in which emotional and affective factors are taken into consideration, so as to remove anxiety and promote motivation and collaboration. Language and culture awareness are crucial starting points for the pragmatic aim of FL. Teachers are guides and scaffolders, fostering students' motivation in a serene environment (e.g., through the "Silent Way" method), which gives value to multiple kinds of learning, often through problem solving technique. According to this approach, Krashen and Terrell (1983) developed the "Natural Approach method", focused on the importance of input/output and on removing affective filters, so as to achieve logic and holistic learning and, above all, communicative skills. It suggests the activities of content-based

categories (particularly readings), of students' affective-humanistic sharing, of games and of problem solving, as facilitating the acquisition of FL.

2.1 CLIL and its relationships with linguistic approaches and methods

It is not to discuss here whether CLIL is an approach or a method, as already done before (see pp. [13-15](#)), arriving to the conclusion that its "multifaceted vision dependent on different perspectives... makes it rather difficult to provide a straightforward definition" (San Isidro & Lasagabaster, 2019, p. 1) and that the attribution of different meanings concerns each perspective, due to the fact that the tenets of them are not unambiguous.

Undoubtedly, CLIL makes large use of all the approaches above, as the literature demonstrates, thanks to its conceptually and educationally large adaptability to teacher previous training and skills, as well as to different students and classrooms requirements. In particular, there are evidenced below the CLIL inherited points by the listed approaches and methods:

- 1) Direct method/approach: CLIL always recognises the importance of authentic materials and environments in FL learning (Banegas, 2012; Gabillon & Rodica, 2015; Kovacikova & Luprichova, 2018; Lancaster, 2016; Marsh et al., 2012; Meyer, 2010; Pérez, 2018; van Kampen et al., 2017), although welcoming the introduction of new tools, thanks to ICTs, to create them (Cinganotto et al., 2017; Durán & Beltrán, 2016; Jauregi & Melchor, 2017; Kalinichenko et al., 2019; Marenzi & Zerr, 2012; Milla & Casas, 2018). Besides, it takes advantage from the involvement of

different subjects as different environments with peculiar academic languages (e.g., see p. [16](#) and [19](#)), as well as the contribution to the non-formal FL, deriving from peer/group working for tasks (e.g., see p. [102](#)). But it distances itself from using only the target language, giving importance to strategies such as codeswitching and translanguaging, aiming to an improvement also in L1 (Gierlinger, 2015; Julián-de-Vega & Fonseca, 2017; Meyer, 2010; Oattes et al., 2018; Pérez, 2016) (infra, e.g., p. [101](#) and [108](#)). Indeed, it is well-recognised the impossibility of learning L2 at school as a MT (Balboni, 2002), though the immersive context of topics and subjects can bring students close to it (Lorenzo et al., 2010), exactly through conversations, dramatizations, visuals and gestures (Julián-de-Vega & Fonseca, 2017; Pavón & Ellison, 2013), suggested by this approach.

- 2) Structuralist Approach: CLIL is not generally in line with it, in particular with its being teacher-centered and its assumption that students are *tabulae rasae* (Balboni, 2002, p. 237). Nonetheless, it is to admit that the sequence stimuli-responses-reinforces is reproduced into the common bilingual strategy input-output-feedback, accepted as valid by FL and CLIL teachers, as researchers (Nikula et al., 2013; Pavón & Ellison, 2013; van Kampen et al., 2017). Moreover, pattern drills are often included in CLIL activities (Gutiérrez et al., 2012), albeit only as part of larger tasks, in particular by FL teachers in laboratories, for their given importance to pronunciation and to tests, for the assessment of FL competences. Indeed, pattern drills are by far used for preparing and acquire FL European certifications (Breeze & Roothoof, 2014).

3) Communicative Approach: CLIL definitely takes part in this approach (Agustín, 2017; Banegas, 2012; Lancaster, 2016; Marsh, 2012; Meyer & Coyle, 2017; Olivares & Pena, 2013; Pavón & Ellison, 2013; Pérez, 2018), which derives from the Direct in its giving high importance to authentic *context*, term which has renamed *situation* of this approach, for language learning. Yet the focus is not changed: students have to reach not only FL competence, but, above all, the communicative competence, crucial for CLIL too (e.g., see pp. [20](#) and [27-29](#)), as the remarked embedded importance of foreign countries' culture. According to this approach, socio-pragmatic functions of FL are taken into account also for CLIL (Guinda, 2013; Nightingale & Safont, 2019) and accuracy is functional to achieving pragmatic goals, such as learning different subjects and/or topics in different perspectives, determined by different languages (Agustín, 2017). This is why it is highly recommended to establish new curricula for CLIL (Coonan, 2012; Czura & Papaja, 2013; Marsh et al., 2012; Meyer et al., 2015), which consider threshold levels of embedded content and FLs, in line with this approach, which does not turn its nose up to the inclusion of pattern drills too. As a matter of fact, those levels can be now recognised in the "Common European Framework of Reference" (CEFR) for Languages learning, teaching, assessment, which, at the moment, is not evenly applied in European schools. In Italy, for example, it is required the B2 level in the four competencies (Writing, Reading, Listening and Speaking), as minimum, in at least one FL to all students who finish Secondary schools, and the C1 to FL and CLIL teachers (in Spain, the B2). Besides, didactic units, derived from this approach, can be useful to team teaching, and, at least, in microteaching, as transversal

opportunity for holistic and transmedia learning (Lorenzo et al., 2010; Pérez, 2018a, 2018b; Tardieu & Dolitsky, 2012).

- 4) Affective Humanistic approach: As for the previous approach, with which it is often integrated (Balboni, 2002; Richards & Rodgers, 1986), the communicative competence is the aim, but through focusing more on students' different learning styles, so on each student in particular. This is why within CLIL tasks, in particular if CLIL is adopted as task-based (Meyer, 2010; Muñoz, 2014), there are quite often cooperative group or peer works (e.g., Marenzi & Zerr, 2012), in which teachers decide the contribution every student has to give in the construction of final learning products, in the respect of the inclusivity of students' diverse skills, personalities and learning styles (Arau Ribeiro, 2015; Arnold, 2010; Gimeno et al., 2014; Marsh, 2012; Pérez, 2018a; Pistorio, 2009). And this is also why evaluation for CLIL is both crucial for students' growth and difficult to put into practice correctly (Maggi, 2012). Indeed, it is far from what commonly happens in the mainstream European Systems of education, because the latter certify the achievement of knowledge and too often of performances, whilst CLIL, through rubrics, takes into account the particular growing path of every student, aimed at HOTS and competences through knowledge (Llinares & Dalton-Puffer, 2015; Maggi, 2012; Marenzi & Zerr, 2012), in the awareness of the importance of removing the anxiety of FL performances (Doiz et al., 2014; González Davies, 2016; Marsh, 2002; Novotná et al., 2001), which can happen also thanks to CLIL focus on content (Biçaku, 2011; Nieto, 2017). Indeed, motivation is one of the keys of CLIL (Oxbrow, 2018), both for students and for teachers (Arribas, 2016; Coyle, 2013; Doiz et al., 2014; Lancaster, 2016; Milla & Casas, 2018), and evaluation becomes so an opportunity to go further for every

participant to the classroom community, in a serene environment. To achieve this result, teachers' input should be diversified and multimodal, in order to be understandable and engaging for all (Gimeno et al., 2014; Jerez, 2016; Meyer, 2010; Meyer et al., 2015; Moore & Dooly, 2010), according to this approach, as well as related to output of students, in order to adequately scaffold them in their learning paths. Least but not last, activities such as problem solving (Arau Ribeiro, 2015; Barbero, 2012; Bauer-Marschallinger, 2019; Coonan, 2011; Coyle, 2015; González Davies, 2016; Guinda, 2013), extensive reading (Cinganotto et al., 2017; Pokrivčáková, 2015; Straková & Sepešiová, 2015), gamification (Jauregi & Melchor, 2017; Julián-de-Vega & Fonseca, 2017; van Kampen et al., 2017), in cooperation or collaboration, are definitely in line with the suggestions from the Natural Approach method.

In order to make clear how these linguistic approaches are related to the pedagogies considered in the previous paragraph, in order to be included in teachers' training, due to their representing the essential background of a conscious CLIL teachers' planning for appropriate CLIL strategies in different contexts, Table 10 schematises them, to give an overall picture, according to the literature:

Table 10

Overall scheme of CLIL linguistic outcomes by linguistic approach, related to pedagogies and strategies

| Linguistic Approach (L.A.) | CLIL linguistic outcomes per L.A. | Related pedagogies | Suggested strategies by L.A. |
|-----------------------------------|---|--|--|
| <i>Direct</i> | 1) FL competence through authentic environments and materials (ICTs tools too) | Social-constructivism : a, b, c, d Genre: b, c Competency-based: a, b | a) Peer/group working for tasks for non-formal FL b) Multi-disciplinary topics of different subjects/Diverse academic languages c) Immersive context of topics and subjects d) Conversations, dramatizations, visuals and gestures (input and feedback) |
| <i>Structuralist</i> | 1) FL understanding and speaking | Competency-based Genre | a) FL laboratory and input/output/scaffolding techniques |
| <i>Communicative</i> | 1) Communicative competence (situational learning) 2) Multi-culture embedding (socio-pragmatic functions) 3) Threshold level of embedded content and language, included in CLIL curricula | Social-constructivism : a, b, c, d for 1) and 2) Genre: a, b for 1), 2) and 3) Competency-based: b, d for 1), 2) and 3) Transformative: b, c, d for 1) and 2) | a) Role-playing b) Multi-disciplinary team-teaching for didactic units/Microteaching/Transmedia activities c) Codeswitching and translanguaging d) Evaluation rubrics |

| Linguistic Approach (L.A.) | CLIL linguistic outcomes per L.A. | Related pedagogies | Suggested strategies by L.A. |
|-----------------------------------|--|--|--|
| Affective Humanistic | 1) Communicative Competence, respecting students' learning styles (inclusivity and autonomy) 2) Logic and holistic learning 3) Motivation and engagement 4) Language and culture awareness (FL pragmatic functions) 5) Removing affective filters in FL learning | Social-constructivism : a, b, c, d, e, f for 1), 2), 3), 4) and 5) Genre: d for 4) and 5) Competency-based: a, b, c and f for 1), 3), 4) and 5) Transformativ e: b, c, e, f for 1), 2), 3), 4) and 5) | a) Peer/group cooperative working for tasks (cooperative task-based) b) Problem solving c) Multimodal input/output/scaffolding , as well as game-based d) Content-based activities (e.g., Extensive Reading), linked to c) e) Codeswitching and translanguaging f) Evaluation of students' paths and their self-evaluation, linked to a), c) and d) (metacognition) |

As it can be seen in table 10, there are not univocal answers to make students achieve CLIL linguistic outcomes. It depends on the choice of teachers, on how they think their students can be concretely engaged to achieve their linguistic outcomes according to their attitudes, learning styles, skills and relationships in the classroom. But merging pedagogies and linguistic approaches should be done in the awareness of their different opportunities, linked to students' needs, and the chosen content. Indeed, it is surely different, for instance, to put into practice a microteaching or a cross-curricular topic, because the same implied language changes. Moreover, every seen pedagogy can add suggestions of strategies, taking into account that language and content for CLIL are aimed to make students achieve cognitive skills, other than communicative ones (see, e.g., pp. [24-27](#)).

Summing up, it can be said that CLIL proves to be open to welcome and merge all the four above linguistic approaches, embedding them in different pedagogical aspects of likewise pedagogies. Consequently,

it is a significant student-centered environment, rich of authentic opportunities for teaching and learning, but it seems to be now clear that CLIL cannot be defined as an *approach* or a *method* (see pp. [13-15](#)), due to its lack of peculiar pedagogic and linguistic characteristics. On the other hand, it is peculiar its simultaneous teaching and learning of content and FLs, based on the seen pedagogies and approaches, through methodologies which adopt regular use of ICTs and online tools. So, it is here opportune to found their involvement.

3. Why Technological CLIL?

As this research focuses on Technological CLIL, namely on a particular kind of CLIL with a huge use of ICTs and online tools, it is necessary to start from the theoretical tenets of this choice, so as to arrive to adequate teaching and learning strategies, always linked to what before analysed.

As seen before (pp. [27-29](#)), Communication, one of the 4 Cs at the basis of CLIL, if media-enriched, is promoted by a highly engaging environment for students, and Computer or/and Mobile Assisted Language Learning (CALL or MALL) have been adopted within FL lessons (Cinganotto, 2017), modifying the role of teachers and of students' tasks in the classroom (Marsh, 2012).

CLIL, in its taking advantage of technologies to offer wide opportunities of authentic communicative environments (e.g., p. [126](#)), authentic communication in larger contexts than classrooms (e.g., p. [55-57](#)), authentic and various engaging tasks (e.g., p. [24-25](#)), in its aim of inclusivity for all students (e.g., p. [104](#)), so as to make them enhance their cognitive skills and competences, should consider ICTs as integral part of its implementations. This is why CLIL teachers should acquire,

in training, the precise acknowledgement of these potentialities, not remaining in a vague referring to the use of ICTs as a panacea. Only in this way their use might be really and thoroughly put into practice with students, and effective.

So, it is now to see the influence of the internet and ICTs on Education, but, before this, on students' communication and learning styles, which concerns the same definition of Technological CLIL, as well as frameworks for the pedagogical use of ICTs, and methodologies to adopt, as suggested by the CLIL literature.

3.1 Communication's revolution and School

In the first part of this research, Communication is equivalent to Interaction (p. [24](#)), shared with peers and teachers (p. [27](#)), involving Information and Communication Technologies (ICTs) to foster together content and language (Marsh, 2002; Oxbrow, 2018) (infra, p. [27](#)). In the belief that these are tools which determine new learning context and authentic environments for students, it is now to deepen new communicative roles deriving from Web 2.0 and 3.0⁶, and how School is involved in this social change. Indeed, the Web gives many opportunities to deeply modify the traditional schooling, according to students' lives, interests and communicative new ways, which School seems to not fully welcome, as it will be seen.

⁶ Actually, we are almost at 4.0, namely founded on symbiotic and also emotional interaction between people and technologies, but it is not still involving the educational field.

3.1.1 Web 2.0⁷ and 3.0: a revolutionary communicative change.

In a famous analysis of his age, McLuhan's *Understanding Media: The Extensions of Man* (1964), comparing media, tools and technology to extensions of modern men, wrote, in a sort of prediction of Web 2.0: "Today... we have extended our central nervous system itself in a global embrace, abolishing both space and time as far as our planet is concerned. Rapidly, we approach the final phase of the extensions of man - the technological simulation of consciousness, when the creative process of knowing will be collectively and corporately extended to the whole of human society, much as we have already extended our senses and our nerves by the various media" (Introduction). This is exactly what World Wide Web (Web) 2.0 figuratively is, initially thanks to the spread of broadband connection for the Internet, which allows dynamic communication amid participants to this massive social platform, as well as available and modifiable content, through devices day-by-day smarter, namely intuitive and rich of media (telephone, TV, internet, etc.). Since its comparison in the 1994, Web, and in particular Web 2.0 (from 2000), has created open social and personal content-enriched networks, such as blogs, wikis, newsletters, and so on, in line with the original intent of the same creator of it, Tim Berners Lee: "The Web is more a social creation than a technical one. I designed it for a social effect - to help people work together - and not as a technical toy. The ultimate goal of the Web is to support and improve our weblike existence in the world" (Berners-Lee & Fischetti, 2000, p. 123). This is the core of the global society of the second millennium, or "global village" (McLuhan, 1964), which perceive time and space,

⁷ "Web 2.0, as a term, was first introduced by Dale Dougherty (O'Reilly Media) in 2004 during a conference where new ideas were discussed for the next generation of WWW" (Vagelatos et al., 2010).

relationships, knowing and also living quite differently from before, and according to McLuhan's speech. He also said: "Physiologically, man in the normal use of technology (or his variously extended body) is perpetually modified by it and in turn finds ever new ways of modifying his technology" (p. 55). Indeed, it is what happened: who was an identifiable consumer, or user, acquires now with producers interchangeable and interactive roles, at the point to become a *prosumer*, so active and with the pretension to participate to his/her economic, social, learning life.

To do this, namely to arrive to participate to what can be seen as contemporary world-wide, or better *spreadable*, and accessible culture, it is to accept a never-ending process of personal and common process of construction of meaning, based on interpretation and re-thinking of content, on the personal own culture (Jenkins et al., 2016). It is the *participatory culture*, i.e. "1. With relatively low barriers to artistic expression and civic engagement 2. With strong support for creating and sharing one's creations with others 3. With some type of informal mentorship whereby what is known by the most experienced is passed along to novices 4. Where members believe that their contributions matter 5. Where members feel some degree of social connection with one another (at the least they care what other people think about what they have created). Not every member must contribute, but all must believe they are free to contribute when ready and that what they contribute will be appropriately valued" (Jenkins et al., 2006, p. 7). Participatory culture is essentially rooted in Computer-, now also Mobile-, mediated Communication CMC and MMC), whose activities consists of creating, manipulating and sharing information through ICTs, in a transmedia navigation, through which who contributes, and everybody can, takes part to the transmedia storytelling, diving in its convergence culture (about these Jenkins' concepts, see González-Martínez et al., 2018).

But, to reach it, all prosumers have dealt firstly with the process of digitalisation of content, which has merged different systems of texts and meanings (oral, visual, audio, interactive, etc.), easily reachable through search engine; then with technological and digital convergence, for which a prosumer is able, through a single device, as communication medium, to receive and share content of different nature and often multimedia, that is a real cultural transformation, based on the continue circulation of content and related culture through digital media (Jenkins, 2006), within the global hypertext of Web.2.

It can be said that the Lévy's "collective knowledge, impossible to gather together into a single creature" (in Jenkins, 2006, p. 28) is an always active puzzle of multiple User-Generated Content (UGC), whose main characteristics are their creative effort, out of professional routine or activity, and published in an online context like a site or a social network (OCSE definition: OECD, 2007, p. 124). Actually, these are the roots of the stigmergic collaboration, for which, as by termites for their nest, is possible, in a global vision, the creation of complex massive-collaborative structures, like, for instance, the encyclopaedia "Wikipedia" (whose logo is an always incomplete puzzle of the world,

Figure 18

Logo of Wikipedia



Note: Reprinted from File:Wikipedia-logo-v2.svg,in Wikipedia, Retrieved 20/02/2020 from <https://it.wikipedia.org/wiki/File:Wikipedia-logo-v2.svg>

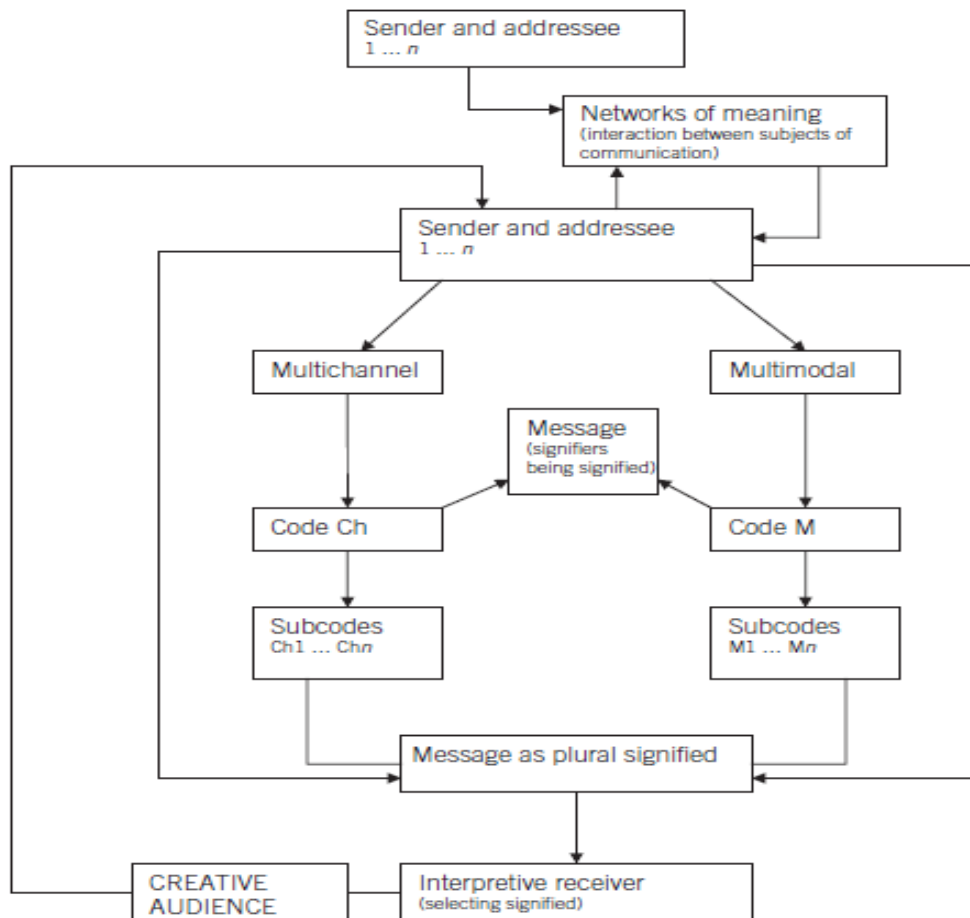
Fig. 18), great example of the so-called *Swarm Intelligence* (Beni & Wang, 1989). And this is the Jenkins' picture of the network society, according to Bruns (2008): "Built on technical affordances that encourage iterative approaches to tasks, fluid roles and a lack of hierarchy, shared rather than owned material, and granular approaches to problem solving, network society encourages collaboration on projects by a 'hive' community. This community creates through an 'ongoing, perpetually unfinished, iterative, and revolutionary process of gradual development of the informational resources shared by the community'" (Jenkins et al., 2013, p. 184).

In this network society, world-wide commerce and industries, as well as media companies, have changed their approach and communicative rules, although they surely have largely contributed, having huge economic interests in it and perhaps representing now the highest threat to democracy, not only online. But it happened a real revolution for all people, who constitutes a global audience, i.e. *consumers of media*, and, in their turn, they can have a global audience for their content, which is multimodal and multichannel, so with a plurality of meanings to be interpreted, in personal ways, by receivers. (Castells, 2010). Figure 19 shows this in the Castell's framework of creative audience.

Indeed, on the one side, in particular social media (Facebook, Youtube, Instagram, etc.) give all people the opportunity to actively create content, addressing it and, at the same time, receiving in multidirectional communicative flow, also through new styles (likes, emoticons, and so on), as "horizontal networks of communication built around people's initiatives, interests, and desires are multimodal and incorporate many kinds of documents" (Castells, 2010, p. 67). On the other side, there are always interpersonal ways of communication, other than sorts of new "autistic" manners, called by Castells "mass self-communication" (Castells, 2010, p. 55): "mass... because it can

Figure 19

Castell's communication framework of creative audience



Note: Reprinted from *Communication Power* (p. 131), by M. Castell, 2009, Oxford University Press. Copyright 2009 M. Castell. Retrieved from <https://courses.helsinki.fi/sites/default/files/course->

potentially reach a global audience... At the same time, it is self-communication because the production of the message is self-generated, the definition of the potential receiver(s) is self-directed, and the retrieval of specific messages or content from the World Wide Web and electronic communication networks is self-selected." This is present above all in *vertical networks*, hierarchical for control of people and content, such as blogs. All the three kinds of social networks are often related and connected each other in some social media, due to the economic power of some of them, aimed to control opinions and choices in advertising and politically orient people. Apart from this, too

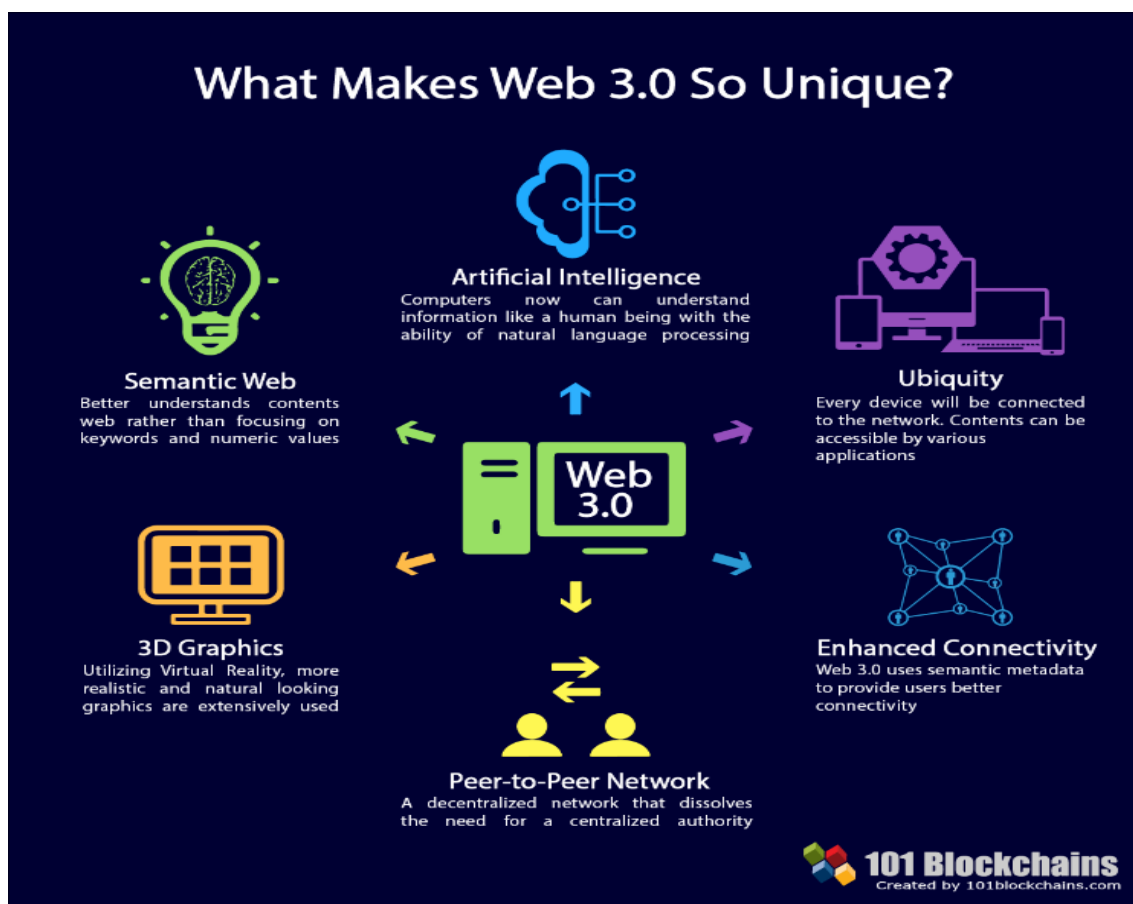
often the virulence of one's published contents in social media is seen as personal success, but highly risky for his/her Web reputation, other than of other involved people (Castells, 2010; Jenkins et al., 2013).

It is worth saying that a step further within Web 2.0 is represented by the diffusion of wireless connection, for which "Wireless communication has become a delivery platform of choice for many kinds of digitized products, including games, music, images, and news, as well as instant messaging that covers the entire range of human activity, from personal support networks to professional tasks and political mobilizations. Thus, the grid of electronic communication overlies everything we do, wherever and whenever we do it... The key feature of wireless communication is not mobility but perpetual connectivity" (Castells, 2010, p. 69).

Actually, it is this kind of connectivity at the ground of Web 3.0 (2006), which takes into account particularly the interaction person-machine, ignored by 2.0, but about which many different perspectives with no general consensus have been opened by historical protagonists of Internet. They are summed up so by Yang, co-founder and chief of Yahoo!: "The power of the Net reached a critical mass, with capabilities that can be done on a network level. We are also seeing richer devices over last four years and richer ways of interacting with the network, not only in hardware like game consoles and mobile devices, but also in the software layer. You don't have to be a computer scientist to create a program. We are seeing that manifest in Web 2.0 and 3.0 will be a great extension of that, a true communal medium...the distinction between professional, semi-professional and consumers will get blurred, creating a network effect of business and applications" (as cited in Shubert, 2008, p. 87). Indeed, grounding Web 3.0 there is, thanks to the spread of optical fibre, so through new spider connections, a deeper participation of people to *Big Data*, i.e. links to massive quantity of Web data through algorithms for complex analysis,

Figure 20

Characteristics of Web 3.0



Note: What Makes Web 3.0 So Unique?, by 101blockchains.com. Retrieved 20/02/2020 from <https://101blockchains.com/web-3-0-blockchain-technology-stack/>

so as to obtain predictive interpretations, largely used for commerce as well as in other fields, such as gaming.

Essentially, the main characteristics of 3.0, promoted also by the same inventor of the other Webs, Berner Lee, are, as in Figure 20:

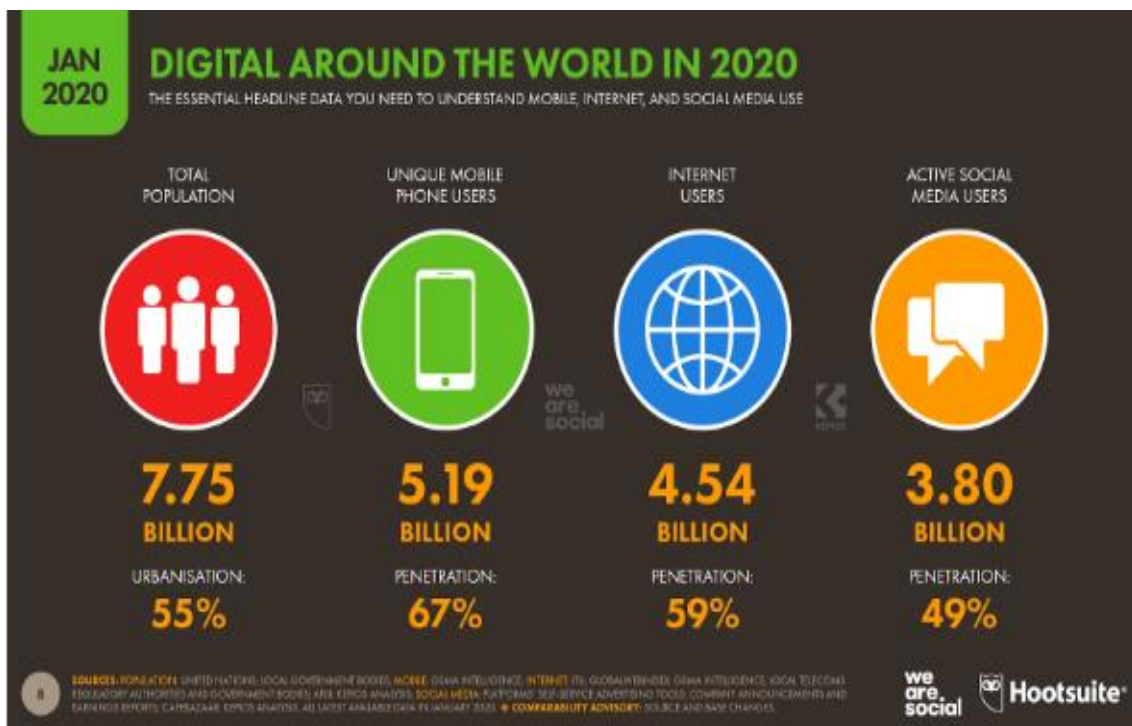
- Semantic Web, a database including data mining, so as to make deeper and more accurate user's data research, as a huge vertical network, through logic methods, even though statistics takes part to it in order to take commercial advantage;
- Artificial Intelligence, highly connected to Big Data, which allows asking and finding information using natural human language, through browsers and web-based software;

- New 3D environments, whose application in Education and training is largely realised through open-source software of games, taking part of *Edutainment*⁸ and its *Mass Communication Game*⁹.

This reality, attractive because engaging, has involved every aspects of human life, at the point that, founded on Web 2.0 and 3.0 and changed from its use, there are traditional institutes, which take the same indication of the Web, such as School 2.0. and 3.0.

Figure 21

Statistic report on digital worldwide spread in 2019



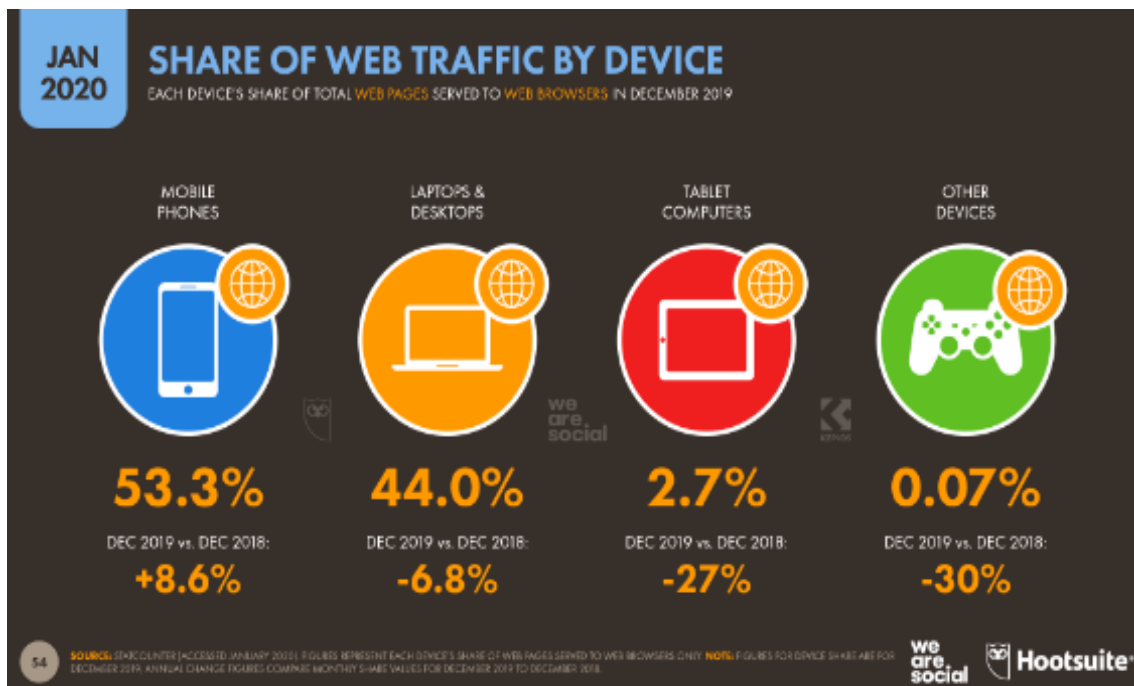
Note: Reprinted from datareportal.com, by Hootsuite & We Are Social (2019), "Digital 2019 Global Digital Overview," retrieved from <https://datareportal.com/reports/digital-2019-global-digital-overview>.

⁸ "Edutainment is a derived word that states a mixture of entertainment and education or marriage of education with Entertainment... The first person who first suggests the idea of edutainment is Robert Heyman from American National Geography Academic Union" (Aksakal, 2015).

⁹ This kind of simulation-games includes participants in an online environment/community, in which, through various roles to take, they, learning by doing, are active members of the collaborative know-how required by problem solving. It is the basis of 3D environments.

Figure 22

Web traffic per device in 2019

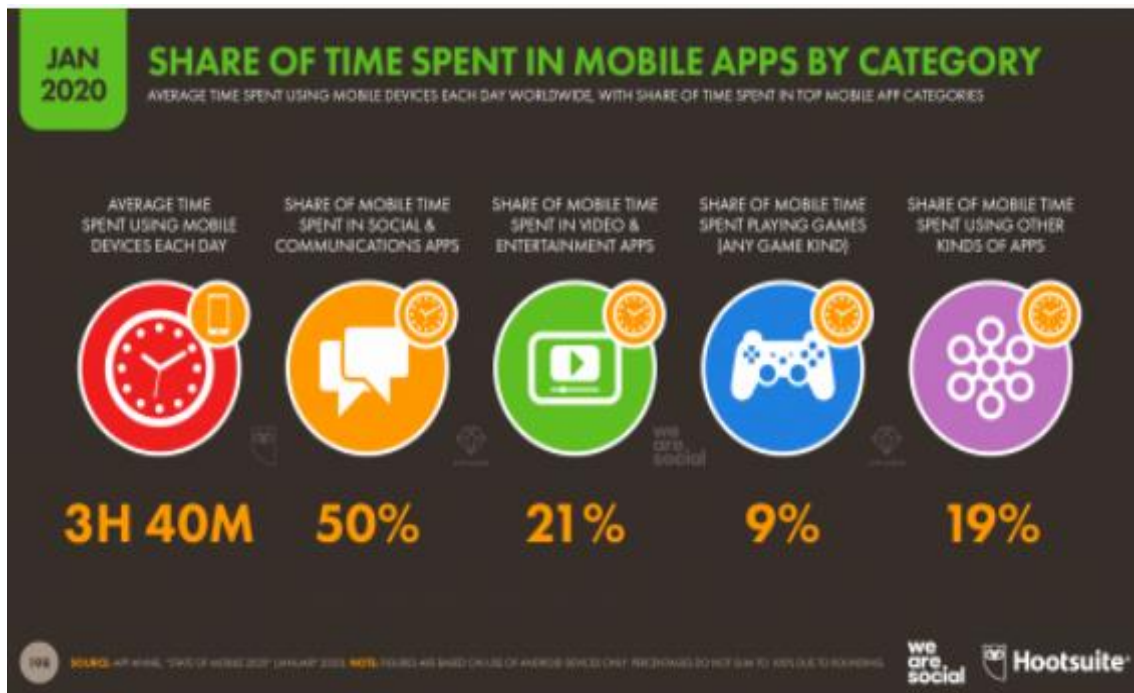


Note: Reprinted from datareportal.com, by Hootsuite & We Are Social (2019), "Digital 2019 Global Digital Overview," retrieved from <https://datareportal.com/reports/digital-2019-global-digital-overview>.

But, before having a look at School's changes, according to Web novelties, it is useful to take into account update information about the spread of Internet, the most used devices and platforms, from the site www.wearesocial.com, which annually publishes its report. Firstly, it refers that "The number of people around the world using the internet has grown to 4.54 billion... The average internet user now spends 6 hours and 43 minutes online each day... People use different devices at different times and for different needs, ... mobile phones now account for more than half of all the time we spend online" (Figure 21). As it can be seen also in Figure 22, "Roughly half of the 3.7 hours that people spend using mobile phones each day is spent using social and communications apps, meaning that these platforms account for the same share of our mobile time as all of our other mobile activities put together".

Figure 23

Time spent in mobile apps per category (2019)



Note: Reprinted from datareportal.com, by Hootsuite & We Are Social (2019), "Digital 2019 Global Digital Overview," retrieved from <https://datareportal.com/reports/digital-2019-global-digital-overview>.

Finally, it is worth illustrating the percentage per category of Apps in Figure 23, and, being social media in general so widespread, what trend they show. Indeed, it should be taken into account in fields as education and its own communicative method. For instance, it is relevant that the 90% of people says to watch videos online and that, according to this percentage, Facebook and Youtube are the most common social apps. These data underline also that the multidirectional communicative flow is by far prevailing in the user's choice, taking intrinsically with them possible threats, in particular for adolescents, like, as said, web reputation or political advertising.

3.1.2 Instructional opportunities and challenges of Web-based communication

After having sketched what Web 2.0 and 3.0 are and how they are modifying our lives, there are to understand what instructional opportunities they offer, as communicative challenges to the entire educational system (and that Techno-CLIL should welcome, as founded in the communicative empowerment).

Nothing better than Figure 24 can illustrate how is real what above described, and that it is not only a theory. Indeed, the present generation of students is highly immersed within the Web and this image shows how their mobile phones are physical “extensions” of their senses for them, thanks to a continuous progress of technologies (according to McLuhan, 1964), at the point that their emotions (smiles, interest, worries) are shared with the massive platform of Web, not directly with their close peers. It can be said that the Berners Lee’s *social intent* for the Web, namely to create “web-like existences”, is definitely reached (see p. 150), as well as the McLuhan’s “global village” (see p. 153), on which students’ *participatory culture* is based

Figure 24

Group of teenagers interacting through mobiles



Note: Reprinted from Datoteca, in *Wikipedia*, n.d.. Retrieved 30/03/2020 from

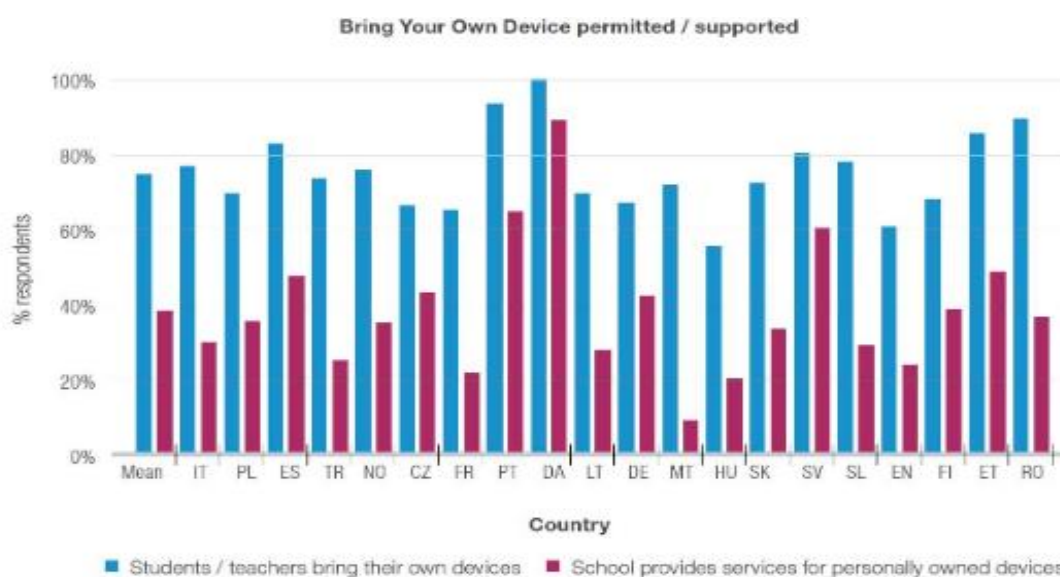
<https://sr.wikipedia.org/sr->

[el/%D0%94%D0%B0%D1%82%D0%BE%D1%82%D0%B5%D0%BA%D0%B0:Distracted_by_Phones.jpg](https://sr.wikipedia.org/sr-el/%D0%94%D0%B0%D1%82%D0%BE%D1%82%D0%B5%D0%BA%D0%B0:Distracted_by_Phones.jpg)

(Jenkins et al., 2006). It also gives important opportunities to didactics. Indeed, in the countries' and schools' policies, too often mobiles are not seen as they are for students, i.e. as an essential part of their bodies, and their use is not permitted in the classroom, because of considering only their negative impacts in the researches, and not how it could depend on teachers' low competence on their instructional use (Derounian, 2017). Actually, the introduction at school of the broadband, at the basis of the interconnectivity of Web 2.0, as seen, is one of the main strategic objectives for 2025 of the European Commission (<https://ec.europa.eu/digital-single-market/en/broadband-strategy-policy>) and, finally, can conduce to the *perpetual connectivity* (Castells, 2010, p. 69) of Web 3.0 at school, with any device, but in particular with the preferred by anyone (see Figures 21 and 22): the mobile phone. And BYOD (see p. 123), which promotes all over the world the use of personal devices at school to concretely take pedagogical advantage of ICTs, trying to fill the lack of them at school, is adopted in almost all Europe, as Figure 25 illustrates. Some European countries have taken part to pilot projects for new pedagogical practices (gaming, tablet computing, etc.), fostering the

Figure 25

Graphic of BYOD in the European countries



Note: Reprinted from "The School IT Administrator: Analysing the profile, role and training needs of network administrators in Europe's schools", by R. Blamire and J.N. Colin, European Schoolnet Report 2015. Retrieved from <https://fcl.eun.org/byod-europe-world>

idea of this technology-enhanced learning "as a potentially more sustainable funding model than national, regional or school level procurement and replacement of computers" (<http://fcl.eun.org/byod-europe-world>). It might foster also a larger cooperation at school, as at European or world-wide level too, if adopted in workgroups.

Indeed, if schools have to prepare students for the outside-school, and not only transfer teachers' knowledge, they should allow their students' management of devices, and guide them to an instructional use and scaffold their participatory communicative skill for their cognitive growth.

As seen, the participatory culture has precise aspects (see p. 157), which are innate in teenagers (Prensky, 2001): although not forced to contribute to online content with personal UGC, they really think that it matters, in particular in social media (see, p. 162), which make feel them interacting with a wide audience, given that the more common

apps concern communication (see Fig. 23). With this audience, of which they are part, youngsters share their personal creativity with pleasure with almost no barriers, but also learn and critically choose where they can insert their contribution to this transmedia act of world-wide vitality. As a matter of fact, this creative audience, which is born from the pre-millennial network society, that always takes part to the hive community, should be encouraged to express itself at school, not denied, so causing the feeling, for instance, of subjects as History as far from their reality of co-constructors of content, needing new strategies and new tools for their learning (Krutka & Carpenter, 2016). This is why the analysis of what they are, namely prosumers who constantly experience the transmedia networked society (see p. [154](#)), and what Web offers (in the sense of wide interaction with peers and experts, collaborative practices as peer-to-peer, engaging strategies, in particular through visuals, tools as apps; but also of a diverse perception of time and space distance, thanks to the ubiquity of Web 3.0, the value of an enhanced creativity and the same desire to be involved in the web-community) should be considered as vital for any schooling now, but above all for the open and significant environment of Techno-CLIL. And the multi-directional communicative flow, as well as the “mass-self-communication” (Castells, 2010; *infra*, p. 135), as normal communicative ways for students’ daily lives, should be the communicative starting points amid the teaching and learning community of the classroom.

So, the advantages in integrated learning to take into account in teacher training and in the classroom, both formal and informal, that Web 2.0 and 3.0 offered and offers to School 2.0, according to what highlighted in the previous paragraphs, are:

- Active cultural participation of students, thanks to student-centered methodologies, which allow and encourage their different

learning styles and multitasking, giving value to each of their original participation and so to digital democracy and adaptive learning;

- Personalisation of knowledge, due to students' personal management of content, namely their choice of sources amid massive data, though guided, and subsequent construction of meaning through transmedia and cross-curricular topics;

- Active content creation, through interactive multimedia tools for the students' creative contribution to digital open resources;

- Wide opportunities of stigmergic collaboration for specific purposes, both strictly with classmates for tasks, and with other people all around the world, thanks to social media and networks;

- Ubiquity, which fosters students' global citizenship and might breaking down barriers like racism and particularism, but which also changes the same space at school, anymore closed within classroom's walls, in the way to plurilingualism and multiculturalism;

- More authentic learning environments, also 3D (as "Second Life" taught) or through Augmented Reality (AR), for various contexts, in which students can engage themselves in problem-solving and learning by doing in communities of peers, with entertaining strategies, but also taking advantage of a challenging evaluation of paths;

- Social connections, which lead to new creative communicative expressions of beliefs and emotions and appropriate to diverse sensitivity, and signs of a participatory sharing culture;

- Different perception of time, which goes beyond which is given at school, because of continuous opportunities for interacting on socials and tools for collaborative Education, thanks to digital convergence;

- Development of students' tools, like Social Software (blogs, wikis, sites, etc.), as well as smart apps, being they simultaneous consumers and producers;

- E-learning platforms (as Moodle, Edmodo, etc.), so as to involve all students, including to the learning community, for instance, who is forced to stay at home, in the respect of the learning time of anyone, and giving parents the opportunity to participate to their offspring's path of learning.

All these great innovations often collide with teacher's training and perceptions, which does not allow a deep change in schooling, leaving all these opportunities only to pilot projects. As a matter of fact, "educators do not ponder enough over how technology can help students actively construct their knowledge and over the reflection process in their own learning" (Garcia-Esteban et al., 2019, p. 3), scarcely using CMC, blogs, wikis and generally technology-enhanced teaching (Lancaster, 2016; Pérez, 2018b; Redecker, 2009) and with lack in preparedness and experience to use ICT for pedagogical purposes (Bueno et al., 2018; Redecker, 2009).

This is why can Technological CLIL success in education and foster a deep change in traditional education, only if CLIL teachers are trained starting from the potential of ICTs and its communicative awareness, which raise the significance of the same CLIL environment. Some evidences of it will be offered from the empirical part of this research.

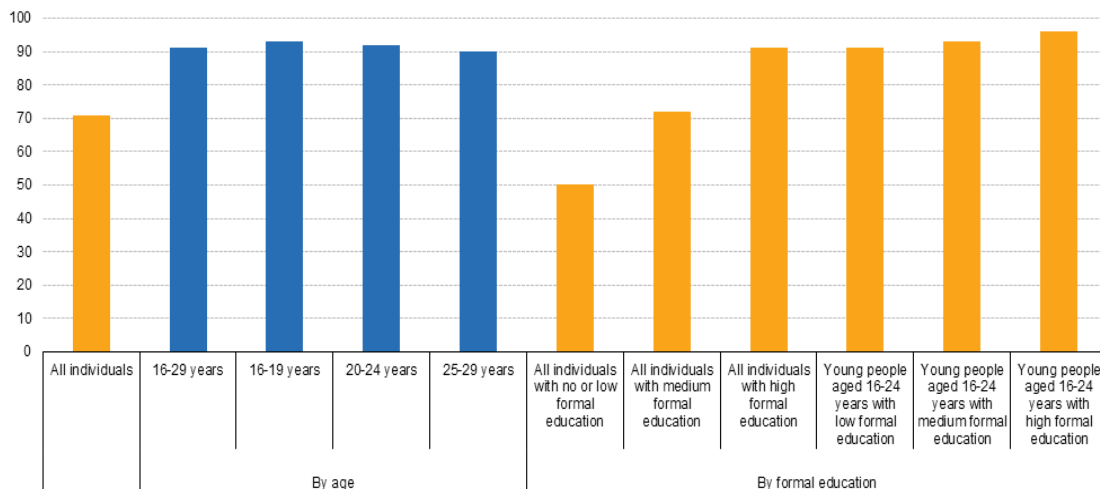
3.1.3 Internet and social media amid young people

The description of what has been happening in the last twenty years in the always belated education at school is to start with relevant data about the widespread diffusion of Internet amid adolescents, as well as about their participation to social media.

Figure 26

Graphic of daily use of the internet by age and formal education

People who used the internet on a daily basis, by age and by formal education, EU-28, 2016
(% share)



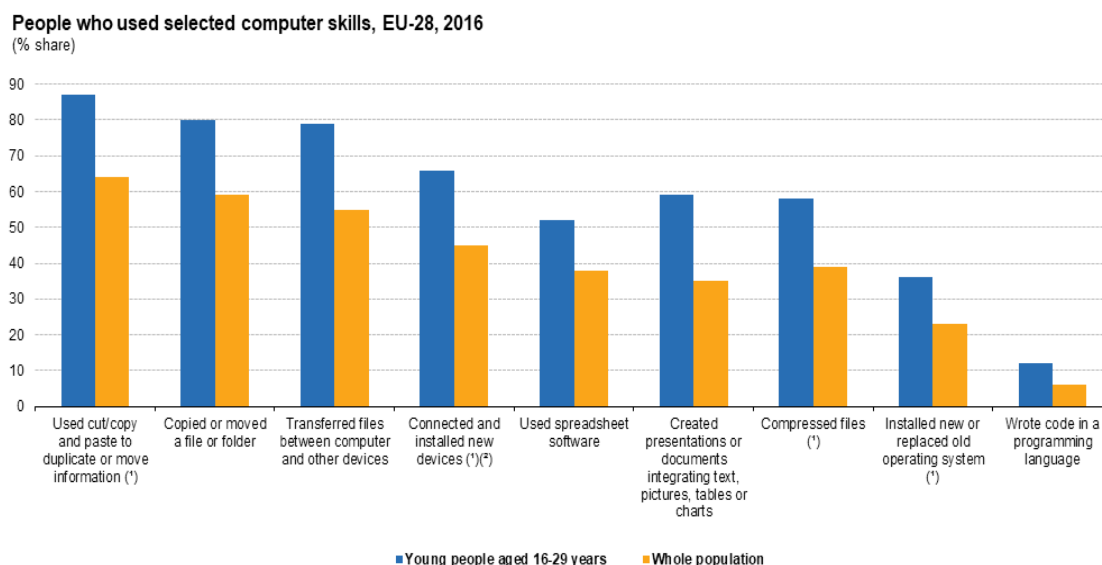
Source: Eurostat (online data code: isoc_ci_ifp_fu)



“In 2016, more than 9 in 10 (91 %) young people in the EU-28 made daily use of the internet, this was 12 points higher than the share recorded five years earlier. Young people made greater use of the internet on a daily basis than the average for the whole of the EU-28 population (71 % in 2016)” (https://ec.europa.eu/eurostat/statisticsexplained/index.php/Being_young_in_Europe_today_-_digital_world#A_digital_age_divide), regardless of regional differences. Precisely, the graphic from Eurostat 2016 in Figure 26, with the more recent official European data, shows that 93 % of young people aged 16-19 years made daily use of the internet, so the highest average among young people; which decreases in case of lower formal education. According to Eurostat 2016, 38% of them uses internet at a place of education, although their use of household internet results definitely higher than within the older, as

Figure 27

Graphic of selected computer skills in ICTs' use by young people and the whole EU population.



(*) 2014.

(*) For example a printer or a modem.

Source: Eurostat (online data code: isoc_sk_cskl_i)

eurostat

well as 83 % made use of mobile phones to access the internet away from home.

Quite often, post-Millennials, or Gen-Z¹⁰ are defined as Digital Natives too, due to the fact that they often start managing digital devices being aged 3 and that 45% of 13-17 year-olds say they're online almost constantly and are "native speakers" of the digital language of computers, video games and the Internet" (Prensky, 2001). But Eurostat data, as in Figure 27, reveal that technical internet skills, for instance using coding, are not widespread among young people (16-29 aged), as well as, although scoring better, basic internet skills, as creating multimedia presentations or zipping files for peer-to-peer sharing.

¹⁰ They are two of the most common definitions to indicate who was born after 2000 (Schwieger & Ladwig, 2018).

It can be so said that as young people as the older have important skills to acquire for their life on the web, for their management of information and, in particular, for coding, although the former score better in every field.

As seen, for all people in general social media take the larger part of internet connections, but, 68% of 16-18s says that they use social media while watching TV, so with contemporary consumption of media. This results also from GlobalWebIndex Q4 (2018), whose world-wide survey, commercially aimed, gives a clear imagine of the motivators which involved them in social media (Figure 28).

It is now clear that the ancient latin *ludendo docere* can be always considered as valid for education at school, although communication and roles have been absolutely changing. Indeed, if students act in different environments of social media, as they do act, their digital normal language, way of interact and communicative competence should be at the basis of their education. It has to be recognised that

Figure 28

Social media motivators



Question: What are your main reasons for using social media? Source: GlobalWebIndex Q4 2018

Note: Reprinted from *GlobalWebIndex Q4 2018*, by globalwebindex.com. Copyright 2018 by GlobalWebIndex. Retrieved from <https://blog.globalwebindex.com/trends/teenagers-and-social-media/>

the “biggest problem facing education today is that our Digital Immigrant instructors, who speak an outdated language (that of the pre-digital age), are struggling to teach a population that speaks an entirely new language...”, and that Digital Natives “often can’t understand what the Immigrants are saying” (Prensky, 2001, p. 98). Furthermore, these are often multitasking (Paoletti, 2015), which “can be described as the ability to accomplish ‘multiple task goals in the same general time period by engaging in frequent switches between individual tasks’ (Delbridge, 2000, p. 1)” (König et al., 2005, p. 244). So, tasks are not accomplished sequentially, but answering to simultaneous, various and multimedia inputs, taking into account individual attentional capacity, familiarity with the same tasks and “working memory”, namely “the system of the brain that permits the storage and processing of information needed in the execution of tasks”, which “incorporates the older construct of short-term memory... but also consists of an active system responsible for the executive control of cognitive processes” (König et al., 2005, p. 245). It is a new kind of being for youngsters and partially for adults, which determines new learning styles, incremented by large exposure to media (Redecker, 2009). Starting from this awareness in the design of CLIL lessons might be the key of students’ involvement and engagement in new schooling.

3.1.4 School 2.0 and 3.0

It is now to briefly have a look at the concrete situation of schools, in order to see if it took up the challenge of Web 2.0 and 3.0, taking these same indications of 2.0 and 3.0 as symbols of modernity, and if there are important lacks to highlight. A general glimpse is given in particular to Italy, where the empirical part of this research was conducted.

When Tim Berners Lee said that “the Web is more a social creation than a technical one” (infra, p. 118), he was explaining the core of Web 2.0, but it could not happen without the technical existence of devices and the Internet. Indeed, as seen in the second part, by now there is still lack of ICTs availability, sometimes both at school and in private contexts of students and teachers, which makes difficult the development of technological skills and digital literacy, as well as Computer Mediated Communication (CMC) with its enhanced sociality (Pérez, 2018a). So, the seen inclusivity, born from the participation to the networked society of the Web, at school is still to create, in the awareness that this lack could increase the so-called Digital divide, i.e. “the economic, educational, and social inequalities between those who have computers and online access and those who do not” (Merriam-Webster online dictionary). It is a particularly serious problem, in the consideration that many students might achieve their digital competence, and other goals through it, only at school, due to their cognitive poverty or of status. As Education in general, CLIL implementation, so, should be aimed at filling, as much as possible, this gap, adopting strategies such as BYOD (see p. [123](#)), which allows collaborative interactive practices among students.

Nevertheless, it is to recognise that big efforts have been doing since 2000 in this sense by European and International Institutions, through their funds, to buy ICTs for schools¹¹, in particular Interactive Whiteboards (IWB), and activate firstly broadbands and then optical fibre, though in 2015 in Europe “the percentage of schools that provide services beyond basic connectivity is... just 38%”

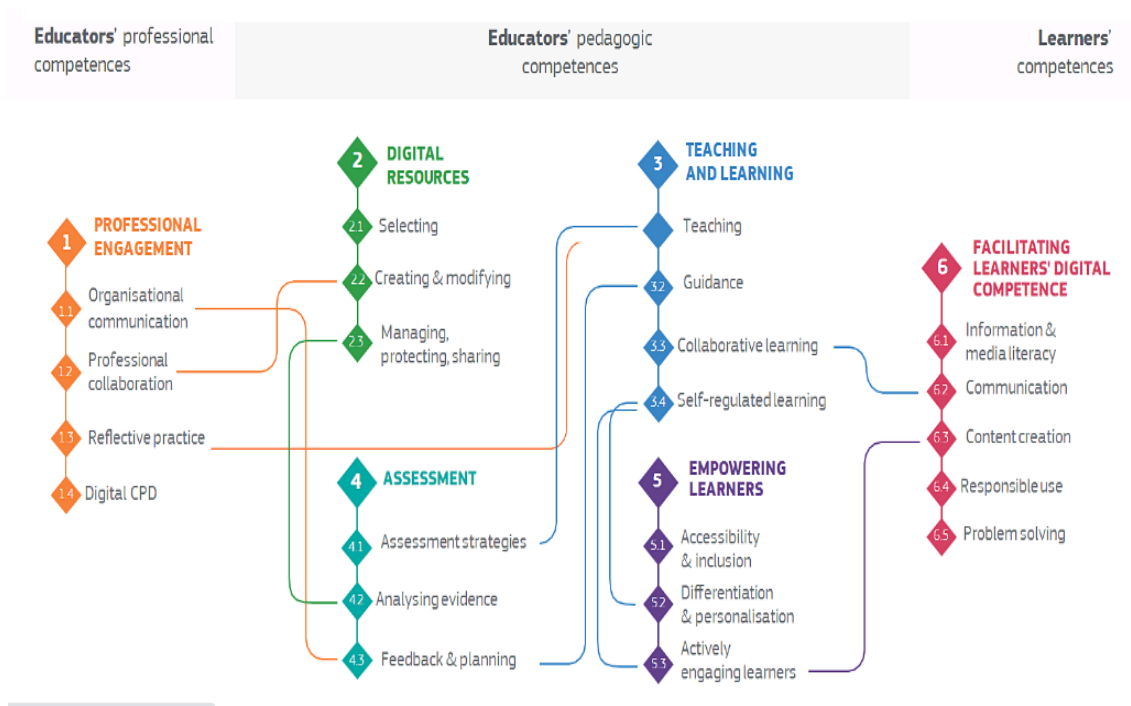
¹¹ “In Italy we can remember L. 53/2003; L. 240/2010; L. 107/2015 and two Digital School Plans that tried to define a different educational model. The first one (2008) focused on four lines of action: the adoption of the Multimedia Interactive Whiteboards in the classroom; the promotion of Class 2.0; Digital Publishing and the School 2.0: the second one (2015) focused on infrastructure; training for teachers; content and skills for students and accompaniment” (Capogna, 2016).

(<http://fcl.eun.org/byod-europe-world>). In Italy, for instance, every school has now at least a computer laboratory and there is a computer and an IWB in every classroom. But whilst ICTs are really recent in some schools and might include 3D printers, AI tools and 360° full-equipped ICTs classrooms, many institutes have too old computers, often broken or do not supporting a fast connectivity, when present (Capogna, 2016). Furthermore, the latter situation is likely to be where not all students afford their own devices.

This picture is to take into consideration, so as to calibre tasks aimed at inclusivity in digital competence and its literacy too. Indeed, “technology is and must be a transformative element in our schools... Whereas previously, we came to school because the teacher was there, now we come to school because we are all there together. Technology can allow us to embrace a more finely honed sense of community in our schools” (Lehmann & Chase, 2015, p. 58). But being “all there together” concerns the changed role of teachers, as a scaffolder or a facilitator within modern student-centered methodologies, whereas before as the main character of Education, but which is going to be a belated happening (A. Y. L. Lee, 2016). Thus, it is necessary, for teachers, and for CLIL teachers in particular (Aguilar, 2012; Marsh, 2012), to start from this awareness, so as to self-evaluate at what point they are in their digital skills and their further steps, according to their students’ required goals.

Figure 29

DigCompEdu framework



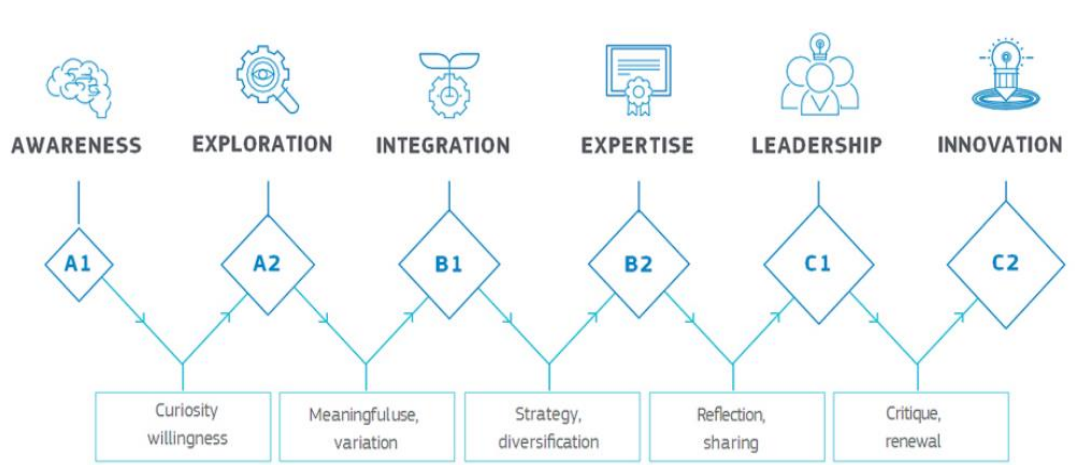
Note: Reprinted from "Digital Competence of Educators", by European Commission, 2017, p. 8. Copyright 2017 by European Union. CC-BY 4.0

In order to facilitate this training process, the European Commission has published a framework for educators of all levels and contexts (Commission European, 2017), also non-formal, as a model for their digital competences: the DigCompEdu (Figure 29).

"The main objective of the proposed DigCompEdu progression model is to support continuous professional development. It is not intended as a normative framework or as a tool for performance appraisal" (Redecker, 2017, p. 28). It includes six areas for 22 competences, whose levels of acquisition are labelled as in CEFR, from A1 to C2 as in Figure 30, whose "descriptors are intended motivate educators at all levels to positively appreciate their achievements and to look forward to expanding them further" (Redecker, 2017, p. 28). So, teachers have to improve their digital competences to make students achieve XXI century skills (p. 45) and competences, which can be easier through

Figure 30

Digital competence levels for the DigCompEdu



Note: Reprinted from "Digital Competence of Educators", by European Commission, 2017, p.

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active student-centered pedagogies and methodologies, in a participatory environment of teaching and learning, within which communicative skill and media literacy are meant to be always in progress for all the stakeholders of education. And these European tools of self-evaluation and of how schooling happens with students should be part of teachers' path in the scholastic environment.

All above is valid in general, but in particular for Technological CLIL, given that it is a holistic open environment, which tries to change and update schooling and the same Education, according to real students' needs and to what Web and socials offer to common life, and taking advantage of new educational active methodologies. So, CLIL teachers are called to massively involve the use of ICTs, but accurately planning tasks for the community of the classroom, according to its digital competence level, in an inclusive but demanding way.

It might be useful an example. According to the framework, an A2 level is the minimum for a teacher to actively participate to a digital activity with students (before there is only the starting awareness, not being able to it). At this level, teachers can not yet have acquired a reflective

practice (1.3 of Professional Engagement, first area), but they can select and modify Digital Resources (second area, 2.1 and 2.2), teaching (third area, 3.1) taking into account the existence, not personally created, of assessment strategies like rubrics (fourth area, 4.1), and adopting learning collaborative practices such as peer/group work (third area, 3.3) in BYOD modality, like online platforms (Edmodo, Teams, etc.), to foster the access, so the inclusion (fifth area, 5.1), of everyone to information & media literacy (sixth area, 6.1), communication (6.2) and content creation (6.3), which is, as seen, highly engaging for students (fifth area, 5.3). Planning in this way, despite the low level of teachers' digital competence, make them and students involved in a common enhancement of communication, knowledge, literacies, skills and well-being at school, according to this example, which is definitely to bring to teachers' attention and experiment in classroom. Consequently, this is what has been initially proposed to the teachers involved in the action-researches, after the evaluation of their digital competence, and reported in the empirical part of this thesis.

3.2 Models for teachers' use of technologies at school

Before treating educational methodologies, fitting for CLIL and which make use of technologies, according to the literature, it is important to sketch through two models how teachers can be guided and trained on their integration of technologies. Indeed, after the awareness and the incitement to go further of the above DigCompEdu framework (see Fig. 29), the models presented underneath contribute to correctly integrate technologies for educational purpose. These are the concrete suggestions that should be taken into account by teachers in planning and implementing CLIL through technologies, which was done during

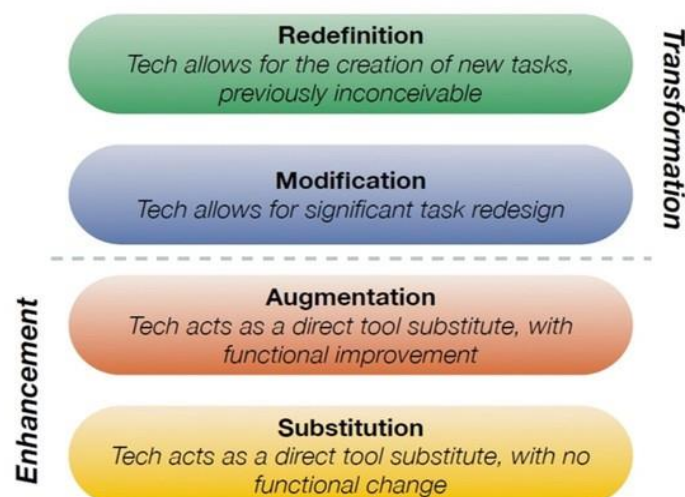
the teachers short training for the empirical part of this research, so as to arrive to the design of some models for CLIL History teachers.

3.2.1 SAMR Model

It is a theoretical model, developed by Puentedura in 2009, whose aim is to facilitate the didactical integration of technologies. SAMR means Substitution, Augmentation, Modification, Redefinition, namely four levels of technologies' integration within the process of teaching and learning. The first two levels represent the phase of Enhancement, whereas the last levels the phase of Transformation (Fig. 31). This model has been interpreted as hierarchal and linked by the Bloom's taxonomy (p 26), even though it is not explicitly a progression to the "best" enriched-technology for teaching/learning, but a tool which concerns the effectivity of technologies involved in tasks (Hilton, 2016), according to Bloom's thinking skills, as also Carrington's

Figure 31

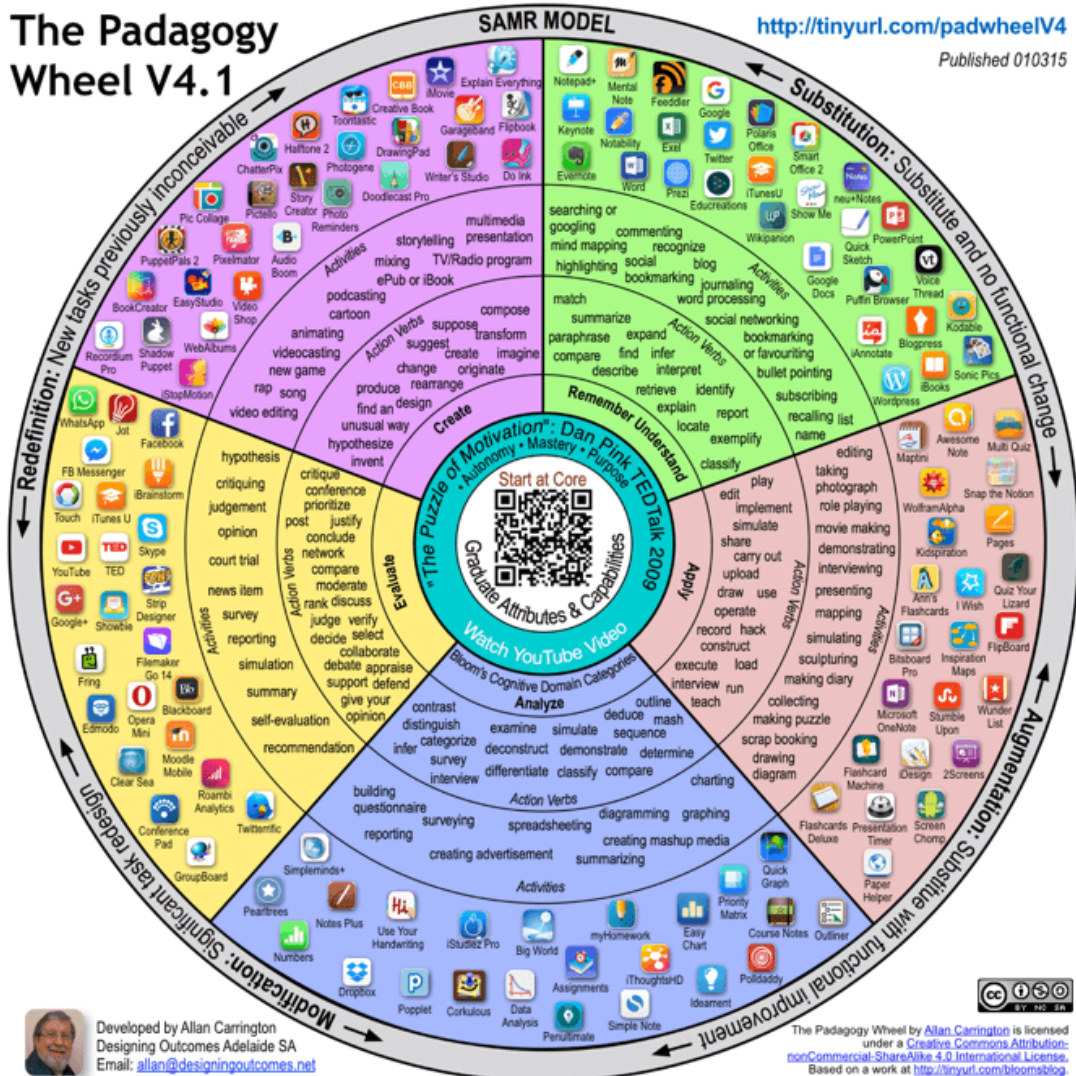
SAMR model



Note: Reprinted from "The SAMR Model", by R. Puentedura, 2006, www.hippasus.com, CC-BY. Retrieved from <https://www.schrockguide.net/samr.html>

Figure 32

The Padagogy Wheel



Note: Retrieved from <https://designingoutcomes.com/the-padagogy-wheel-its-a-bloomin-better-way-to-teach/>

Padagogy¹² Wheel, reported in Figure 32, illustrates those two models, with related activities and mobile apps. Nonetheless, it is clear that a concrete change of didactics happens only from the third level (e.g., the ICT didactical uses in Capogna, 2016) and that

¹² Padagogy mixes the names 'pedagogy' and 'apps', because the former is meant to suggest the educational use of the latter.

Redefinition takes the highest advantage of Web 2.0 and 3.0, being completely student-centered.

In the Internet, there are many creative experiments of the variation of tasks per level, and Puentedura too has done many examples in his blog, in particular for Social Science, so for History, in which Redefinition consists in a 3D environment, built by students, whereas Substitution consisted on an online reading replacing the manual, Augmentation on a timeline including pictures, Modification on a story map with links of places and happenings, and Redefinition on the creation of a multimedia presentation (http://hippasus.com/rrpweblog/archives/2020/01/AnIntroToSAMR_BuildingLadders.pdf).

It is to say that by now there are no citations within CLIL literature of SAMR, whilst it could be largely adopted, due to the fact that it makes aware teachers of the opportunities given by technologies for Education, other than being a support in planning tasks. Indeed, in particular the ladder of questions is so aimed (Puentedura, 2013, in

Figure 33

SAMR ladder of questions

The SAMR Ladder:
Questions and Transitions

- **Substitution:**
 - What will I gain by replacing the older technology with the new technology?
- **Substitution to Augmentation:**
 - Have I added an improvement to the task process that could not be accomplished with the older technology at a fundamental level?
 - How does this feature contribute to my design?
- **Augmentation to Modification:**
 - How is the original task being modified?
 - Does this modification fundamentally depend upon the new technology?
 - How does this modification contribute to my design?
- **Modification to Redefinition:**
 - What is the new task?
 - Will any portion of the original task be retained?
 - How is the new task uniquely made possible by the new technology?
 - How does it contribute to my design?

Note: Reprinted from "The SAMR Ladder: Questions and Transitions" by R. Puentedura, 2013, www.hippasus.com, CC-BY. Retrieved from http://www.hippasus.com/rrpweblog/archives/2013/10/26/SAMRLadder_Questions.pdf

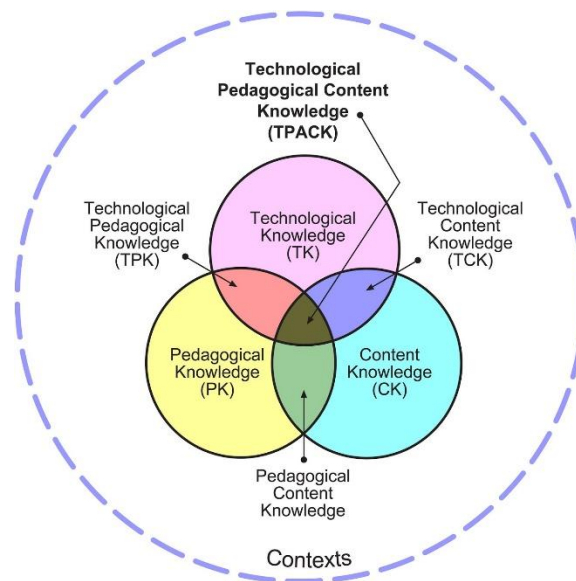
www.hippasus.com), in its provoking a reflection on the needed outcomes of students, as in Figure 33.

3.2.2 TPACK framework

TPCK or TPACK are the acronyms for *Technological Pedagogical Content Knowledge*, then *Technology Pedagogy and Content Knowledge* (Koehler & Mishra, 2009), namely a “unifying framework designed to bring together elements of content, pedagogy, and technology in a manner meant to assist teachers in delivering effective technology-infused instruction” (Hilton, 2016, p. 69). The developers, starting from the considerations that “teaching is a highly complex activity that draws on many kinds of knowledge”, that “expertise in teaching is dependent on flexible access to highly organized systems of knowledge” and that “there are clearly many knowledge systems that are fundamental to teaching” (Koehler & Mishra, 2006, p. 1020), aimed at “emphasize the connections, interactions, affordances, and constraints between and among content, pedagogy, and technology” (p. 1025), so as to foster the creativity and design of technology-integrated lessons and curricula for specific and concrete contexts and subjects (Koehler & Mishra, 2009).

Figure 34

TPACK framework



Note: Reprinted from "What is Technological Pedagogical Content Knowledge (TPACK)?" by M.J. Koehler and P. Mishra, 2009, p. 63, *Contemporary Issues in Technology and Teacher Education*, 9(1). Retrieved from Researchgate, https://www.researchgate.net/publication/241616400_What_Is_Technological_Pedagogical_Content_Knowledge

This framework, in Figure 34, is based on Schulman's PCK (see Koehler & Mishra, 2009), who considered this connection of Pedagogy and Content as the essence of teaching, due to what teachers act to interpret and adapt content and materials, as strategies in a high flexibility, taking into account students' pre-requisites and different contexts of implementation. Adding Technology, "teachers need to develop fluency and cognitive flexibility not just in each of the key domains (T, P, and C), but also in the manner in which these domains and contextual parameters interrelate, so that they can construct effective solutions" (Koehler & Mishra, 2009, p. 66). So it is not a theoretical measurement tool of different field of teachers' knowledge, because "any decision to use a technology is pedagogical in nature and will both reflect and impact how content is engaged in the classroom" (Hicks et al., 2014, p. 441). Concretely, "this change results from the

emergence of new technologies, new understandings about ways in which emerging technology can be leveraged in classrooms, and an increasingly more ubiquitous understanding of the use of existing technology in the classroom” (Hilton, 2016, p. 70). For instance, if apps are adopted to immerse students in a historical environment, TPACK is the level, whilst it is PCK if a manual is the tool.

CLIL and telecollaboration, or virtual collaboration, has been included within a TPACK framework in pre-service teacher training for a study, whose results underline the positiveness in teachers’ taking advantages of ICTs in their implementations, although tendentially oriented to PCK (Bueno et al., 2018).

It is worth citing also another derived framework, adapted from TPACK, “to map the different domains of expertise and knowledge an immersion teacher would need in order to plan and implement a well-integrated approach to content and language instruction” (Ó Ceallaigh et al., 2018, p. 4), in which domains of knowledge are: CK-L (content knowledge of language used as a medium of instruction), CK-C (content knowledge of the curriculum area), PK (pedagogical knowledge), where I-PCK is the synthesis for immersion teachers, which corresponds to TPACK. And being CLIL an immersive environment for teaching and learning FLs, considering the target language as content, it can be done, as seen (e.g., pp. [17-18](#)), according to this framework.

3.2.3 SAMR and TPACK together for Education

TPACK and SAMR together have been associated in a case study into two Social Studies classrooms (Hilton, 2016), which highlighted, in teachers’ perceptions, how the latter appears to be definitely student-centered and easier to apply, on the contrary of the former, whose

Figure 35

The EdTech Quintet

| The EdTech Quintet – Associated Practices | |
|---|---|
| Social | Communication, Collaboration, Sharing |
| Mobility | Anytime, Anyplace Learning and Creation |
| Visualization | Making Abstract Concepts Tangible |
| Storytelling | Knowledge Integration and Transmission |
| Gaming | Feedback Loops and Formative Assessment |

Note: Retrieved from "SAMR and the EdTech Quintet: A Deeper Dive", by R. Puentedura, 2016, www.hippasus.com, CC-BY. Retrieved from

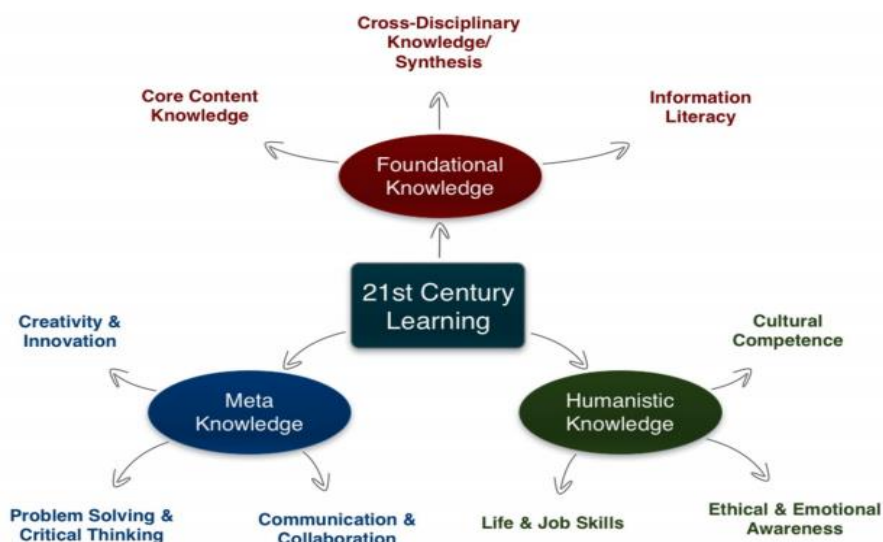
http://hippasus.com/rrpweblog/archives/2016/08/SAMREdTechQuintet_DeepDive.pdf

value resulted to be in stimulating a deep reflexion on the pedagogical use of technologies.

Actually, in literature there are diverse attempts to use these two models together, in particular in teacher training. But Puentedura (Puentedura, 2016), who highly recommends planning through them, has also elaborated a scheme of what derives from the union of the frameworks, putting the real world in the middle between school and home, from which students become prosumers (see p. [154](#)) of pedagogical virtual learning environments. It is the EdTech Quintet, in Figure 35, which can be seen as a progressive deepening of pedagogical and technological elements. It allows to give Communication the value that students are used to giving it, in environments they practice, and, at the same time, gives teachers the link to their subject content and pedagogical knowledge. Furthermore, according to the developer, the frameworks are focused on XXI century learning and, if merged, help this learning achieve foundational, humanistic and meta Knowledge, as in his illustration in Figure 36:

Figure 36

Expected outcomes from embedded SAMR and TPACK frameworks, according to Puentedura, 2016.



Note: Reprinted from "SAMR and TPCK: A Hands-On Approach to Classroom Practice", by R. Puentedura, www.hippasus.com, CC-BY. Retrieved from http://www.hippasus.com/rrpweblog/archives/2014/12/11/SAMRandTPCK_HandsOnApproachClassroomPractice.pdf

As it can be seen, the representation of the expected outcomes, in Fig. 36, refers to humanistic knowledge, which include History, but, in the last triennium of Secondary schools in Italy (primary context of this research), also FLs, because students have to study FL literature and History of the target countries in the target language. This is why, if teachers agree and according to the above expected results, CLIL might easily be implemented in teams, involving cross-disciplinary knowledge in collaboration, both of teachers and of students, so deepening the cultural competence of the classroom, with tasks which should be as much as possible at the Redefinition level of SAMR (p. [177](#)), so enhancing the creativity of students through technologies (and their communicative competence too), achieving LtL and information competence together in their work, in an inclusive

environment which leads to personalised ways to HOTS, namely critical thinking, other than cultural and emotional awareness. This is how Techno-CLIL lessons should be planned, giving value to the pedagogical importance of ICTs at school.

3.3 Relevance of the above models for this research

The present research has, as conclusive aim, the creation of some models of Techno-CLIL for History teachers of the last triennium of Licei (Secondary schools). Thus, it is important to take into consideration what yet validated in all fields that are involved in it, both concerning teacher training and students' tested results and engagement. SAMR and TPACK, though the former regarded as easier by teachers, have been experimented with good results in teacher training and foster the accurately planning for a pedagogical ICTs' use in classroom, which is aimed at innovating the scholastic education, through student-centered approaches and engaging tasks. This is why they will be part of the teacher training for the empirical part of this research: according to the literature, SAMR and EDtech Quintet to plan and TPACK for the post-implementation reflexion on ICTs use.

Finally, they will be taken into consideration in our models for History, so as to adequately suggest how embed technology and CLIL.

4. Educational integrated methodologies for Technological CLIL

In this section there are treated the integrated active methodological approaches yet suggested and well-documented by Technological CLIL literature. Each of them has taken part of its implementations, at least

in some schools or level of school, and obtained positive results in experimentations reported by the literature. They all derive from the pedagogies illustrated above (see [1.](#)), and can find in CLIL the opportunity to link them to the linguistic approaches for FL teaching and learning (see [2.](#)), other than giving educational value to ICTs and being competency-based approaches, as well as leading to competency-evaluation. Moreover, they all allow:

- cross- or multi-disciplinary and transmedia activities;
- authentic learning environments;
- students peer/group working;
- demanding communicative, cognitive and engaging tasks;
- multimodal input;
- evaluation of competences through concrete, creative students' products.

All the above common characteristics of the methodologies here reported are what should feature in Technological CLIL environments (e.g., [Fig. 15](#), the CLIL definition's concepts, and pp. [147-148](#), the table of CLIL linguistic outcomes per linguistic approach, related to pedagogies and strategies), according to the models for pedagogical integration of technologies (see paragraph [3.2](#)) and in particular to the EdTech Quintet.

4.1 Digital Storytelling

Human beings have always been storytellers in different ways: from the pictures of Neanderthal men to songs, tales and more elaborated stories, depending on different communication of their culture and age. But, basically, "the author's act of creating a narrative of a particular kind and in a particular form is not to evoke a standard reaction but to recruit whatever is most appropriate and emotionally lively in the

reader's repertory" (Bruner, 1986, p. 35). So, it is intrinsically a collaborative act, for which "the narrative mode leads to conclusions not about certainties in an aboriginal world, but about the varying perspectives that can be constructed to make experience comprehensible" (cited, p. 37), being aimed at be shared.

Now, in the "global village" (p. [153](#)), and for young people in particular, the need to be storytellers is vital, as in the past, but increased by the high potential of digitalisation and self-made videos (Schwieger & Ladwig, 2018); of different convergent tools with high-speed connections, which allow their ubiquity and sharing of personal content; of social media and networks, which are a never-ending solicitation to be stories' prosumers; of being immersed in virtual environments, which give them the opportunity to learn by doing in authentic context, and so acquire skills, not only knowledge, for their future, other than for their present life.

In the multicultural platform of Web, "in spite of the fragmentation, differentiation, customization, and segmentation of communication processes, is communication reintegrated in a communicative action that transcends all these cleavages?" (Castells, 2010, p. 125). Absolutely so, through protocols, which "are not based on the sharing of culture but on the culture of sharing" (p. 126). And one of these protocols is "the construction of a common media *language*, by means of reformatting a shared formula of storytelling and the integration of genres (e.g., infotainment), is made possible by the versatility of *digitization*" (p. 126).

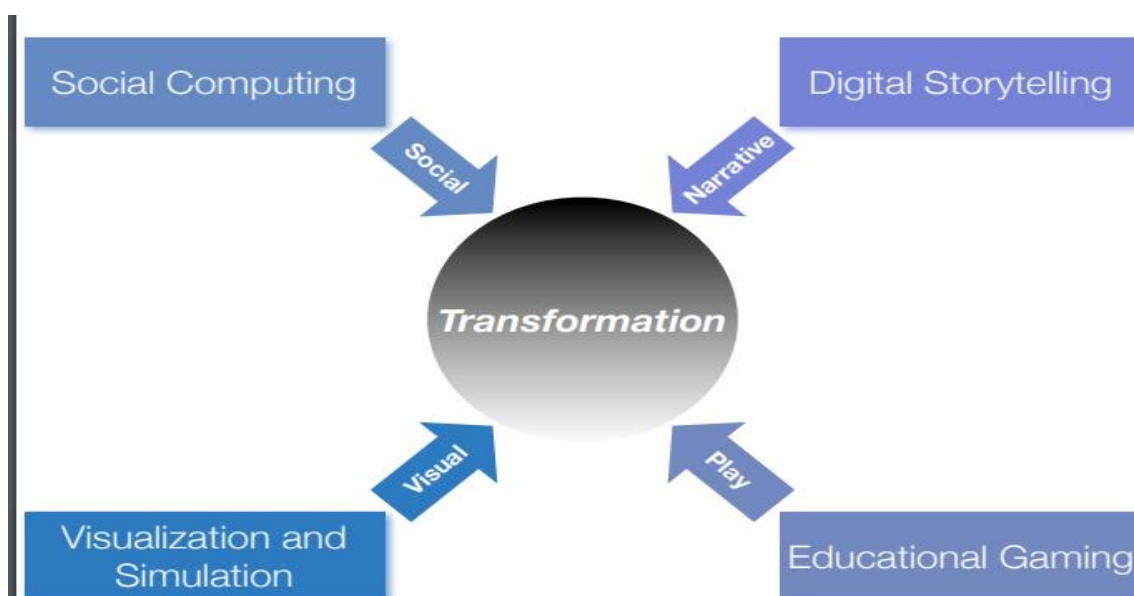
As another Castells' protocol is at the basis of Digital Storytelling, i.e. "the constitution of a *networked digital hypertext* made of multidirectional feeds of everything and based on interactive connecting patterns from everyone to everyone", which "induces a common culture: the culture of co-production of the content that is consumed, regardless of the specific content".

In this way, language (namely, communicative action, in whatever manner) and content (namely, the core and aim of communication) become always active and mutual meaning in students' social and collaborative process of learning, founding their digital citizenship. The same constitutional elements of CLIL.

Thus, language and content can be embedded in infinite original products of digital storytelling, despite, and thanks to the fact that, they take advantage of what others have done. Indeed, firstly, digital storytelling includes narrative forms at different levels: for instance, album of pictures, written or oral tales, podcasts, as easy mono-media; multi-media stories, thanks to large availability of online platforms for merging sources; 3D virtual environments and games, which foster the immersion into common but personalised storytelling. This is why in the visual of Puentedura in Figure 37 is highlighted the narrative flow to educational Transformation, in which Digital Storytelling is the

Figure 37

The Puentedura's educational Transformation



Note: Reprinted from "The Lively Sketchbook Tells a Tale: Digital Storytelling and Mobile Devices", by R. Puentedura, 2011, www.hippasus.com, CC-BY. Retrieved from http://hippasus.com/resources/nmc2011/Puentedura_LivelySketchbookTellsTale.pdf

narrative explicit element, but accompanied by other forms of digital storytelling like Gaming, even though not text-based (Rodríguez & Bidarra, 2014). Actually, if, analysing tales or novels, location and time are crucial elements, as well as characters and texts, and the same elements are involved in movies and videos, it can be defined as Digital Storytelling any digitalised story containing them, real or virtual.

Secondly, Digital Storytelling gives the opportunity of cross-curricular narrations (Gutiérrez et al., 2012), fostering simultaneous pluriliteracies in engaging ways, through which students can develop HOTS in cooperation, both at school and online through collaborative platforms and tools, with peers, enhancing their holistic view of knowledge, management of learning, and creativity too.

Last but not least, Digital Storytelling is essentially transmedia, in its two meanings: "Transmedia stories at the most basic level are stories told across multiple media. At the present time, the most significant stories tend to flow across multiple media platforms" (Jenkins et al., 2006, p. 46). "Transmedia Storytelling involves world building and in this perspective it might extend to content world building and curricula" (Rodríguez & Bidarra, 2014, p. 42), claiming for a radical change of educational practices. Thus, while students can choose different sources in different media for their construction of meaning, they are also in the condition of creating their transmedia products, as multimedia output, according to their learning styles and in collaborative groups, in which every participant adds meaning to their common product. It requires high critical and collaborative skills, as meta-reflexion deriving from transliteracy, which leads to a new meaning of *originality*, participatory in depth. In addition, the complexity in which transmedia storytelling involves students "tap(s) into the expanded cognitive capacities of networked audiences" (Jenkins et al., 2013, p. 134), conducing to a non-mainstream engagement, as the multitasking.

In Education, it is also to realise that students do need to be involved in this new active way of learning and communicate, as Jenkins wrote about it: “an era of transmedia extensions might mean the decline of any type of storytelling that doesn’t lend itself well to a webisode series, co-creation with the audience, or ‘user-generated content’” (Jenkins et al., 2013, p. 141). It fosters students’ autonomy, getting them used to learning to learn and addressing them to life-long learning. It is also to be said that the subject of History has welcomed transmedia approach in digital storytelling in various projects (e.g., Koehler & Mishra, 2006; Maloy et al., 2017; Mason et al., 2000). Digital Storytelling has been successfully implemented in FL learning (e.g., Rodrigues & Bidarra, 2017; Tsou et al., 2006) at different levels and through different tools (online there is a very large supply of concerning media and platforms, mostly free or freemium, so available for educational use), as well as in CLIL teacher training (Gutiérrez et al., 2012; Marsh, 2002) and with students, but mainly at Primary school (Ebenberger, 2017; González Davies, 2016; Ramírez & Sáez, 2012).

4.2 Flipped classroom

This approach was developed in 2007 by Jonathan Bergmann e Aaron Sams, because of their failure in traditionally teaching Chemistry in a classroom in Colorado, which was absentee (Mehring, 2018). So, they tried to invert the rules, giving students to watch short videos, or listen to podcasts, or read brief texts at home, in substitution of frontal lessons, to acquire the lower steps of Bloom’s taxonomy ([p 26](#)); whilst at school time was taken to make students acquire HOTS through

facing difficulties in collaboration and mastery learning¹³ with top-down activities, other than teacher's tutoring students in their difficulties (Sams & Bergmann, 2013). "After deciding where students would most benefit from face-to-face instruction, teachers then turn to a second question: Using technology, what can I remove from class to increase the value of face-to-face time?" (p. 17). Indeed, instructional videos, or other pre-school homework, should be aimed at interaction between teacher and each student, through checking their understanding, giving them the opportunity of taking their personal time to understand and of arriving at school with an active attitude for meaning-making, to spend preferably in cooperative or collaborative problem-solving, or project-based, and/or laboratory learning. The third phase consists on meta-cognition of the students' process, which leads to their self-assessment. For their path, it is compulsory they acquire at least the minimum level of mastery in each step of their curriculum to go on. "We also allow students to retake any assessment they've done poorly on. This provides students with multiple opportunities to demonstrate understanding of a topic if they're unhappy with their prior performance. It also helps remove some of the competitive and punitive components of assessment and of education in general" (Sams & Bergmann, 2013, p. 18). Thus, it allows a high grade of differentiation in the classroom, but in the respect of everybody's time, personalisation of tasks and mastery. "Education is for everyone, but the way we deliver education—and the way students receive it—is not the same for everyone. A flipped classroom gives teachers the flexibility to meet the learning needs of all their students, and it gives students the flexibility to have their needs met in multiple ways. By

¹³ Bloom (1968) proposed this strategy, based on steps of mastery students have to sequentially achieve, although spending different time and supported by different strategies, as different they are.

doing so, it creates a classroom that is truly student-centered” (cited, p. 20).

This is why this approach has been successfully largely adopted at all educational levels, since the publication of the developers’ manual (2012): in blended courses at University and for life-long learning platforms (e.g., “Coursera”), as well as in particular at Secondary school (e.g., “Khan Academy”).

It has been welcoming also in CLIL environments, both in teacher training (Zhyrun, 2016) through Moodle platforms (Cinganotto, 2016b; Khalyapina et al., 2017) and with students (Colibaba et al., 2018; Papaioannou, 2016), also together with Multiliteracies linguistic approach¹⁴, experimented through a form of Digital Storytelling, with the aim to prevent the “loss of knowledge” in language learning (Bradley et al., 2017).

4.3 From cooperative learning to participatory teaching/learning

Cooperative learning is not a new methodology, which has pedagogical links with Piaget and then with social-constructivism, and concerns active social learning in student-centered approach. It is task-based

¹⁴ This methodology was developed by the New London Group (1996), in order to encourage “different forms of expression and a wide range of linguistic, cultural and technological perspectives and tools to be incorporated into lessons...” They “came up with four components that they argue are essential for 21st century literacy teaching”, which are: “situated practice. At this stage students immerse themselves in a range of texts that are both familiar to them and unfamiliar. Tasks you might give them at this stage could include describing, exploring, or observing various texts. The second stage they called overt instruction, where the teacher gives explicit instruction and scaffolds learning activities to help the students to interpret the texts. The third stage they called critical framing, and this is where students get to apply what they’ve learned at the overt instruction stage to what they already know. Tasks such as comparing, synthesizing, analyzing and critiquing are employed here. The final stage they called transformed practice—where students push the envelope as it were” (Bradley, et al., 2017, p. 181)

and “is that students in a group or team in order to complete common tasks, with clear division of responsibilities of mutual aid learning” (Jiangquan & Chunfeng, 2013, p. 1351). Tasks, activities and cooperation can be also online, through platforms, such as Edmodo, or collaborative tools, like Google or Microsoft apps.

Students have precise responsibility of their work, as contribution to “the homogeneous or heterogeneous small groups in which students may or may not be permitted to help one another with their work, with or without a teacher or aide” (Slavin, 1980, p. 316), taking part to interpersonal reward, which goes beyond competitiveness, making also achieve self-assessment in depth, in an atmosphere of mutual help and feedback for common good results.

Teachers are not seen as authorities, but take part to the common learning, ensuring that it becomes significant, giving attention to the centrality of the entire personality of students. Concretely, they:

- plan the students’ activities also in cooperation with them;
- give them precise roles for the tasks;
- interact with groups and each student to scaffold them, fostering their growth through authentic learning and self-assessment;
- finally, evaluate their active participation, “academic achievement, race relations, and mutual concern among students” (p. 323).

Most used techniques are (Slavin, 1980):

- Teams-Games-Tournament (TGT), in which “teammates study together and quiz each other to be sure that all team members are prepared” (p. 319), before having to compete with other groups normally of the classroom and receive reward by the teacher, depending on the group performance;
- Student Teams-Achievement Divisions (STAD), which “replaces the games and tournaments with simple, 15-minute quizzes, which students take after studying in their teams... Students know only their

own division assignments; they do not interact in any way with the other members of their division" (p. 320), so reporting an individual performance score within groups;

- Jigsaw, for which there is a high interdependence within a group so as to complete tasks, and reward is given to the entire group;
- Small-Group Teaching, which includes also Peer teaching, for "which learning takes place through cooperative group inquiry, discussion, and data gathering by students" (p. 321), aimed at each group presentation to the classroom of their topic, being then evaluated by classmates and teacher, particularly for the exhaustiveness, creativeness and performance. It fosters students' autonomy and, as Jigsaw, high social skills.

Another technique, relatively new (1995), is WebQuest. Dodge, the first developer of this approach, so defined it in 1997: "A WebQuest is an inquiry-oriented activity in which some or all of the information that learners interact with comes from resources on the internet, optionally supplemented with videoconferencing" (http://webquest.org/sdsu/about_webquests.html). There are two typologies, depending on the time in which students are involved in the activities, i.e. Short-Term (aimed at knowledge acquisition and integration) and Longer-Term (after which "a learner would have analysed a body of knowledge deeply, transformed it in some way, and demonstrated an understanding of the material by creating something that others can respond to, on-line or off"). Cited), and can be mono-, multi- or trans-disciplinary.

Dodge (2012), underlining the centrality of tasks for WebQuests, identifies twelve categories of them, in a taxonomy from low to high thinking skills, according to teacher's plan and students' levels (<http://webquest.org/sdsu/taskonomy.html>). Any WebQuest is composed by six parts, that students in cooperative groups wholly see since the beginning of their activity, which could be an entire topic per

group or a part (Colazzo, 2005), as a complex jigsaw to compose at the end:

"a) Introduction: This contains elements that encourage students to reflect on the topic and the information that should be found.

b) Task: This includes a clear explanation of what students should present at the end. The information to be gathered must be clearly explained, as well as the structure that must be followed in order to achieve the final goal.

c) Process: This is what students have to do, the activities they should carry out and the webpage links they should visit.

d) Resources: Several webpages students need to consult are included, as well as a useful bibliography for searching information, etc.

e) Assessment: It states how students will be assessed (instruments, criteria, standards, etc.).

f) Conclusion: This is where students reflect on the work done" (Martínez & Déniz, 2019, pp. 159-160).

As whatever cooperative learning, it fosters scaffolding, within groups and as a teacher role, and the evaluation as a co-evaluation, enriched by the negotiation of meanings of content in the contexts of tasks (Colazzo, 2005). Furthermore, WebQuests develop students' abductive thinking, which support their creativity in inquiring and finding solutions to hard-solving problems in their life, and are immersed in multimedia, fostering authentic learning in authentic environments, really important also to reach critical sense in the regard of online sources to choose.

Actually, WebQuest is highly participatory, giving students wide margins of discretion in their learning tasks and can be considered as a *trait d'union* between cooperative and participatory learning.

Based on cooperative learning, Participatory teaching and learning is rooted in Freirean Approach and refers to the action of taking part in activities and projects, in a process in which participation fosters

mutual learning. Its two most relevant characteristics are dialogue and problem-posing. "Its essence is to let students participate in the teachers' leading teaching projects instead acting as a passive bystander role, and to allow students to truly experience the real intellectual inquiry of the novel, twists and turns and wonderful, so that the student has infinite participation motivation and desire in classroom teaching projects organized by the teacher" (Jiangquan & Chunfeng, 2013, p. 1350). For this approach, the element of *culture* is always on the ground of any participatory activity, as intrinsic starting point for involvement in learning, which so involves also emotional factors, allowing students' deeper meaning-making. Furthermore, it draws on experiential learning, combined with critical reflection and conceptual exploration.

Involved principles in this approach are (Jiangquan & Chunfeng, 2013):

- Comprehensiveness, for which students are the main characters of the whole learning process, as a self-development in a social environment, promoting "active learning attitude, good psychological quality influenced by process of acquiring basic knowledge and basic skills, correct choice of value, a sense of social responsibility, and finally the goal of learning how to learn, how to survive and how to make all-round developed" (p. 1352);
- Full participation, namely every student should be involved to the participatory teaching through diverse strategies and level of activities, in the respect of any learner's pre-requisite and learning manner;
- Full guidance, which "refers to teachers always act a leader in the role of organization inside and outside the classroom teaching, to teachers guide and stimulate students' interest in learning and autonomy by means of planning lessons, designing teaching forms, and evaluating teaching effectiveness, and to teachers intervene minimally students' learning, respect for the dominant position of

students and really establish a 'student-centered teaching philosophy'" (p. 1352);

- Full process, namely the entire teacher's plan of participatory teaching and learning, according to students' needs and learning styles;
- Teamwork, through the cooperation in every step student-teacher, as well as among peers.

Cooperative and Participatory learning have as main pros that "learners learn how to learn, become more autonomous, self-directed and intrinsically motivated" (Pistorio, 2010, p. 1).

It is to say that this approach has been applied also in teacher training and, above all, with adults education (Crandall & Peyton, 1993), although it is documented also in lower levels (Spener, 1993).

In FL teaching and CLIL, a large involvement of cooperative approach has been doing, both with materials designed by teachers and, more appropriately, giving students the opportunity to build them during the tasks' execution, as part of their construction of meaning. In particular the latter strategy is documented for students (Meyer, 2010; Milla & Casas, 2018) as taking advantage of online resources, other than "for the opportunities they (group-works) provide not only for language production *per se* but also for the opportunities of student focus on form and negotiation of meaning" (Coonan, 2008, p. 50); at the same time, it "may contribute to the enhancement of a CLIL context since it not only facilitates the development of higher order thinking skills, but also provides learners with more opportunities to share knowledge, varied opinions and ideas through social interaction with their peers" (Pistorio, 2010, p. 2). Whilst the former strategy is often adopted in CLIL teacher training (Pérez, 2016; Rizzo & Palmero, 2014), adopting cross-curricular and transversal teaching strategies within online or blended-courses (Cinganotto, 2016; Marsh, 2012; Garcia-Esteban et al., 2019), in its different meanings (Gisbert et al., 2017), but with a

final task of cooperation with peers in building online and multimodal products (De Santo & De Meo, 2016; Guinda, 2013). Cooperative teaching and learning is recommended also by the European Framework for CLIL Teacher Education ([p 36](#)), being “especially significant for types of both special education needs and CLIL contexts” (Marsh, 2012, p. 43).

CLIL researchers recommend for all levels of school the technique of WebQuest in particular (Cinganotto et al., 2017; Martínez & Déniz, 2019; Meyer, 2010; Oxbrow, 2018; Pérez, 2016; Segers et al., 2010), associated to Digital Storytelling too (Gimeno, 2015). although they are not often implemented by teachers (Milla & Casas, 2018). It is also put into practice in CLIL teacher training (De Santo & De Meo, 2016; Delicado & Pavón, 2016).

4.4 Project-based learning (PBL)

As the same name indicates, Project-based learning concerns students’ learning through instructional projects. It is “is a form of situated learning ... and it is based on the constructivist finding that students gain a deeper understanding of material when they actively construct their understanding by working with and using ideas. In project-based learning, students engage in real, meaningful problems that are important to them and that are similar to what scientists, mathematicians, writers, and historians do” (Krajcik & Blumenfeld, 2006, p. 318). At the end of the project, students have to present concrete products as the result of their solution of assigned driving question, for which problem-solving and experiential learning are highly involved.

Like the previous active methodologies, all relatively new and often put into practice mixed to other approaches, it is sometimes difficult to

establish if surely PBL is adopted, or there are involved didactical projects in schooling. This is why John W. Thomas, author of the PBL handbook for teachers¹⁵, was commissioned (2000) by the Autodesk Foundation¹⁶ to research and write its peculiarities and guidelines. Reviewing the literature, he arrived to offer a set of five criteria, which "do not constitute a definition of PBL, but rather are designed to answer the question, 'what must a project have in order to be considered an instance of PBL?'" (Thomas, 2000, p. 3). They are (pp. 3-4):

- 1) PBL projects are central, not peripheral to the curriculum, so they are the curriculum and there are no PBL those projects outside curriculum;
- 2) PBL projects are focused on questions or problems that "drive" students to encounter (and struggle with) the central concepts and principles of a discipline, so all that students do should be not planned about topics, but about "important intellectual purposes";
- 3) Projects involve students in a constructive investigation, to lead to the collaborative or cooperative construction of new knowledge and new skills, so it should present difficulties and not acquired knowledge and skills, and consequently cannot be a short-time activity;
- 4) Projects are student-driven to some significant degree, so incorporate a good deal more student autonomy, choice, unsupervised work time, and responsibility than traditional instruction and traditional projects;

¹⁵ Thomas, J.W. (1998). *Project Based Learning: A Handbook for Middle and High School Teachers*. Buck Institute for Education.

¹⁶ "Autodesk Foundation is the first foundation to focus corporate philanthropy on design that addresses environmental, social, health, and education challenges" (autodesk.org).

- 5) Projects are realistic, not school-like, so authenticity should be in topics, environments, contexts and products, as obviously in the project.

As in all student-centered approaches, teachers are scaffolders of the students' learning process and here more than in others participate to it in a community of inquiry through a "Transformative communication" (Thomas, 2000, p. 32) and a co-evaluative process. Multimedia environments and CMC are highly suggested, as the link to jigsaw technique (pp. 8, 32-33).

Within Techno-CLIL implementation, including international cooperation (Gabillon & Rodica, 2015), as and more than any bilingual program, PBL is often taken into account and considered highly stimulating competency learning (Barbero, 2012; Lorenzo, 2018; Marsh, 2012) and authentically task-based and participatory (Bradley et al., 2017; Durán & Beltrán, 2016; Fernandez Fontecha, 2010; Milla & Casas, 2018), sometimes as a need to be addressed to teachers (Jerez, 2016; Lancaster, 2016; Pérez, 2018b), so as to avoid teacher-centered approaches. PBL has been often adopted for CLIL initiatives in Spain (Marsh, 2012) and in Latin America (Pérez, 2016d). Its maximum effectiveness for students has been found when implemented together with CALL (European Commission report, 2014), but good results are obtained also with Game-based learning (Dourda et al., 2014).

4.5 Gamification and Game-based learning (GBL)

Although Gamification and Game-based learning can nowadays appear as mantras to involve students in the cutting-edge learning, "sadly, our 'digital immigrant' teachers¹⁷ know so little about the digital world of

¹⁷ See infra, p. [127](#)

their charges – from their online gaming, to their online exchanging, sharing, meeting, evaluating, coordinating, programming, searching, customizing and socializing – that it is often impossible for teachers to design learning in the language and at the speed their students need and relish, despite their best efforts” (Prensky, 2003, p. 3). And in front of the complexity of language, involved skills, and range of digital platforms and different tools which concern these approaches, the same concept of *Edutainment*¹⁸ seems to be far from update (Prensky, 2003).

In the field of Education, these methodologies have been claimed in particular by James Paul Gee, whose studies concern videogames and their learning principles, Elisabeth Corcoran, whose organisation, *Lucere* now *EdSurge*, helps educators to share adequate technologies to motivate students, and Romina Nesti, who is concerned in the relationships between ludic world and training, other than Mark Prensky, teacher, lecturer and developer of educational videogames. Before giving a picture of both these methodologies and their application in the Techno-CLIL field, it is important to define what is a game. It is “an activity that must have the following characteristics:

- Fun: the activity is chosen for its light-hearted character.
- Separation: it is circumscribed in time and place.
- Uncertainty: the outcome of the activity is unforeseeable.
- Non-productive: participation does not accomplish anything useful.
- Governed by rules: the activity has rules that are different from everyday life.
- Fictitious: it is accompanied by the awareness of a different reality” (Al-Azawi et al., 2016, p. 132).

¹⁸ See infra, p. [123](#)

All these characteristics can be intrinsically connected to the educational aim: indeed, a game is engaging, thanks its being enjoyable without, at least apparently, being concretely useful, as well as for its unpredictable results at the beginning for players; it offers separated environments, but extremely rich of rules to accurately observe to obtain goals. Yet “the teaching method good games use can be implemented with or without games...”, being not new, but “a traditional and well-tested approach to deep and effective learning, often instantiated in the best problem-based and project-based learning” (Gee, 2013, p. 17). And this is at the basis both of Gamification and GBL.

It is also to say that, if digital, games are defined as “systems that involve interaction with a user interface to generate visual feedback on a computer or a video device to utilize fun, play, and competition” (Al-Azawi et al., 2016, p. 132), which adds taking part to social communities to the previous one, in which virtual roles imply turnovers of defeats and success as education to resilience. Gamification and GBL apply this concept in different ways and involve different resources and results, as illustrated below.

4.5.1 Gamification

The term *Gamification* is a neologism, firstly used in 2002 by a programmer, Nick Pelling, but which became widespread thanks to the professor and game designer Jessie Schell, both American (<https://www.gameifications.com/storia-della-gamification/>).

There are two meanings of this word: the first and widespread is that “Gamification is the practice of using game design elements, game mechanics and game thinking in non-game activities to motivate participants” (Al-Azawi et al., 2016, p. 133; similis, Lee & Hammer,

2011); the second is more inherent the educational Gamification, i.e. "teachers turning lessons into a game they designed" (Bregni, 2017, p. 43; examples in Lee & Hammer, 2011, and Al-Azawi et al., 2016). In its first meaning, "schools already have several game-like elements. Students get points for completing assignments correctly. These points translate to badges, more commonly known as grades. Students are rewarded for desired behaviours and punished for undesirable behaviours using this common currency as a reward system. If they perform well, students 'level up' at the end of every academic year. Given these features, it would seem that school should already be the ultimate gamified experience" (Lee & Hammer, 2011, p. 2). But these game-like elements, although highly experiential, are only structural, and do not imply authentic knowledge and communication, and skills, so school is perceived far from being a game. Motivation and engagement should be the results of Gamification, yet they cannot be reached without an emotional involvement, regarding students' "natural desires for competition, achievement, recognition and self-expression" (Al-Azawi et al., 2016, p. 133).

So, the main elements of Gamification in Education are (Al-Azawi et al., 2016):

- Different levels of game
- Awarding with points, bonus badges and prizes, sometimes too simply in the form of votes or grades
- Timed goals
- Rankings
- Challenges and missions

Consequently, other than to enhance students' motivation and engagement, Gamification can foster their learning path, stimulating their positive attitude through immediate feedback, which support positive self-assessment of their learning process.

Actually, Gamification can also be defined, according to the first meaning, "the use of game design elements, game thinking and game mechanics to enhance non-game contexts" (Al-Azawi et al., 2016, p. 133), because it has been implemented also in training of diverse categories of workers, becoming part of commerce through specific software. Elements of Gamification are present in mostly digital educational platforms for classrooms and online learning, which normally includes (or are linked to) badges for achievements, points, personalisation of levels, bars for progress (for instance, Edmodo, Moodle, Quizlet, Kahoot), and which allow collaborative practices, as well as, sometimes, students' development of games, often easily-structured, to address to classmates, so fostering their leadership. Role playing and problem solving are widely used as techniques (like in Escape room, which can be implemented also through QR Codes and Augmented Reality). But these are prerogatives usually attributed to the second meaning of Gamification, for which there are online many examples, as in the literature (e.g., Al-Azawi et al., 2016; Lee & Hammer, 2011), though it is to say that, if there is a community of teaching and learning, it can be so changed: *teachers and students turning lessons into digital games the latter designed, agreeing upon rules and recognitions*. It is the right way to avoid frequent risks of this approach, namely those for which "Gamification might absorb teacher resources, or teach students that they should learn only when provided with external rewards" or "create rule-based experiences that feel just like school" (J. Lee & Hammer, 2011, p. 4). And agreed assessment for levels of achievement becomes a crucial part of the game, for which it is a self-incitement to go further, not a judgement from other people. Techno-CLIL is involved in this looking for "innovative ways of embedding formative evaluation into learning resources with particular interest in gamification and digital platforms" (Marsh, 2012, p. 422), other than "integration of gamification principals alongside language

scaffolding in educational resources used outside the classroom” (cited), in a continuum of education for real life. Indeed, especially about FL acquisition, Techno-CLIL makes a large use of digital resources.

It is worth citing an Erasmus+ project just ended, TeCoLa (2016-2019), aimed at “develop(ing) and test(ing) innovative gamified telecollaboration approaches for secondary schools that address issues of learning diversity in intercultural and Content Integrated Language Learning (CLIL) and teaching” (Jauregi & Melchor, 2017, p. 163), so as to promote engaging language learning among peers of different countries and culture.

4.5.2 Digital Game-based learning (DGBL)

Game-based methodology concerns the use of games and videogames as a tool for learning. The employment of games at school is not a novelty, but since the diffusion of videogames, in particular after their next online spread and digital commerce, now often present in social networks, such as Facebook, it is become important to reflect about its instructional adoption. It “is grounded in active learning methodologies and encourages learning activities by building on engagement and challenges to achieve the intended learning objectives. Games can therefore be considered among the tools to develop new skills for the 21st century” (Romero et al., 2015, p. 149).

DGBL is mostly used in the conviction that it increases students’ motivation and engagement, so leading to successful learning (Al-Azawi et al., 2016; Neville & Shelton, 2010). But it is only a superficial result, if the only one and with no deepening about their meaning, consequently which not scoring more than, for example, project-based learning (Huizenga et al., 2009).

It is so worth better specifying what *motivation* and *engagement* in this field mean:

- *Motivation* is the opposite attitude of boring at school and which can be fostered by the expertise in it of videogames industry (Prensky, 2003), whilst it was considered as good teachers' prerogative; it is promoted by individual and interpersonal factors, such as challenge, curiosity, control, fantasy, competition, cooperation and recognition and can present a *flow effect*, i.e. total immersion in a task (Huizenga et al., 2009); it is linked to emotional factors (Neville & Shelton, 2010) and is highly fostered, as well as engagement, by authenticity, "the quality of having correspondence to the real world" in the players' perception (De Freitas et al., 2012). Whether learning concerns, it can "promote problem-solving ability, and result in achieving better learning effects" in the transposition from game to real life (Al-Azawi et al., 2016 p. 132), "so that learners can use digital game-based learning to develop the basic techniques and knowledge in specific fields necessary in the digital technology age" (cited, p. 134).

- *Engagement* can be considered interdependent with Motivation, so that they cause each other. It indicates the strong involvement in something perceived as interesting and close to their own experience, namely containing affordances, "a feature of the world (real or virtual) that will allow for a certain action to be taken, but only if it is matched by an ability in an actor who has the wherewithal to carry out such an action", or better "relationships between the world and actors", whose research concerns any human thinking and learning (Gee, 2014, p. 36). It is also linked to fun, often present in DGBL, related to achievement of goals, or to unpredictable and thinking-stimulating happenings, to the triumph over difficulties or problems, or finally to being recognised as praised (Al-Azawi et al., 2016). Engagement also implies low anxiety and affective filter (Gee, 2013). Nevertheless, "the empirical basis for claiming that game-based learning may more

adequately engage pupils is still rather thin and far from conclusive” (Huizenga et al., 2009, p. 2).

Although it is undeniable that these elements are important, there is a more intrinsic complexity of reasons why DGBL might be implemented. According to Prensky (2001) and Gee (e.g., 2013), in the same design of videogames are present communicative and cognitive functions, which are acquired through played rules, trials, goals and actions in a virtual environments, as situated meanings for learning (Gee, 2014b). This is why language and literacy teaching are interested in DGBL, due to their being “problem solving activities when and if they are to become real skills and not just test passing skills” (Gee, 2013, p. 19), as recently also the European Commission suggested (Note, 2019).

Similar interest comes from History teaching, in particular about 3D-DGBL, whose environments “consists of students who interact with each other, nonplayer characters (NPCs), and the subject matter by means of a virtual space, which we define as a nonreal, computer-generated, 3D interface that simulates an existing historical space” (Neville & Shelton, 2010, p. 608). Indeed, it is proved that thinking and understanding is fostered by simulation, which prepare to real successful actions (Gee, 2014b). Consequently, in a period of time definitely lower than in mainstream education (Gee, 2013), it happens social construction of meaning in situated cognitive and cultural learning through this approach, and players bridge virtual and real through the authenticity of representations, as *transparent immediacy* (Neville & Shelton, 2010), which requires “the active construction of knowledge and the ability to negotiate meaning through the social interactions enabled by the game space” (Neville & Shelton, 2010, p. 610). Yet, in this immersive meeting of different ages environments, customs and objects, students should be led to skills of analysis and meta-cognition through peers’ discussions to interpret the diversities and put a distance and make effective their construction of knowledge

and empathetic learning (cited). Furthermore, virtual historical environments ask students for taking a precise social role in social communities, where differences are seen as resources, rather than antagonism (Gee, 2014b).

Indeed, it is recognised that this methodology:

- “develop context-specific problem-solving skills;
- provide personally tailored and highly motivational instruction;
- promote student-directed learning, free inquiry, and exploration;
- support constructivist environments conducive to various forms;
- promote student-directed learning, free inquiry, and exploration;
- support constructivist environments conducive to various forms of social learning;
- emulate remote or inaccessible real-world sites, recreate vanished environments, and lend substance to literary spaces (Thomas, 2004; Wideman et al.)” (Neville & Shelton, 2010, p. 608).

Since mobile-phones have an important role in everybody’s lives nowadays, as seen before (e.g., infra p. [152](#)), the cutting-edge mobile and location-based technologies provide authentic transmedia environments of engaging learning, mixing virtual and real data in augmented reality (AR) games, “played in specific real-world locations which may include historical or geographical sites” (Huizenga et al., 2009, p. 2). AR, indeed, encourages students’ creativity and sharing of different perspectives, as well as personalisation of content through its manipulation (Rodrigues & Bidarra, 2017); being linked to the use of mobiles, it also happens in the respect of students’ pace, breaking down the barriers between school and out of it, in networked environments of their participatory culture.

Another advantage of DGBL is concerning assessment, as and more than in Gamification, given that they “provide immediate and concrete feedback which rewards continual effort and keep players within a

'zone of proximal development'" (Hudson, 2016, p. 3). Indeed, games contains ongoing assessment of the learning process of students, which requires performance of knowledge, but, above all, problem-solving, decision-taking on brief- and long-term prediction, and interactions (Rodrigues & Bidarra, 2017), other than risk-taking, ductility of thoughts and planning productive actions.

Concretely, "DGBL is used for the following areas:

- Material that is dry, technical and boring
- Subject matter that is really difficult
- Audiences that is hard to reach
- Difficult assessment and certification issues
- Complex understanding process
- Sophisticated what if analyses
- Strategy development and communication
- Increasing the learning interest and motivation of students" (Al-Azawi et al., 2016, p. 134), where this is considered the last one.

Venturing within classifications and taxonomies of games¹⁹, also for educational purpose, would be not in line with this research. But it can be useful to make use of the widespread distinction between *serious* and *non-serious* games. Originally not strictly concerning only education, but firstly training in particular jobs, like in the Army, serious games have been "designed for a primary goal different from pure entertainment" (De Gloria et al., 2014), and in their instructional use are similarly defined as "'games in which education (in its various forms) is the primary goal, rather than entertainment'" (Michael & Chen, 2005, p. 17)" (as cited in Romero et al., 2015, p. 150). They are pedagogically founded on social constructivism, to which virtual environments especially if 3D, give authentic collaborative context for experiential knowledge, and practice through management of objects

¹⁹ For instance, see: De Gloria et al. (2014), Laamarti et al. (2014).

(De Gloria et al., 2014), this latter really important, for instance, for students of Vocational schools. Actually, quite often this kind of games have been designed for FL teaching (Bregni, 2017; Hudson, 2016), and are aimed at the achievement of game and learning goals, so, apart from those with an easy structure often built by teachers (e.g. through *Scratch*), they require their design to be developed by people of different field of expertise together (programming/coding, engineering, pedagogy, etc.), to create engaging conditions, similar to non-serious games (De Freitas et al., 2012). "Additionally, ... (it appears) that not only playing but also observing someone playing the game were both engaging learning modalities" (Hudson, 2016, p. 4).

Non-serious games can be defined "as any digital game which was designed purely as entertainment, with no intended training or learning intent" (Hudson, 2016, p. 5). However, they share with serious ones many goals, psychological and cognitive, such as reducing anxiety, collaboration, planning, problem-solving (Hudson, 2016; Bregni, 2017). Moreover, although not explicitly developed for education, especially Massive Multiplayer Online Role-Playing Games (MMORPGs) and Cinematic games have proved to foster FL learning and situated learning, in particular of historical topics (Bregni, 2017).

Finally, it is to report the worthy opinion of Gee, who does not accept such terminology, felt as unrelated to their essence: "The term 'serious games' is a bad one, because it implies a high cost of failure, as well as a lack of the sort of 'fun' people get when they have chosen to do something they really want to do and like to do" (Gee, 2011).

In the regard of CLIL, whereas GBL is well documented, there are still few experiences of digital games, although they are explicitly suggested for CLIL by the European Commission too (European Commission report, 2014). Pilot projects underline that the lack in teacher training might imply too long time for activities, depending on problems for teacher to accompany learning process of students and

assess them (Dourda et al., 2014; Gee, 2014a). Even so, these projects included mainly serious (Dourda et al., 2014; Fokides & Zampouli, 2017; Merzlykin et al., 2018; Ramírez, 2012) than non-serious games (Ebenberger, 2017), always focusing on FL learning and mostly addressed to Primary schools.

5. Conclusions

The analysis of the considered educational integrated methodologies to involve in Technological CLIL environments should be considered as a window of opportunity to select different options, offered to CLIL teachers, according to the features of the whole classroom, or to groups of students, but also to their own digital competence. Indeed, whereas Digital Storytelling and Cooperative Learning is likely to be put into practice at all levels, also with many easy available digital tools, for short or long-term activities, other than being present as embedded to other methodologies, because telling a story is at the basis, for instance, of any final product of students, PBL involves only long-term activities, Webquests require teachers' previous work on sources for tasks and precise rubrics for their evaluation, as well as DGBL cannot be implemented without a level of high Redefinition, as indicated by SAMR (see p. [177](#)). Thus, every teacher plan of CLIL activity should also include the motivated choice of one or more of these methodologies, given that, as seen, they can be merged. This is precisely what will be done with teams in the empirical part of this research.

Finally, it would be opportune to introduce these methodologies in pre-service CLIL teacher training, so as to make them aware of these different ways to involve students, but also to give them the

opportunity to create a more shared digital environment at school with digital-native students.

EMPIRICAL PART

Chapter I

Methodological Framework

1. Definition of the objectives of the empirical research

The aim of the present doctoral research is to contribute to the spread of the implementation of CLIL through ICTs, as seen not as wide in Europe by now as in the original intentions of the EU (Eurydice brief, 2017), which fostered and fosters it.

In particular, there is set, as a concrete general objective of the above aim, to detect proper strategies and models, in order to put into practice Technological CLIL in the subject of History (see p. [6](#)), from which four sequential specific objectives derive.

As said (p. [6](#)), the first two specific objectives have been achieved by means of the theoretical part, through systematic literature reviews (Theoretical frameworks [1](#) and [2](#)), other than being the theoretical foundations of the whole present research, together with the Theoretical framework [3](#). So, acquired the theoretical data, this empirical part firstly concerns the set objectives 3 and 4:

- Look for the best strategies and tools within the implementation of Techno-CLIL into History in the last triennium of Secondary schools (namely for 16-18 years old students).
- Build up some models of Techno-CLIL in History-subject context, emerged by the previous points, to suggest.

Actually, these objectives can be also regarded as general objectives (GO) of this part, from which the specific ones (SO) underneath derive, with the related questions to answer. They are listed in Table 11. It is to bear in mind that the referring target for the all objectives is 16-18 years students:

Table 11

General objectives (GO) 3 and 4 of the empirical part of this research, with their related specific objectives and questions to answer

GO 3: Look for the best strategies and tools within the implementation of Techno-CLIL into History in the last triennium of Secondary schools, and in particular Italian Licei

SO 1: Describe the adoption by teachers of CLIL implementation in classroom through technologies, also in teams, for the subject of History, according to the CLIL literature about pedagogies, linguistic approaches and related educational methodologies (Theoretical framework 3)

- How teachers implement Techno-CLIL in their classrooms, and History by means of Techno-CLIL?
- What tools are chosen?
- Are tools chosen by teachers or by students?

SO 2: Identify pros and cons, difficulties and suggestions of the stakeholders, before, during and after the Techno-CLIL implementations, concerning adopted strategies, ICTs and tools.

- What pros and cons, difficulties and suggestions of the stakeholders emerge in Techno-CLIL implementations, concerning adopted strategies, ICTs and tools?

SO 3: Determine, according to the stakeholders' perceptions and opinions, opportunities and limits of the adopted way of implementation (according to SO 1) of Techno-CLIL for History, in the sense of their motivation and students' positive results (knowledge of content and FL, collaborative practices, active engagement, inclusivity).

- Do the adopted didactical strategies and tools in Techno-CLIL for History foster better teaching and learning environments than mainstream and normally used in classroom?
- What are the limits of the adopted didactical strategies and tools in Techno-CLIL for History?

SO 4: Analyse opportunities and limits of the Techno-CLIL for teaching and learning History, in particular in the final triennium of Italian Licei.

- Do the methodologies and strategies suggested for Techno-CLIL match its implementation in History, in particular in the final triennium of Italian Licei? Why?
- What kind of tools can be considered the most useful in it?

GO 4: Build some models of Techno-CLIL in History-subject context to suggest, emerged by the previous points.

SO 5: Design a model of Techno-CLIL in History-subject context for CLIL teachers alone, emerged by the theoretical and empirical results of this research and according to yet validated models in the literature.

- Which model can be suggested to History teachers alone, so as to take advantage of Techno-CLIL, as emerging by this whole research? Why?

SO 6: Design a model of Techno-CLIL in History-subject context for CLIL teachers in collaborative teams, emerged by the theoretical and empirical results of this research and according to yet validated models in the literature.

- Which model can be suggested to teachers in collaborative teams for the subject of History, so as to take advantage of Techno-CLIL, as emerging by this whole research? Why?

2. Design of the empirical research

According to the theoretical framework 1, which has defined CLIL as an open and significant environment for the students' holistic growth in the acquirement of 21st century skills (e.g., see pp. [55-57](#)), thanks to the essential contribution of technologies for communicative and cognitive enhancement (see pp. [151-184](#)), and in which the participatory teaching and learning should be the way to change the mainstream schooling (e.g., see pp. [119-120](#)), fostering the Learning to Learn and Learning by doing, other than Life-long Learning for the all participants to the school community (e.g., see p. [104](#)), it has been adopted the paradigm of action-research, in its form of "critical participatory action research" (Kemmis et al., 2014) (See paragraph [3](#)). Indeed, the consideration of the researcher about CLIL implementation, compulsory in Italy but largely disattended (see p. [72](#)), as an experienced teacher and a trainer in the educational use of ICTs, has permitted the dialogue with some school's managers and teachers, in order to commonly answer (in their classrooms, so with students too) to the objectives of this research, thanks to different adjustments of what treated in a brief blended CLIL course, and to various choices of strategies and tools by the participants.

So, it has been adopted a methodological development based on qualitative strategies, given that the questions to answer in this research cannot be in line with a positivist *objectivity* through the observation of precise variants to take under control (Kemmis et al., 2014), for which, among the other things, there would be uncountable bias, due to the contemporary adoption in the classrooms of more than one methodologies, frameworks and tools in different schools and classrooms. "The strategy in qualitative designs is to allow the important dimensions to emerge from analysis of the cases under study without presupposing dimensions will be. The qualitative methodologist attempts to understand the multiple interrelationships among dimensions which emerge from the data without making prior assumptions about the linear or correlative relationships among narrowly defined, operationalized variables. In short, an inductive approach to evaluation research means that an understanding of program activities and outcomes emerges from experience with the program" (Patton, 1980, p. 41).

So, qualitative strategies are according to the paradigm of "critical participatory action research, (in which), far from being 'disinterested', participants are profoundly interested in their practices, in whether they understand their practices and the consequences of their practices, and in whether the conditions under which they practice are appropriate" (Kemmis et al., 2014, p. 6), contributing to develop a research-experience with mostly narrative data. These data are far from being "constrained by predetermined categories of analysis contributes to the depth and detail of qualitative data" (Patton, 1980, p. 97), so allowing in-depth and detailed studying of social relationships, as in a classroom, where the most significant elements for any research are complex and shared "sayings, doings and relatings" (Kemmis et al., 2014, pp. 20-21). Qualitative methods are also according to the aim of this research, to contribute to spread

further the concrete adoption at school of Techno-CLIL, not only theoretical studies, yet abundant, being it a top-down practice in almost all the European countries (Eurydice, 2017).

Moreover, it happens in the agreement of the same nature of qualitative researches, whose most desired characteristics, although often debated, many times include the fact that "the researcher must become 'one of them' among the research participants. The necessity to 'become one of them' implies recognizing two points: firstly, of course, that I, as a researcher, am not one of them; and, secondly, that the researcher must reflect on what it means to become one of them and if that is in fact possible" (Cavalcanti, 2017, p. 471). As a matter of fact, the second point, as said, was possible, thanks to the researcher's being part of the scholastic community, whereas the first implies that the researcher is seen by the scholastic communities as more experienced in Techno-CLIL, so a guide before, and then a scaffolder of actual practices, who provokes reflection and suggestions about them.

So, it was decided to conduct this empirical research in Italian Licei in the area of Cagliari, in particular where Linguistic Licei were included (see [4.](#)), whenever managers and teachers allowed to contribute to what has been clearly proposed to them as an action-research. Since we believe that "*only* teachers can change teaching practices in local settings, even if they are following advice from elsewhere..., that practitioners are the greatest resource of all for changing educational practice, and that, therefore, teachers' research is the most potent force for changing educational practice" (Kemmis et al., 2014, p. 25), in order to collect the needed qualitative data as evidences:

- there were adopted questionnaires (see [5.1](#)) for teachers, pre- and post-implementation, and for students, post-implementation in every classroom and pre- only in the last two;

- it has been done a brief course on Techno-CLIL, during which teachers also dealt with planning in teams and shared pros and difficulties, which has been noted (see [5.2](#));
- during the CLIL implementations, it has been taken notes of relevant points through a grid (see [5.3](#)), and, where permitted, partially voice-recorded, or partially video-recorded and/or taking pictures (see [5.4](#));
- teachers' lesson plans, students' final products and rubrics of assessment, some teachers' comments concerning self-reflections or doubts (included in [5.2](#)), have been posted on the online platform Padlet (see [5.5](#)).

All this data, referring to teachers', students' and the researcher's perspectives, after being analysed separately, have been triangulated as different data sources (Patton, 1980), so as to arrive, in the understanding the different results (cited), to plausible conclusions, as much as possible transferable to other similar contexts, which, however, takes into consideration also everyone's voice, even though different by common conclusions, as something to understand.

Finally, these conclusions are to integrate to previous models in the literature, concerning CLIL in Secondary schools, so as to inductively build some specific models for the subject of History in Techno-CLIL environments.

3. Critical participatory action research

The psychologist Kurt Lewin is supposed to be the creator of the term *action research* (Kemmis et al., 2014), which can be defined as "an iterative process involving researchers and practitioners acting together on a particular cycle of activities, including problem diagnosis,

action intervention, and reflective learning” (Avison et al., 1999, p. 94), and in which it is implied practical thinking, so practice as a form of inquiry for understanding the same practice through changes of it (Elliott, 1991). It is now considered an umbrella-term, under which there are different foci and different manners of data gathering (e.g., action science, action learning, classroom action research, case study, etc.), but sharing two features:

- “the recognition of the capacity of people living and working in particular settings to participate actively in all aspects of the research process; and
- the research conducted by participants is oriented to making improvements in practices and their settings by the participants themselves” (Kemmis et al., 2014, p. 4).

Critical participatory action research is born from Transformative Learning, namely “a special kind of learning trajectory between practices”, which has got the “transformative potential of the ‘inter-practice’ space” (Hodge, 2014, p. 178), according to “Paulo Freire (1982) who argued that in the case of action research we should be ‘learning to do it by doing it’” (Kemmis et al., 2014, p. 2). Its purpose is “to change social practices, including research practice itself, to make them more rational and reasonable, more productive and sustainable, and more just and inclusive” (p. 3), so it “rejects the notion of the ‘objectivity’ of the researcher in favour of a very active and proactive notion of critical self-reflection—individual and collective self-reflection that actively interrogates the conduct and consequences of participants’ practices, their understandings of their practices, and the conditions under which they practice” (p. 6). This is the reason why its steps do not follow neither the fixed steps for traditional scientific research (research question, hypothesis, experimental or observational phase to collect data, analysis of results, their interpretation for new findings), nor exactly the Lewin’s “self-reflective

spiral" (reiteration of planning, acting, observing, reflecting, re-planning and so on), with the researcher as an "outsider" (Kemmis et al., 2014). In critical participatory action research the focus is within the *practice architecture*, i.e. "the social formation in which the practice occurs—the discourses (*sayings*) that orient and inform it, the things that are done (*doings*), and the patterns of social relationships between those involved and affected (*relatings*)" (p. 17). As a matter of fact, these are precisely the data needed and taken into account for the present research about the implementation of History within Technological CLIL environments, through the chosen instruments (see p. [213](#)), in the belief that only the paradigm of critical participatory action research can be adopted to answer to the exigence to gradually change social traditional roles in schooling, and foster communicative environments of participative teaching and learning, to lead to holistic knowledge and critical competence (Kemmis et al., 2014), which are, as seen in the theoretical frameworks, the same demands of Techno-CLIL for the school's actors, also well responding to the role of "insider" of the involved researcher.

Consequently, it is to adopt a common critical point of view of the multiple experiences in classroom presented underneath, but in the awareness that they offer a step for the social understanding on how to spread CLIL through ICTs within Secondary schools, complex topic, as seen (see pp. [49-55](#)), which has to insert in further researches, as much as possible with teachers actively involved in action-research, as the same CLIL literature suggests (Banegas, 2012; Pérez, 2018b). It also means that the researcher had not established how and what tools were to use during the implementation, which were discussed during the common planning, but which were also often open to the choices of students, for tools, and the characteristics of the classroom and the workgroups. And the descriptive and analytic objective of the research were shared with them by the researcher, with the common attempt

of implementing an engaging and high cognitive and communicative open environment for learning, as Techno-CLIL, which required high reflexivity and dialogue amid all the involved parts.

In order to respect needed rigor in this qualitative method, there have been taken into account the following criteria, according to Trainor & Graue (2014):

- alignment with the theoretical frameworks of this research, during the whole design, implementation, analysis and interpretation of the methodological instruments and data (*methodological and interpretive transparency*);
- positionality and reflexivity, “allowing researchers’ views to be visible in design and implementation” (Trainor & Graue, 2014, p. 6);
- final triangulation of data of the different stakeholders, as a dynamic picture of “practice architecture” (Kemmis et al., 2014), not as a static analysis of concordances, according to the chosen paradigm.

4. Contexts

In this paragraph there is firstly given an overall picture of Italian Licei, so as to understand how the scholastic communities, in which this research has been conducted, are organised. Then, there are presented the schools involved in the present research, which saw two phases in two scholastic years with different Institutes. Indeed, whilst three schools accepted to participate in the first scholastic year (but the involved teachers of one of them left at the second meeting, because of their being used only to theoretical training, as they said), the second has seen the contribution of a school, after the involvement and

the renunciation of the teachers of another school, due to the same reason of the other dropout. It will be object of reflexion in the discussion of the results.

Finally, there are presented the brief CLIL courses of the two years and how the CLIL implementation has been planned.

4.1 Italian Licei

Licei are Secondary schools of a term of five years, aimed at achieving a school-leaving certificate, according to the Italian second cycle of the educational system (art. 1 D.Lgs. October 17th 2005, n. 226), revisited in March 2010 for the next scholastic year (D.P.R. n. 89 March 15th 2010) and designing six courses of Licei, other than Vocational and Technical Institutes. They are illustrated in Table 12, according to the Ministry (<https://www.miur.gov.it/web/guest/scuola-secondaria-di-secondo-grado>):

Table 12*Italian Licei with their specific aims*

| LICEI | SPECIFIC AIMS |
|-----------------------------|--|
| Classico | Literary, historical and philosophical education, with specific studies of classic civilisation (Greek and Latin) and humanistic culture |
| Scientifico | Scientific and technological education, with specific studies of maths, physics and natural science |
| Linguistico | FL education, for the achievement of the CEFR level B2 in a FL, and B1 in other two, other than the critical understanding of different cultural identities of diverse traditions and civilisations |
| Scienze Umane | Study of explanatory theories and phenomena linked to the identity construction, and to the human and social relationships, through languages, methodologies and inquiry technics of human sciences. |
| Artistico | Artistic production and mastery of artistic languages and techniques, with knowledge of the artistic heritage in its cultural and historical context and present value |
| Musicale o coreutico | Technical and practical learning of music and dance, in the deepening of their historical and cultural role. |

Note: Own source

All these courses, with 30/31 hours per week of lessons, can see, if approved by the Institutes, other addresses, more specific (such as, for instance, Scientifico/Scienze applicate, which replace the subject of Latin with Computer Science), or add subjects (such as the European Classico, which add two FLs, with 36 hours per week, although with less hours of Greek and Latin). It is also to underline that each Institute can see the presence of more than one course (for example, Classico and Linguistico together), within which teachers can be present in only one and more courses, depending on the manager choice and the qualifications of the same teachers.

All Licei are divided into two two-year periods and a final year, whose conclusion is a state exam, for which students have to demonstrate the achievement of the specific educational profile of the course, in terms of knowledge and competences, but in particular critical and personal

cross-curricula paths (also, as a choice, with a multimedia presentation), so related soft skills, and a personal CLIL product or path (e.g., art. 17, comma 9, DL n. 62, 2017)²⁰.

All Licei have common and specific subjects. The common ones for the final triennium, even though with differentiations of programs by course, are:

- Italian Literature
- History
- Philosophy
- A FL (quite often English)
- Math
- Physics
- Natural Science
- Art History
- Sports Science and Physical Education
- Religion or another subject, decided by teachers, if required the substitution

Altogether, there are totally amid 13 and 16 subjects, depending on the course and their addresses.

It is important to say that History, focus of this research and always compulsory, in the final triennium is normally²¹ taught by graduated in Philosophy, in an only chair with it, whilst, in the first biennium, teaching History is prerogative of Humanities teachers, namely in chairs together with Italian literature and grammar, and/or Latin, Greek and Geography.

²⁰ Yet, as seen (infra, p. [73](#)), all Licei, in their last year, on the one hand, are compelled to CLIL implementation in a non-linguistic subject (and Linguistico in their final three years), but, on the other, it is largely disregarded, due to the fact that CLIL teachers are not enough to guarantee their presence in all the exam commissions.

²¹ Managers can change this rule, which is based on D.M. n. 39/98, but superseded by others.

Another remark is due. FL teachers are graduated in three FLs, among which the first at a recognised minimum level CEFR C1 (art. 4 comma 1 del DM March 7th 2012), but for the others (for whose study at University less years are scheduled) there are no level's indications, because they do not acquire any official certification of linguistic competence in any FL (Nota MIUR 2034 June 10th 2014). Actually, they can teach not only their main-studied FL, but also the others, if they have obtained the qualification in diverse FLs. They teach, in the final triennium, History, Literature and culture of the target language in the target language, as much as possible in dialogue with the other subjects

(<https://www.istruzione.it/alternanza/allegati/NORMATIVA%20ASL/INDICAZIONI%20NAZIONALI%20PER%20I%20LICEI.pdf>).

The above considerations have been marked because History, in the final triennium of Licei, can be considered a shared subject, although it is not often given value to this point, but it is taught by different alone teachers in a classroom. And, in order to plan CLIL cross-curricular topics, it is relevant what can be easier to implement for each teacher: so, if History can be seen together with Philosophy, and/or Italian Literature, and/or one or more FLs. Moreover, it is important to consider if FL teachers are at ease with their subject or they fall back from their preferred FL, because it could influence the well-being of the teacher and its professional relationship with students, but it could be an advantage to plan multilingual activities.

4.2 Schools in the research and participants

Before describing which schools participated with some teachers and their classrooms to this research, it is opportune to illustrate how they were engaged.

Figure 38

Invitation-project sent to schools (s. y. 2018-2019)

| PROGETTO CLIL: MONITORAGGIO, AGGIORNAMENTO E SPERIMENTAZIONE | |
|---|--|
| Referente/i del progetto | Prof.ssa M. Elisabetta Porcedda |
| Destinatari | Docenti di materia non linguistica e lingue straniere dei trienni |
| Descrizione del progetto | <p>Partendo dalla esigenza di implementazione del CLIL all'ultimo triennio dei Licei linguistici e almeno all'ultimo anno degli altri indirizzi, si propone il seguente progetto rivolto al corpo docente dell'Istituto Motzo e con adesione volontaria alla formazione e sperimentazione.</p> <p>FASI:</p> <p>1) Essendo la proponente consapevole che il concetto di CLIL stesso si apre a diverse interpretazioni e, conseguentemente, scelte didattiche, nella prima fase desidera attuare un monitoraggio di partenza con tutti i docenti dei trienni, per l'acquisizione dei dati di partenza, che saranno fondamentali per l'assetto del corso di formazione successivo. Tenendo, poi, presente che la collaborazione coi colleghi di Lingua Straniera verrà ritenuta essenziale per la creazione di più team-teaching all'interno dell'Istituto, si chiederà a questi la partecipazione al corso successivo, oltre che la costante collaborazione. In questa fase si riceveranno anche le adesioni formali e si può prevedere ad Ottobre.</p> <p>2) Corso d'aggiornamento. Al fine di avviare la sperimentazione gradualmente e di favorire lo scambio fondamentale di esperienze tra partecipanti, si propone lo sviluppo di 12 ore di corso su quattro mesi (tre ore al mese in un'unica serata), da novembre a febbraio. Come da normativa vigente, perché l'aggiornamento possa essere approvato come tale, i partecipanti dovranno produrre delle lezioni in classe, da loro elaborate per le loro discipline, che la proponente visionerà come progetto e monitorerà. Argomento incontri:</p> <ul style="list-style-type: none"> - CLIL: cos'è e diverse strategie didattiche - TIC e CLIL: cooperazione ed inclusività - Trasversalità e linguaggi. Team teaching - Progettare e valutare col CLIL: teoria, corsi e pratica <p>3) Verrà proposto un monitoraggio finale, per valutare il gradimento dei partecipanti della formazione proposta, individuare i punti deboli, avviare i team-teaching, prospettare una forma di collaborazione tra docenti online.</p> |
| Finalità | Formazione docenti e avviamento della implementazione d'Istituto del CLIL |
| Soggetti coinvolti | Docenti, alunni durante l'implementazione, un tecnico di laboratorio durante le ore del corso in aula computer, un addetto ATA per le fotocopie e durante l'apertura extracurricolare. |
| Previsione di spesa | Il progetto sarà svolto dalla referente a titolo gratuito, pertanto le spese saranno unicamente relative all'implementazione (fotocopie, tecnico e ATA). |

I dati rilevati coi monitoraggi e, su autorizzazione, i progetti personali dei docenti coinvolti saranno elaborati e pubblicati dalla referente nel corso della sua ricerca sul CLIL per dottorato con l'Università URV di Tarragona.

At the beginning of the scholastic year 2018-2019, it was addressed by email an invitation (in Figure 38) to participate to the research as Licei Linguistici (but also with teachers of the other addresses of the Institute), which are four in Cagliari, to their managers.

The request was to adhere without cost to an action-research on CLIL, in the awareness that the scarcity of CLIL teachers, as seen, avoids its mandatory implementation. The planned activities were:

- an online questionnaire for volunteer teachers, so as to know them on their teaching styles and knowledge about CLIL and use of ICTs;

- the volunteer acceptance of History and FLs teachers, preferably of the final triennium²²; a *participative* course (e.g., see p. [119](#)) of four meetings with them, though not trained in CLIL or not used to implement it, with their own devices (BYOD. See p. [123](#)), so as to see and discuss together fundamentals of CLIL and ICTs (but materials were available to them on Drive from at least a week), so as to plan by teams (according to the theoretical results. E.g., see p. [115](#)) and share lesson plans on Padlet, as a resource for the school;
- a microteaching in their classroom, with the presence of their colleague and researcher for at least half the implementation (this role will be specified case by case per classroom), with final products shared on Padlet;
- final questionnaires for teachers and students;
- the validation as training for the involved teachers of the experience, through a rubric and the evaluation of the experience as training of Institute²³, through another rubric.

It was specified that it did not qualified as CLIL teacher, but fostered the experiential learning (according to the suggestions of the second theoretical framework. E.g., see p. [115](#)), which encourages the application to official courses at University, and that it was open to non-linguistic subject teachers with competence in any FL (as at the basis of CLIL. E.g., see [p 23](#)) at a minimum level of B1. It is relevant, because, in almost all Italy, as in all Europe, as seen, official CLIL training at University is open only to teachers with certifications in

²² It was left the opportunity also to biennium teachers, because managers can decide to assign different chairs in different years, so they could be involved for the prospective of the next scholastic year.

²³ In Italy it is compulsory that teachers are trained, also participating to researches, according to the triennial plan of schools of its priorities, by inside initiatives and external recognised Agencies (*Law 107*, July 13th 2015), but all should be documented and evaluated by parameters of quality. CLIL is almost everywhere included as priority for training, as well as Universities are the primary Agencies for training.

English and from English Departments (e.g. p. [54](#)), not in other FLs, and with higher levels than the initial B1, although it is recognised that CLIL implementation encourage teachers to go further with their linguistic competence (Pérez, 2018b).

After the email, every school was visited, to personally know managers and, eventually, have a contact with a teacher who could organise all the phases. One of these schools, "Motzo", immediately approved the initiative; another saw the manager not interested, because in that Institute there were two CLIL teachers at all, and they did not agree to collaborate with externals; the third, "Eleonora d'Arborea", was the school of assignment of the researcher, although she did not know before the manager, just assigned at the school (like her), but who instructed a teacher for the organisation; the fourth, "Alberti", instructed a teacher for the contact with the researcher, and only much later approved the initiative, which did not arrive at the conclusion of the research.

At the beginning of the next scholastic year (2019-2020), the same procedure has been activated to involve in the present research other teachers in other schools, farther from Cagliari than the previous, and with the intent to implement CLIL through different kinds of Digital Storytelling, according to the literature, and suggested tools to choose the community of involved teachers (including the researcher) and students. Three schools answered: one, in Iglesias, although with two CLIL teachers in History (but who do not implement it), did not actively involved other teachers; another, "Pitagora", in Selargius, instructed a teacher for the contact with the researcher, but abandoned at the second meeting; Liceo "Piga", in Villacidro, Classico and Linguistico, saw the manager and a teacher promoting this initiative and participated to the research.

It is going, now, to give a picture of the involved schools, in particular giving a wider picture of the three schools which carried out the

initiative, according to their available online data, whose annual update is compulsory.

4.2.1 Liceo "Motzo"

It is a Liceo Classico, Linguistico and of Scienze Umane²⁴, in the third city of Sardinia for population, Quartu S. Elena, quite close to Cagliari. This school, recently created (2009) has mainly citizen students, but also commuters from the villages around it, and from Cagliari as well. They present sometimes socioeconomic difficulties, deriving from the economic crisis of the manufacture, on which the city is founded, together with the tourism, and of the agriculture, for its hinterland. Final results of students are generally higher than the national rate, and the school is recognised as centre of excellence, because of its formative and cultural relationships with public authorities and private associations. It proposes also two addresses more: Linguistico ESABAC (which offers two graduations, namely Italian and French) and of Scienze Umane with social-economic option (which include study in Law, Computer Science and Political Economy, other than two FLs). It counts 107 teachers, the most tenured and with no external assignment²⁵. Students are about 800 in total. The school is at a recognised national high level for FL initiatives, such as ESABAC address, Intercultura (which foster students' mobilities abroad at their fourth year), Erasmus+ projects (including students' mobilities and hosting of foreign peers), and educational journeys (mainly in Spain). There are two CLIL teachers, both of History, but only one implement it, precisely in a department of Linguistico.

²⁴ Retrieved from: <http://www.liceomotzo.edu.it/file/ptof2016--2019aggiornamentoa-s2017-8.pdf>.

²⁵ It is possible that the chair, including 18 hours in assigned classrooms, is divided amid two or three schools, to be complete.

4.2.1.1 Involved teachers and related classrooms

This school have participated to the initial questionnaire with 28 teachers of all the disciplines, 10 until the second meeting and 5 to the whole initiative, which involved 4 classrooms. They are listed in Table 13 with their code, assigned for the data analysis:

Table 13

Coded teachers, with their involved classrooms of Liceo Motzo.

| Teacher | Liceo | Classrooms |
|------------------------|--------------------|----------------------|
| MFLS | Linguistico | III BL (18 students) |
| MHB1 | Classico | II AC (22 students) |
| MHB2 (support teacher) | Classico | II AC |
| MHB3 | Classico | I BC (16 students) |
| MLT | Linguistico ESABAC | V CL (23 students) |

Note: Legenda of codes: M=Motzo; FLS=FL Spanish; HB=History Biennium; LT=Italian

Literature Triennium

4.2.2 Liceo "Eleonora d'Arborea"

It is a Liceo Linguistico and of Scienze Umane, also with Social-economic option, which was founded in 1859 as pedagogical school, to train future elementary teachers. So, it is one of the more ancient and one of the biggest Secondary schools in Cagliari, now with two sites which welcomes students of the capital of Sardinia, but above all commuters of the province (75%), within 30 km. This high rate of commuters is cause of higher drop-out than the national average, and it affects students' participation to school retrieval and other activities in the afternoon, other than final results presumably not enough in line

with the national ones²⁶. It can be said that the socio-economic dimension of students is as various as their backgrounds, but tendentially medium-low, as hit by a situation of economic crisis in particular of the agro-pastoral field, more evident in small towns and villages all around the city. It counts 127 teachers, the most tenured and with no external assignment. Students are about 1.400 in total. The school, although beneficiary of various European funds for projects, is not involved in projects concerning FLs, but proposes every year educational journeys, mainly in Spain. There is not CLIL implementation, because of the lack of CLIL teachers, as officially declared in online available documents (<http://www.liceoeleonora.gov.it/progetti/doc15maggio/documento15maggio5Cl.pdf>).

4.2.2.1 Involved teachers and related classrooms

This school have participated to the initial questionnaire with 28 teachers of all the disciplines, 11 until the second meeting and 5 to the whole initiative, which involved 3 classrooms. They are presented in Table 14 with their code, assigned for the data analysis:

Table 14

Coded teachers, with their classrooms of Liceo Eleonora d'Arborea.

| Teacher | Liceo | Classrooms |
|----------------|--------------|----------------------|
| AFLG1 | Linguistico | III AL (17 students) |
| AFLG2 | Linguistico | III GL (20 students) |
| AFLGMT | Linguistico | III AL + III GL |
| AHT | Linguistico | III GL |
| APT | Linguistico | V EL (15 students) |

Note: Legenda of codes: A=Arborea; FLG=FL German; FLGMT= FL German Mother Tongue; HT=History Triennium; PT=Physics Triennium

²⁶ As a matter of fact, the too low participation to national standardised tests does not allow to establish the exact situation.

4.2.3 Liceo "Alberti"

It is a Liceo Scientifico, with two addresses more: Scienze Applicate (see Table [XII](#)) and of Eastern FLs (Russian and Chinese, other than English), the latter at an initial phase (there were not 4th and 5th year yet). It counts 89 teachers, the 25% not tenured, with no external assignment and with high average age (50% is more than 55 y.o.). Students are about 1.000 in total. The school activates every year courses for students and teachers to prepare themselves for FLs certifications. The teachers of this Institute abandoned at the second meeting.

4.2.3.1 Involved teachers

This school have participated to the initial questionnaire with 11 teachers of almost all the disciplines and 11 until the second meeting.

4.2.4 Liceo "Pitagora"

It is a Liceo Scientifico, Linguistico, the former with two addresses more: Sperimentale Sportivo and with opzione Internazionale Spagnola (for which the graduation is valid also in Spain). It counts 78 teachers, mainly tenured, and students are about 700. There are not CLIL teachers, but they have activated the European project of mobility Comenius and every year a Spanish twinning. The teachers of this Institute abandoned at the second meeting.

4.2.4.1 Involved teachers

This school have participated from the initial questionnaire of the second year until the second meeting with 14 teachers of almost all the disciplines.

4.2.5 Liceo "Piga"

It is a Liceo Classico and Linguistico²⁷, which welcomes students of a large province of Sardinia, Sud Sardinia, founded in an agricultural and farming tradition, with critic economic indicators (GDP pro capite is the half of the national average and unemployment rate at twice of the national esteem), but only a little under the national level of education and ICTs diffusion as widespread, more than the national rate. The Liceo is in Villacidro, which was one of the chief towns until 2001, namely until there were united two previous provinces. The town is culturally lively and site of cultural and artistic events, recognised also at national level, and the Liceo, born in 1959, is the cultural centre of it, thanks to an intense dialogue with public and private cultural associations all around it.

It counts 58 teachers, mostly tenured, and students are about 500, half commuters within 50 km. There is a CLIL teacher in Physics, who does not collaborate with colleagues for CLIL implementations. The school was trained in competency-based education and evaluation, but had not promoted yet FL projects for the triennium 2019-2022, whilst an Erasmus twinning project has been completed in the previous triennium. Final results of students are on average with the national ones, a little higher in Humanities and FLs, but definitely lower in Maths.

²⁷ Retrieved from: <https://liceopiga.edu.it/index.php/informazioni/107-atto-di-indirizzo-e-ptof>

4.2.5.1 Involved teachers and related classrooms

This school have participated from the initial questionnaire of the second year until the second meeting with 8 teachers of FLs and History, and 5 to the whole initiative, which involved 2 classrooms. They are presented in Table 15 with their code, assigned for the data analysis:

Table 15

Coded teachers, with their involved classrooms of Liceo Piga.

| Teacher | Liceo | Classrooms |
|----------------|--------------|---------------------|
| PFLE | Linguistico | IV CL (15 students) |
| PFLF | Linguistico | IV CL |
| PFLS | Linguistico | IV CL + V BL |
| PHT1 | Linguistico | IV CL |
| PHT2 | Linguistico | V BL (20 students) |

Note: Legenda of codes: P=Piga; FLE=FL English; FLF= FL French; FLS=FI Spanish;

HT=History Triennium; PT=Physics Triennium

4.3 CLIL blended courses

Due to the fact that the volunteer teachers who joint the action-research were not trained in CLIL, or did not implemented it after the course at University, it was necessary to provide them for theoretical basis of CLIL, strategies and tools (like frameworks and lesson plans from the literature), but giving them the opportunity to learn by doing, choosing what they felt as more appropriate to their and students' styles of teaching and learning, discussing all their attempts and actions together. It is to say that many teachers had wished to have taken part to the methodological course at University, but they were

not admitted, because of their language certification not in English (but in French or Spanish), or because FL teachers.

The theoretical part 2 of this thesis (p. [60](#)) gave the keys to design these short interventions, thanks to the detected key points of CLIL good practices in the literature:

- Starting from language awareness (see pp. [114-115](#));
- Deepening of CLIL tenets and frameworks through online sources and in learning by doing modality (e.g., see p. [104](#));
- Fostering collaborative practices by teaching teams, also during the meetings, in order to plan interventions in their classroom (e.g., p. [111](#));
- Mentions of student-centered pedagogies and linguistic approaches for CLIL, so as to choose strategies for their interventions with classrooms (e.g., pp. [113-114](#));
- Building, and management, of CLIL materials and tasks through ICTs in collaboration (e.g., p. [110](#));
- Presenting the evaluation through rubrics and the students' self-assessment (e.g., see p. [110](#)).

Another crucial point to design this short training has been the assumption of their need of implementing CLIL at school, according to the Directives of the Ministry (see pp. [72-74](#)) and disattended by these schools for lack of CLIL teachers, as well as teachers' curiosity about CLIL through ICTs in teams, so with the opportunity to learn in a collaborative way on teaching content and FLs embedded for students by means of the ICTs, which they all are required to use at school, so as to modernise their teaching strategies. As a matter of fact, they wanted to contribute with their practices as well to this work *in fieri* with their implementations, opinions and judgements, thanks to the choice of the participatory action-research, which made them one of the main characters of it (at the point that teachers who wanted only a theoretical course abandoned at the second meeting, namely when

they had to start their implementations). So, they were aware of the importance of their democratic participation to this initiative, but also of their need of knowledge, essential to put CLIL into practice, about the tenets of CLIL, as well as, for someone, of related student-centered pedagogies, linguistic approaches, new methodologies, evaluation, and online tools, always according to the theoretical part 2 of this research (p. [60](#)).

The short time available addressed to the choice of a blended course, so as to prepare teachers to be able to really contribute to answer to the GO 3, and its SOs, due to its opportunity to post online materials for personal deepening and, on the other hand, flipping the classrooms of teachers, taking more advantage of meetings, in which sharing opinions, difficulties, and working in teams to plan and try tools as well. This choice is also in line with the suggestions for training of the results of the theoretical part 2 (p. [117](#)), which underlined the opportunity of CLIL blended courses with scaffolders (here the researcher), methodology oriented, in both theoretical and linguistic aspects, for the design of technology-enhanced CLIL classrooms and pedagogical approaches learner-centred and task-based.

So, it was designed, and proposed to managers and teachers a course of 4 meetings of 3 hours each, slightly different in the second year from the first, because different was the main focus, as said. In the first year, meetings happen once a month, so as to implement alone with students step by step, but at the end in teams of three teachers (History, researcher and FL, German, English, or Spanish) what seen, discussed and planned during the meetings; whereas, in the second year, meetings were once a week, so as to implement in teams at the end (one of 5 teachers, History, researcher, English, Spanish and French; one of 3, History, researcher and Spanish). The themes of the meetings are illustrated in Table 16:

Table 16*Themes of the meetings of the two CLIL courses*

| S. Y. | 1 st | 2 nd | 3 rd | 4 th |
|------------------|---------------------------------------|--|--|---|
| 2018-2019 | What is CLIL? Pedagogy and Didactics. | ICTs and CLIL: cooperation and inclusivity | Language and content: cross-curricula and transmedia. Teams teaching or teaching teams | Planning and evaluating within CLIL: lesson plan and rubrics |
| 2019-2020 | What is CLIL? Pedagogy and Didactics. | Planning and evaluating within CLIL: lesson plan and rubrics | Digital Storytelling. Design of a topic through Spark Adobe and/or Emaze | Digital Storytelling. Powtoon. Gamification and Serious games. Design of a topic in team. |

The meetings were preceded, and followed after the first one, by the playlist of the next meeting, brief videos and other materials for teachers (journal articles, links, frameworks), as the examples reported in Figures 39 and 40, shared on Google Drive by school, so as to put into practice, through this blended course, the same flipped classroom suggested for their implementations, and on which give their

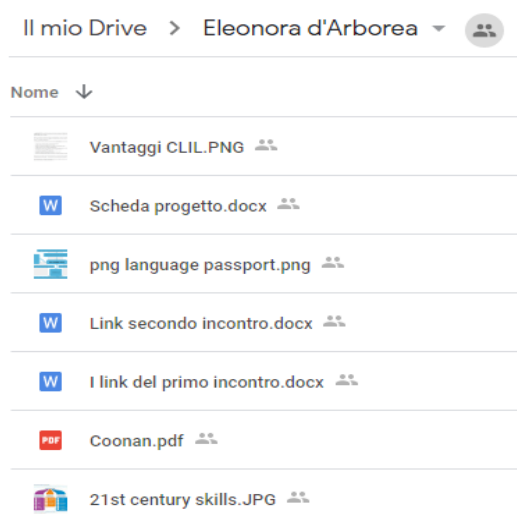
Figure 39*Example of own file-sharing on Google Drive by school*

Figure 40

Example of links shared through Google Drive with teachers

Mio esempio di [Prezi](https://prezi.com/73p-kjfxsb6y/?utm_campaign=share&utm_medium=copy)
http://prezi.com/73p-kjfxsb6y/?utm_campaign=share&utm_medium=copy
Sito [webquest](http://webquest.org) (ma potete trovarne altri diversi ed in diverse lingue con Google)
<http://webquest.org/search/index.php>
Skype in [the classroom](https://education.microsoft.com/skype-in-the-classroom/overview)
<https://education.microsoft.com/skype-in-the-classroom/overview>

Sito che utilizzo per realtà aumentata:
<https://studio.hpreveal.com/landing>

Siti per la didattica coi video (l'ultimo è quello che uso anche per i test su [prezi](https://prezi.com))
<https://ed.ted.com/lessons>
<http://www.raiscuola.rai.it/startLezioni.aspx?crea=1>
<https://vizia.co/>
<https://www.tes.com/lessons/>

feedback as a methodology for CLIL. Moreover, they, during the meetings, were solicited to work through BYOD, given that there were problems with the computers in the laboratories and that they so could try, and then adopt, it with students, as a strategy to evaluate for this research.

Teachers were invited, after every meeting and work at school, or lesson plan, to post everything on Padlet, but it has been often disattended, until they did it for their final works and those of their students. A platform for sharing,

During these meetings, fieldnotes, comments and some emails have been collected by the researcher. They are illustrative of how teachers welcomed or not CLIL, of their planning its implementation, of their opinions and judgements concerning the SO of the GO3 of this research.

4.4 CLIL implementations: lesson plan and organisation

Every CLIL implementation needs to be accurately plan, given that it is intrinsically complex (e.g., see pp. [49-55](#)). So, the researcher, with the agreement of the other three colleagues, of the Licei “Motzo” and Eleonora d’Arborea, who had attended a CLIL course, gave all teachers a largely used model of lesson plan (in Italy, for CLIL methodological courses), simplified, taking into account the inexperience of them about it, and reported in Table 17:

Table 17

Lesson plan for CLIL brief implementations

CLIL progetto micro-lezione docente o team

| | |
|---|--|
| Docenti | |
| Materia NL | |
| Lingua Straniera | |
| Obiettivi (verbi) | |
| Argomento | |
| Content (contenuto) finalità | |
| Communication finalità (in lingua straniera) | |
| Cognition finalità (secondo la piramide di Bloom) | |
| Culture finalità (di ampio respiro legata a macro tematiche) | |
| Procedure | |
| Introduzione: brainstorming per saggiare le conoscenze pregresse deli studenti | |

| | |
|--|--|
| Docenti | |
| Warm up (docente con tutta la classe): gettare le basi dell'argomento in modo visivo | |
| Attività (massimo 3) in gruppi o per pari di cooperazione per ottenere gli obiettivi: descrizione del progetto | |
| Tempo per ogni attività | |
| Risorse e materiali (prevalenza informatici e online) | |
| Prodotti presentati dagli alunni e autovalutazione | |

Note: The table is here reported as given to the teachers, so not in APA 7th.

As it can be seen, it is based on the framework of the 4 Cs (p. [25](#)), related to the Bloom's Pyramid (p. [26](#)). It suggests to start with planning a multilingual brainstorming, so students can build a translanguaging glossary, as shared content-obligatory language (language **of** learning) and content-compatible language (language **for** learning), opening the path of students' content-enriching language (language **through** learning. See p. [20](#)) during their activities for tasks in workgroups, aimed to reach the planned goals per C of the framework (p. [25](#)) and of HOTS. But, before this, teachers were encouraged to think about a warm-up, as a brief introduction to the topic through gamification, visuals, videos or a serious game, in order to involve students by means of engaging participative and inclusive activities, according to the EdTech Quintet (p. [182](#)). The resources for students could be self-built by teachers, or taken by online repositories of CLIL lessons, or adapted for their students from previous online or paper materials. Despite this, it was asked to leave students free, as

much as possible, to choose their materials and online tools for their products, in order to be a real participatory community of teaching and learning, but to create an easy self-assessment for them, through an I can do statement for acquired knowledge and skills. On the other hand, for their evaluation, all agreed to use the online tool RubiStar (whose logo is in Figure 41), in order to build their rubrics for the evaluation of students' paths, knowledge and skills, to make see to students at the beginning of the action, so giving them the guidelines to do well.

The consideration of time has been important, because it was not allowed so much by managers and by the same teachers, always involved in many other commitments. This is why all agreed to plan every implementation at school between 4 and 6 hours at all, and to welcome the researcher in classroom at least for two hours, preferably at the beginning and/or during the final presentations of students in plenary. During this participation, precisely the second time we were involved, we make teachers see our grid of observation (see [5.3](#)), in order to know their opinions and suggestions, which was welcomed for their CLIL orientation.

Finished the implementations, teachers (sometimes with their students) commented the experience with the researcher, and posted all concerning it on Padlet (see [5.5](#)), after being involved, as their students, in a final questionnaire (see [5.1](#)).

5. Instruments

According to Patton, "researchers using qualitative methods strive to understand phenomena and situations as a whole... This holistic approach assumes that the whole is greater than the sum of its parts; ... Thus, it is insufficient simply to study and measure the parts of a situation by gathering data about isolated variables, scales, or

dimensions. In contrast to experimental designs which manipulate and measure the relationships among a few carefully selected and narrowly defined variables, the holistic approach to research design is open to gathering data on any number of aspects of the setting under study in order to put together a complete picture of the social dynamic of a particular situation or

program. This means that at the time of data collection each case, event, or setting being studied is treated as a unique entity with its own particular meaning and constellation of relationships emerging from and related to the context within which it exists" (Patton, 1980, p. 40). This is the reason why diverse instruments have been chosen, so as to collect multi-focus descriptive data, namely evidences (according to Kemmis, et a., 2014), from all the participants, which included at the same level the researcher, so as to obtain not only the holistic interpretation of data to answer to the established SO of this research, but, above all, a multi-voice interpretation from the stakeholders, according to the chosen paradigm of critical participatory action-research, collected without the aim to verify hypothesis, but as evidences from step-by-step practice (for the exact meaning of practice, see Kemmis et al., 2014, pp. 51-52) in scholastic communities.

With this aim, there have been chosen four instruments: questionnaires, a grid of observation, notes of comments, recordings or video-recordings (when authorised), an online platform (Padlet).

5.1 Questionnaires

Conscious that "in critical participatory action research, we are usually collecting evidence about ourselves and other participants" (Kemmis et al., 2014, p. 185), but being questionnaires part of a larger research,

and not the only instrument, so as to not consider our results as fixed, yet merged in the complex reality of CLIL, which needs a multi-focus, and whose interpretation is open to further actions by teachers and researchers, we agreed with Brown that “one of the most positive features of survey research is that it can be used to efficiently gather a wide variety of different types of information from a wide assortment of sources” (Brown, 1997, p. 112), which implies the steps of (cited, p. 114):

- “A. Planning the survey project.
- B. Designing the survey instrument.
- C. Gathering and compiling the survey
- B. Designing the survey instrument.
- C. Gathering and compiling the survey information.
- D. Analysing the survey statistically.
- E. Analysing the survey logically.
- F. Reporting the results of a survey”.

It is here to specify that the survey project, part of the present research, is not focused on quantitative data and their analysis, which is exclusively aimed to obtain a needed general intake of biodata of the involved participants and schools. This is why questionnaires were not pre-tested and validated as tools for quantitative or mixed analysis, but, according to Brown (1997), they have been only ‘analyzed with straightforward averages or percentages of people selecting each option, or both’, as ‘usually sufficient for finding interesting patterns in closed-response results’ (Brown, 1997, p. 118). Questionnaires, conversely, were aimed to obtain perceptions, suggestions and judgement by the stakeholders about CLIL through Technologies, in particular for the subject of History, so open-questions and semi-structured ones have been preferred, to obtain qualitative data, concerning the changes of their schooling through CLIL with

technologies. This includes the post-implementation questionnaires for teachers and students, as illustrated in the next paragraphs.

So, it has been proposed to volunteer teachers in the three schools a 'survey tool' as 'self-administered questionnaire' (Brown, 1997) and it has been decided to autonomously build these questionnaires, in order to focus precisely on the biodata (also specifically on topics related to CLIL) and opinions, needed to start the action-research with various classrooms and teachers, and, for those post-implementations, on the questions of the first three SO of this empirical part (see p. [214](#)). Given that SOs ask for suggestions, perceptions, opinions, etc., although it requires a big effort both to reach clear questions to answer and many texts to analyse (Hopkins, 1989), there are many open questions, mainly in the final questionnaires. Indeed, since "qualitative data provide *depth* and *detail*", they "may emerge from responses to open-ended questions on a questionnaire", with the purpose "to understand the world as seen by the respondents... without predetermining those points of questions is to enable the researcher to understand and capture the view through prior selection of questionnaire categories." (Patton, 1980, p. 22).

All the questionnaires for teachers consists of three parts, apart from an introduction, in which the first includes general biodata (age, subject, length of teaching experience, mobilities), the second specific biodata on CLIL and knowledge of its related topics (i.e., aims of CLIL, attended courses on CLIL and on ICTs as well, FLs involved and certifications CEFR), and the third is centred on the practice of CLIL (opinions on their training, needs, use of ICTs, etc.). This is similar to an interview on their experience in the classroom, so as to be triangulated with the other gathered data. Instead, the final questionnaires for students, anonymous, are not divided in parts, although they could be considered in sectors (specific biodata, opinions and judgements about the practice).

In five schools there were administered initial questionnaires to teachers, other than post-CLIL-experience, but with different aims and design between the first and the second year of the research. Since the second year sees also initial questionnaires for students, whilst the first year only at the end of the implementation, it can be clearer to illustrate this used technique per year too, and not only by the line pre-/post-implementation of CLIL, bearing in mind that every questionnaire for teachers has been sent and self-administered on Google Forms, whilst those for students have been administered in printed form. The choice of online questionnaires has been done in the awareness that teachers could have ignored the request to fill in them (Brown, 1997), especially for initial questionnaire, but it could also give the measure of a certain CLIL interest. Another point to take into account was that teachers could have doubts or incorrect interpretation of the questions. So, in every involved school, we have been keeping in touch with an internal teacher, who has to report any difficulty to the researcher and obtain clarifications for the interested, other than to involve the colleagues' participation. Moreover, during the first meeting, the initial questionnaire has been seen all together, as the starting point of the experience.

5.1.1. Initial questionnaire for teachers s.y. 2018-2019

The aim of this questionnaire was to acquire a general presentation of teachers of the three involved schools, preferably of the final triennium, before their involvement in a brief course about Techno-CLIL and in the action-research. In particular, it was to know if:

- there were CLIL teachers, their perceived lacks in training (so as to verify our conclusions of the theoretical framework 2 before the course in their school, and involve them), and their

perceptions and opinions about their difficulties and the pros for students in the CLIL adoption (according to the second SO of this part, Table [11](#)), other than their teaching style, concerning ICTs, teaching teams and evaluation (according to the second and the third SO, Table [11](#));

- they were not CLIL trained, their perceptions of CLIL aims, other than testing their interest in it, as well as their knowledge and experience in bilingual education and ICTs, so as to plan tailored activities for their involvement in a common CLIL teaching teams experience, at the basis of the action research, which has to answer to the four SO of the empirical part.

Since “surveys are most often developed to accomplish a combination of functions” (Brown, 1997, p. 115), being this questionnaire semi-structured, as it “enables respondents to raise other relevant issues not covered by the interview schedule” (Adamson et al., 2004, p. 394), it gathers biodata, opinion, self-rating and judgement functions. Indeed, apart from a short introduction, it consists of three parts:

- 1) Age and teaching data (4 close questions, and 1 plus open, to specify mobilities’ experience, related to bilingual experience), as biodata function;
- 2) CLIL knowledge and interest (9 close q., of which 1 double choice, 1 multiple choice and 7 y/n, plus 6 justification’s open requests to their previous answers), as self-rating, judgement and opinion functions, other than specific biodata on CLIL;
- 3) Only already CLIL experienced teachers addressed, in order to know how they have been involved in it and acquire their self-rating, judgement and opinion (9 closed q., 8 open).

The questionnaire has been corrected in formal aspects and proved by the director of this thesis, then commented by the teachers during the first meeting of the course.

5.1.2. Final questionnaire for teachers s.y. 2018-2019

The aims of this this questionnaire, as the one for students, were to acquire perceptions, opinions and suggestions from the involved teachers on the results of the experience, and the used tools and ICTs, so as to answer to the SO two and three of this part of the research. Indeed, in critical participatory action-research “surveys—especially short and focused surveys—can be useful to show change in attitudes or opinions or levels of satisfaction over time, after we have made changes in our practices” (Kemmis et al., 2014, p. 185).

As the initial, it was designed gathering biodata, opinion, self-rating and judgement functions (Brown, 1997), consisting as well of three parts, apart from the presentation, whose first two parts have been addressed to all the initial participants to the initiative, whereas the last only to whom completed the action-research. In the awareness that “psychometric theory dictates that when a concept cannot be measured directly, a scale comprising a series of questions that tap into different aspects of the concept should be developed and administered” (Adamson et al., 2004, p. 396), in order to respect as much as possible the criteria of reliability and validity, we followed that “the satisfaction of these conditions is most likely when the resulting instrument contains several items to measure the concept of interest in order to permit testing for internal consistency and to minimize random error” (cited, p. 396).

The parts consist of:

- 1) The same biodata of the initial, apart from mobilities (4 closed q.);
- 2) Specific biodata related to CLIL (FL knowledge, mobilities, ICTs; 7 close q., of which 1 multiple choice and 6 y/n, and 5 open, as clarifications for the previous answers), and opinion functions, with the request to express and motivate the leaving of the

experience, for whom left (3 q., 1 y/n, 1 multiple choice and 1 open, as justification);

- 3) The reflexion about the experience and the involved aspects (topics related to CLIL, pros and cons, perceptions on limits and advantages, results of students, evaluation of the experience; 10 closed q., of which 7 multiple choice, 1 Likert scale from 1 to 10 for the evaluation, 2 y/n/p, and 10 open, to justify previous answers, give opinions and self-ratings).

5.1.3 Final questionnaire for students s.y. 2018-2019

Students, as CLIL anonymous stakeholders, participated to this questionnaire, as their teachers, so as to express their opinion, perceptions and suggestions about the results of the experience, and the used tools and ICTs, so as to answer to the SO two and three of this part of the research. So, apart from a short presentation, this questionnaire, according to Brown (Brown, 1997) as those for teachers, included 22 questions, 7 closed (with specific biodata related to their CLIL experience, 2 y/n, 1 Likert scale for self-rating, and the others as multiple choice, with functions of opinion and judgement) and the others open, with the same functions of opinion and judgement.

It has been filled in by students during the last hour of the implementation in their classroom, so with the presence of their involved teacher and of the researcher, as participated with them to part of the implementation.

5.1.4. Premise to the scholastic year 2019-2020

The second year of CLIL research at school started with the purpose to start a quasi-experiment of tools for Digital Storytelling in the two schools which agreed (see p. [222](#)), according to the lecturer of the Department of Pedagogy of the University of Cagliari with whom we collaborated and who supervised the initial questionnaires for teachers and students, as the director of the thesis.

Despite our purpose and plan, one of the schools, as said, did not go on, and, in the Liceo "Piga", four of the five involved teachers chose the way of another critical participatory action-research in their common classroom, whilst in another classroom it was not possible, because there were not the conditions to collaborate among teachers (a team of a History teacher, a Spanish one and the researcher, both for History and for English), and between teachers and students, used to traditional not-collaborative work at school. All the data concerning this classroom are considered apart from the research, yet useful to compare the results. And, even though the design of the research was adapted step by step to the involved main characters, as a work in progress, it cannot be underestimated the adoption of the critical participatory action-research, for which the adaptability to the choices of the participants is the sovereign condition, which produce multi-focus evidences of practices in democratic environments (Kemmis et al., 2014).

Closed the premise, the initial questionnaire for the involved teachers (originally 14 in the Liceo "Pitagora" and 8 in the "Piga") includes exploring questions to take into account in the analysis.

5.1.5. Initial questionnaire for teachers s.y. 2019-2020

Although this instrument was briefer than in the previous s.y., its aim was the same of that one, namely to acquire a general presentation of the participant teachers, before their involvement, preferably in teams, in a brief course about Techno-CLIL through different kinds of Digital Storytelling and diverse tools, suggested by the researcher, and the implementation in their classroom. It was, so, to know if there were CLIL teachers, their FL and ICTs competences, other than particularly their knowledge and practice of educational integrated methodologies, so as to model the course.

After a short introduction, it consists of three parts for all and one, to compile in a paper, in presence as for the online, for CLIL teachers or with some experience in it:

- 1) Age and teaching data (4 close questions), as biodata function;
- 2) FL, ICTs, CLIL and Digital Storytelling knowledge and practice (10 closed q., of which 4 multiple choice and 6 y/n, plus 7 justification's requests to their previous answers), as self-rating, judgement and specific biodata functions on CLIL, FLs and ICTs;
- 3) Knowledge of CLIL and practice of new methodologies, so as to acquire their biodata and judgement on them (3 closed q., with 2 Likert scales and 1 y/n, and 2 open, as justifications);
- 4) Practice of CLIL, with opinion and judgement functions (4 closed q. and 7 open).

This questionnaire has been filled in by teachers during the first meeting, giving them the opportunity to ask for eventual clarifications, but not needed, apart from a block to remove in the Likert scales questions.

5.1.6. Final questionnaire for teachers s.y. 2019-2020

Since the implementation regarded the SO 2 and 3, exactly as in the previous year, in order to use the same instrument for the same concerned SO of the first year, but enriched of opinion and judgement functions about Digital Storytelling, this questionnaire, addressed to the initial 8 participants, results so composed (apart from the presentation):

- 1) The same biodata of the previous year (4 closed q.);
- 2) The same of the previous year, but with the substitution of the y/n/p closed answer, regarding the use of ICTs during the lessons, with a Likert scale to self-rating the perception of the frequency of their use in a s.y., more comparable to the data of the research;
- 3) The same of the previous year, but with 2 q. more about Digital Storytelling (1 closed of self-rating about its advantage for CLIL and 1 open of justification), adding this voice in the three multiple choice q. on topics perceived as acquired, fully implemented, or to deepen. In another multiple choice, concerning the perceived pros for students deriving from CLIL, it has been added the voice "HOTS acquirement", deriving from the observation and the evaluation of the results.

5.1.7. Initial questionnaire for students s.y. 2019-2020

This exploratory questionnaire was built in order to acquire students' biodata, regarding their age, as well as CLIL, FL and ICTs knowledge and contexts of use, other than their feeling about History and groupworks. In particular, it consists of 9 closed q. (2 of self-ratings, 3 y/n, 3 multiple choice, and 1 for the age) and 4 open (2 of justifications and 2 with judgement function).

It has been administered in presence, after the presentation of the project by their teachers, but before starting. As suggested by the lecturer of the University of Cagliari, who supervised it, they wrote their chosen nickname in their copy of the initial and final questionnaire, so as to respect their anonymity, so as to have a picture, with the final ones, of each student.

5.1.8. Final questionnaire for students s.y. 2019-2020

Having students had an active role, in particular in the classroom of the action-research, like for teachers, it has been chosen to adopt the same questionnaire of the previous year, so as to use the same instrument for the same concerned SOs. As said, the only difference is the opportunity to have a larger view on students, thanks to the correspondence with the initial questionnaire.

5.2 Fieldnotes and comments

Fieldnotes and comments of all the participants can be considered important instruments in this research, because they are aimed at register reflexions, perceptions, actions, relationships before, during and after the CLIL implementation, according to the SO of the GO 3 of this research (Table [11](#)). Indeed, “in critical participatory action research, it is not necessary to become a slave to ‘data-collection’ or a hostage to the methodological claims of validity and reliability. It is necessary, by contrast, to be careful about gathering and interpreting and analysing and interrogating evidence. The primary purpose of gathering evidence in the ‘research’ part of action research is to feed and nurture self-reflection about our *practices*, our *understandings* of our practices, and the *conditions* under which we practise—especially

collective self-reflection in public spheres” (Kemmis et al., 2014, p. 70). On the other hand, these comments have been registered also in the classroom where the action-research was not possible and they have been a key for understanding the dynamics of CLIL practice in those conditions.

Even though the best suggested instrument is a journal, as a self-reflexion diary of all the participants (Kemmis et al., 2014), having been this action-research implemented in more than a classroom, so involving many people, it has been opted for different instruments in different moments. Fieldnotes and comments are one of them and formed a brief report of “our understandings, our practices, and the conditions under which we work” (cited, p. 70) of every meeting and implementation, with significant *sayings, doings and relatings* (infra, p. [211](#)) and *self-reflexions*, as macro-categories, written after the meetings and the implementations by the researcher and that constitutes, together with the email letters and some comments posted on Padlet, a part of the attributed fold, as their *portfolio* (Kemmis et al., 2014), of each teacher-participant, so as to “collect many different types of evidence that allow you to triangulate (cross-refer and cross-check) across different types and different sources of evidence” (p. 70). On the other hand, students and their classrooms significantly appear in the same folder of related teachers, so as to hide their personal identities, but reporting their significant sayings, doings and relatings. Fieldnotes and comments were needed also because video-recordings have been scarcely allowed by teachers, in particular in classrooms, for privacy reasons, whilst, in particular if sayings and relatings are concerned, it is important to register also gestures, facial expressions and so on, which can give a better understanding of them, according to the literature of qualitative research (Polkinghorne, 2005), particularly action-research (e.g., Hadley, 1997; Kemmis et al., 2014), and of CLIL training (e.g., Marsh, 2012).

It is to underline that this instrument registers also evidences regarding the results of the definition of CLIL and of CLIL teacher training, GO 1 and 2.

5.3 Grid of observation and orientation

Before the presentation of this instrument, it is opportune to do a premise about the reasons why it was needed. Indeed, it is to say that, after the training meetings concerning the most important theoretical aspects of CLIL, the teachers involved in the implementation were inexperienced of it (apart from two of them), but with decades of teaching experience. They saw in the practice of CLIL through technologies the potential to change their teaching in an engaging way, yet complex, also because of their short training. So, they needed “a tool to take into account before and during their CLIL lessons, so as to perform better” and “consider whether the observed weaknesses are to be strengthened through further training, in particular aspects” (Porcedda & González-Martínez, 2019, p. 42). On the other hand, the literature suggests to use video-recordings (e.g., Hüttner & Smit, 2017; Morton, 2009), so as to monitor their practice in classroom, and to verify the correct implementation of CLIL essential elements, both pedagogical and linguistic (see the Theoretical framework 1). For instance, Coyle suggests them in LOCIT (p. [62](#)) as a method of self-evaluation, but also able to make successful learning practices shared between teachers and students (Coyle, 2005). Actually, recordings and video-recordings are often not allowed at school, so, the same Coyle (cited), suggests the use of forms, written by a colleague of the involved teacher during the lesson, in order to monitor the implementations and to review them together in a second time. This is the way we have chosen.

Then, grids and forms, containing essentials elements of CLIL, concerning both teachers and students, have been searched for, looking up the literature. In particular, according our theoretical frameworks, they had to contain elements of:

- the nature of input (length, FL or MT, aim, etc.);
- the nature of feedback (length, positive/negative, etc.);
- use of ICTs (devices, tools, cooperation, etc.);
- the nature of tasks (duration, HOTS implied, content and language deepening, etc.);
- students' involvement (understanding of inputs, output, interactivity, etc.).

These elements to take into account are important, because they have also to be verified with teachers' lesson plans, designed in teams before the implementation.

Yet, in the literature, grids and forms are not interrelated in the detection of teachers' and students' practices. Moreover, they are often only self-assessments for students and really long series of questions, once taught modules²⁸. So, it has been decided to build our tailored grid of observation, but also as an indicative tool for inexperienced teachers, to give them a concrete orientation within the essential elements to consider in their action.

Our grid is here reported in Table 18 in its English version:

²⁸ See, for instance: Checklist: How 'CLIL' are you?, in Dale, L. and Tanner, R. (2012) *CLIL Activities*, Cambridge: Cambridge University Press.

Table 18

CLIL monitoring grid

CLIL MONITORING GRID (English version)

Name: Subject: FL:
 Project Duration: Actual Duration:
 Monitoring time: Project Phase:
 Teacher's CEFR level:

FL % in project: Actual FL %:
 Number of inputs:
 Number of Feedback:

Repeat for each phase, if monitored more than one

| | | |
|--|---|---|
| INPUT | | |
| VISUAL TIME total length: | | |
| MT: | FL: | GESTURES: yes no |
| SPEAKING TIME total length: | | |
| MT: | FL: | CODESWITCHING: yes no |
| ADDRESSED TO: | | |
| Class: | Groups/Peers: | Individual students: |
| AIM: | | |
| Introducing: | Clarifying: | Scaffolding: |
| TEACHER'S FEEDBACK | | |
| Length: | Positive: | Negative: |
| <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| FL: | MT: | Gestures: |
| <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| ADDRESSED TO: | | |
| Class: | Groups/Peers: | Individual students: |
| <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| ICTs | | |
| BYOD: yes no | | SHARED DEVICES: yes no |
| DEVICES: | | |
| TOOLS CHOSEN BY TEACHER: | | |
| TOOLS CHOSEN BY STUDENTS: | | |
| TOOLS FOR FL ACQUISITION: | | |
| COOPERATION THROUGH ICTs: yes no partially | | |
| WORKING TIME THROUGH ICTs: | | |
| TASK | | |
| BLOOM'S PYRAMID LEVEL ACHIEVED: | | |

| | | | |
|--|---------------------|---------------------------|--|
| Planned Duration: | | Actual Duration: | |
| ACADEMIC LANGUAGE USE: | | | |
| Reduced: | Medium: | Large: | |
| CONTENT DEEPENING: | | | |
| Reduced: | Medium: | Large: | |
| WORKS PRESENTATION: | | | |
| Oral: | Written: | Online: | |
| STUDENTS' GENERAL FEEDBACK: | | | |
| Positive | | Negative | |
| STUDENTS | | | |
| Number: | | General CEFR level of FL: | |
| PARTITION PER TASK: | | | |
| Peers: | Homogeneous groups: | Inhomogeneous groups: | |
| GENERAL UNDERSTANDING OF INPUTS IN FL: | | | |
| Low: | Medium: | High: | |
| GENERAL UNDERSTANDING OF INPUTS IN MT: | | | |
| Low: | Medium: | High: | |
| COOPERATION: | | | |
| Reduced: | Medium: | Large: | |
| INTEGRATION: | | | |
| Reduced: | Medium: | Large: | |
| INTERACTION IN FL: | | | |
| Reduced: | Medium: | Large: | |
| INTERACTION IN MT: | | | |
| Reduced: | Medium: | Large: | |
| STUDENTS WHO CARRY OUT THE TASK IN TIME: | | | |

Note: The table is here reported as published, so not in APA 7th.

As seen, CLIL should be student-centered (e.g. p. 26) and task-based (e.g., Muñoz, 2014; Meyer, 2010). Concretely it means that inputs, as feedback, should be accurately thought as the best way to receive the best output from the students they are addressed to (see p. 27), or to scaffold their work (e.g., Meyer, 2010); namely they have to be analysed together, in their interactions. Indeed, if normally, for instance, initial inputs are to be brief and preferably visual and in FL to produce students' not minimal output, according to bilingual strategies (e.g., Coyle, 1999), it can be that low levels of FL, regarding teachers or students, require a high percentage of codeswitching, or that the implementation starts in MT, but with great final works or students. So, the comparison of the first part of this grid with the last one seems to be crucial, in particular in the consideration of the critical participatory action-research, which gives value to the awareness of

common points to change, so as to do effective changes (Kemmis et al., 2014).

Given, then, the importance of CLIL as a high communicative environment, it is also opportune take into account how ICTs are used, the collaboration they contribute to create (e.g., see pp. [28](#) and [106](#)), as well as the use of languages (e.g., see p. [55](#)) and gestures (Novotná & Hofmannová, 2005) to communicate.

But, above all, there are to monitor the achievement of HOTS, the content deepening (pp. [15-18](#)) and its related academic language (pp. [19-20](#)), and, finally, as manifestation of engaging, the level of perceived integration amid students, and if they carry out their task in time (Tardieu & Dolitsky, 2012).

The grids of the various lessons of the teachers and students involved are fundamental instruments to answer to the questions of all the SO of the GO 3 and at the basis of the building some CLIL models for History, our GO 4, as a collection of evidences from the practice.

5.4 Recordings, video-recordings and pictures

These instruments are considered as the most important by the literature (e.g., Coyle, 2005; Patton, 1980; Kemmis, et a., 2014), in order to detect pros and cons by the attitude and reactions of the participants, to improve practices by means of their analysis and discussion as critical incidents, and to create a final journal of learning activities for the classrooms involved.

As said above (p. [247](#)), these instruments are not often allowed. For this research, we managed to have a few of all them, authorised, by teachers and students' parents, through informed consent to take them for the research but without publications. They are:

- 9 videos of final presentations and 1 of students' work through BYOD of a 4th classroom of Liceo "Piga" (2 concerning the History teacher, 2 of his English colleagues, 4 of the French teachers, 1 of the Spanish ones);
- some pictures of the same 4th classroom (3 of History and 4 of Spanish teachers);
- 2 short recordings of History teachers' warm-up, regarding a 1st classroom of Liceo "Motzo".

These instruments have been taken by the involved teachers and the researcher, and shared among them and students, so as to provoke comments and judgements on practices (requested, in particular, by the final questionnaires, but also registered amid fieldnotes and comments), in-itinere and final self-evaluations (both of teachers and students, registered as the previous), as well as being inserted within other evidences in the fold of each teacher, to contribute significantly to answer to the questions of all the SO of the GO 3, yet also being at the basis of the building some CLIL models for History, our GO 4, as a collection of evidences from the practice.

5.5 Padlet

Padlet is a freemium online wall, easy to use in collaborative modality, which allows all people with the link of the page to post files, videos, pictures and external links, so shared with the others, who could have download them, under which anyone of them can add comments.

It has been chosen by all groups of teachers, because the best known by the majority of them, when the researcher, at the first meeting, suggested such an instrument to collect all their and students' products. Indeed, there are lesson plans, materials for students, links

to blogs and resources, students' tasks and works, rubrics for evaluation, other than some comments.

So, it can be considered a useful instrument firstly to share anything amid teachers, thanks to the ICTs opportunities for interaction (see pp. [106-107](#)), according to the first three steps of the EdTech Quintet (i.e., Social, Mobility, Visualization. See p. [182](#)), other than the way to have many and important data collected in an only place, as a personal shared Digital Storytelling of each teacher per classroom (according to the fourth step of the EdTech Quintet). It is in line with the critical participatory action-research, thanks to its highly communicative environment, which allows reflection and self-reflection on the results of practices, which are available to all teachers. Despite the fact that they did not open this opportunity to students in theory, many of them, during their implementation, uploaded materials and products together with their students, so sharing with them the page.

The evidences in this way collected respond to the SO of GO 3 and 4 of the research.

6. Method of analysis and categories of collected data

In order to significantly analyse the large quantity of collected data, it was followed an own model, illustrated underneath by instrument.

1) Initial questionnaires for teachers per year

At the beginning, there were analysed firstly biodata, then opinions and perceptions, emerging by the initial questionnaires, so as to acquire general contexts of the teachers of the involved schools, and their

general knowledge and attitude toward CLIL, FLs, ICTs and, in the second year, student-centered methodologies. Being them on Google Forms, for the closed questions there have been obtained percentages and graphics, whilst the open ones have been mostly listed, due to their specifying biodata, or, only for the first year (involving not only teachers who went on with the action), acquired as personal justifications, so classified and measured in percentage through the categories:

- a) CLIL training
- b) Interested in CLIL
- c) FL low level
- d) Linguistic/support subject or biennium teaching

2) Fieldnotes and written comments of all the participants (including open questions of final questionnaires, comments on Padlet and emails), grids of observation and orientation, recordings, videos and pictures

These evidences constitute the core of the research, so they are the most numerous. It has been chosen to analyse them through a phenomenological approach (Sages & Lundsten, 2009) with a manually a posteriori codification of the texts (Lafont, 2017). This choice is justified by the fact that it was necessary "a dynamic view of the ongoing process of constitution of meaning" (Sages & Lundsten, 2009, p. 198), regarding all the involved stakeholders in the action-research. Indeed, "the primary aim here is the correlation subjectivity-world and not its separate members. It is not so that subjectivity is here and the world there, and in between them the relation of constitution, but the becoming of the process of constitution of the world is the self-realization of subjectivity" (p. 199). And the meaning of *subjectivity* for this research is four-sided: each teacher, teachers, students, the researcher among them. On the other side, the world is here

constituted by Techno-CLIL environments in the involved classrooms, but also before, during the teachers' process of self-immersion in this world, and afterwards, with the teachers' and students' reflections in the open questions of final questionnaires. So, "the experiencing of each and every person under study must be treated as equally valid from the beginning, without applying to it any kind of concepts or system of categories developed previous to the empirical study, which, whatever its quality, would entail a disregard of the meaning of life-experiences as projected by the individual himself" (p. 199).

Then, it has been extremely important a critical reading of all these data, which could take into account also non-verbal expressions, often noted with sayings and doings, of the participants, because part of the relatings (Kemmis et al., 2014), which contributes to their internal validity (Sages & Lundsten, 2009, p. 199). Indeed, "one source of observational data... (are) the participants' behaviors, facial expressions, gestures, bodily tone, clothing, and other nonverbal indications... (which) shed light on the meaning of a participant's oral comments" (Polkinghorne, 2005, p. 143).

All this considered, all texts, grids, recordings, videos and pictures²⁹ have been firstly attributed to single teachers, classrooms, and the researcher, as units. According to the SOs of the GO 3, it has been decided to adopt the model of analysis "SWOT" (Strengths, Weaknesses, Opportunities, Threads), with the substitution of the analysis' unit *Threads* with other two, namely *Difficulties* and *Suggestions* (SWODS), essential for this research. As in the original model (Gurel & Tat, 2017), Strengths (pros) and Weaknesses (cons) are internal aspects, i.e. concerning the participation of the individual

²⁹ The two recordings of the introduction to groupworks of a classroom have been analysed with the following categories of Implementation, Communication, Collaboration and Engagement for teachers; as the videos, with the same categories for teachers, and adding Knowledge for students; whereas to pictures have been applied those of Communication, Collaboration, Engagement.

stakeholders, whilst Opportunities and Difficulties regard the change that Techno-CLIL produces or not, as strategical, various and significant environment, in the communities of the classrooms. It is thought to add Suggestions, because necessary, with the other macro-categories, to answer to the SO 2 and 3 of the research, as well as to build the CLIL models for the subject of History in the final triennium. With this aim, it is to note that there were included also History teachers of the biennium and a Physics teacher with their classrooms, which constituted useful terms of comparison to finally cross their results with the others.

After the complete first analytical reading of the texts, there have been *a posteriori* individuated the following categories and indicators:

KNOWLEDGE: Content, FLs, academic language, ICTs and online tools, pedagogies, linguistic approaches, methodologies, tasks.

IMPLEMENTATION: planning, scaffolding, choice of tools, level of SAMR, BYOD, Digital Storytelling, Flipped classroom, Gamification, GBL, final products.

COMMUNICATION: aim, characters (among peers, amid community, or parts of it), times, input, feedback, language (including codeswitching and translanguaging), relationship among input/feedback/output, ICTs use, videos, multimedia, transmedia products.

COLLABORATION: teams, workgroups, sharing of devices/materials/ideas, collaborative online tools, for training/research materials/strategies, for building a product, for presenting a product, inclusivity.

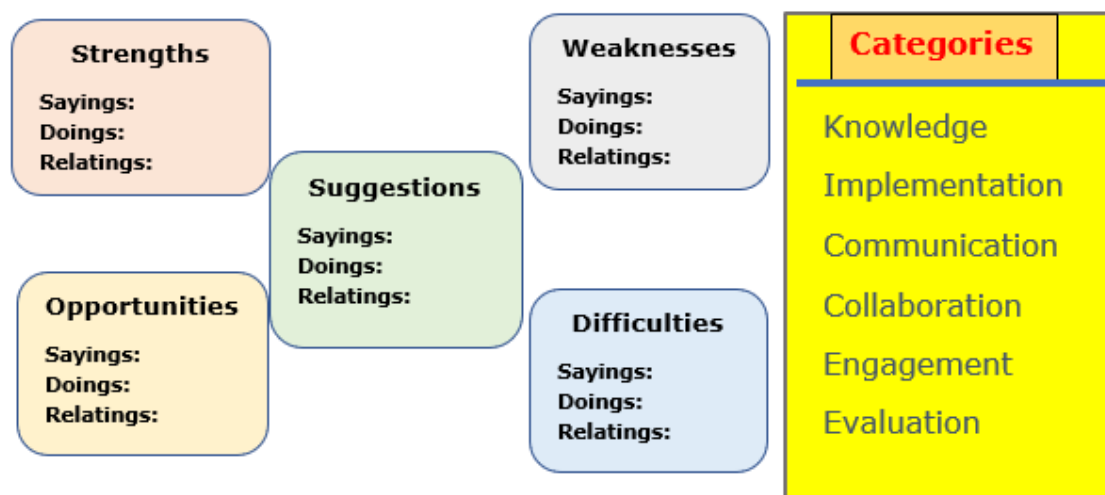
ENGAGEMENT: role in teaching and learning, cognitive challenge, emotions, gestures, motivation, cultural citizenship, ICTs use, in methodologies, in strategies, in collaboration.

EVALUATION: self-assessment, rubrics and paths, EdTech Quintet, of products, of collaboration, of Techno-CLIL.

All these categories have been firstly reported in each unit of SWODS per participant (single teacher, students per classroom and researcher), then the results of teachers and classrooms per school have been unified, so as to cross them between these units (internal analysis) and among schools (external analysis), and, finally, of the whole involved teaching staff, so as to triangulate the results of this unit with those of students (at the end unified too in a unit) and the researcher’s observation and judgement. Finally, they have been summarised and reported in each unit SWODS, in order to answer to the questions of GO 3, through the categories of the critical participatory action-research: Sayings – Doings – Relatings, as in the Graphic 2:

Graphic 2

SWODS



Note: Own source.

The final report constitutes not only the answer to the GO 3, but, above all, together with the theoretical parts, the basis to build some models for teaching History in the final triennium of Licei through Techno-CLIL.

3) Final Questionnaires for teachers and students (closed questions)

As said, also the first part of these questionnaires consists of biodata, to cross with those of the initial ones, so as to obtain a more precise picture of the participants.

From the other closed questions, with functions of opinion and judgement, there have been obtained percentages per classroom, school and units of teachers and students, so as to be considered in the SWODS, together with the other data.

Chapter II

Results

1. Initial questionnaires for teachers

The initial questionnaires for teachers, as said, although different one another in some parts for the two years, have been analysed starting from their common biodata questions, which regard also their knowledge about FLs, ICTs and CLIL.

In every school, respondent teachers show a generally not-young age (almost the 70% is more than 51 years old and only the 6% in the range 31-40) and many years of teaching experience (65% declares more than 20 years). They are mainly FL teachers³⁰ (almost the 40%), and representative of the all taught FLs (English, French, Spanish, German and Russian). It is also worth saying that, if, initially, English teachers were the most agreeing this CLIL initiative, only one of the second year participated until the end, whereas those of the first gave only an external contribution to their colleagues, instead of particularly German and Spanish ones.

In the regard of FLs, about the 31% of the respondents as not FL teachers has FL certifications (I year; only one teacher does not in the II), the majority between B1 and C2 CEFR of English (more than the half of them), but also of French and Spanish. If there are considered FL courses, not only certificated, the above percentage is exactly doubled, and, always considering interesting for our research the range between B1 and C2, they are so resulting: 38% English, about 8% Spanish, 7% French, with also some interest for German and Arabic.

³⁰ It is more evident in the first year, when all teachers of the triennium were invited to fill in the questionnaire, whilst in the second filled in it only interested teachers to go on with the action-research, so of History and FLs.

And the fact that English is the most studied, as well as that methodological courses at University of Cagliari included only qualified teachers in English language, might have influenced the too large belief that the only needed FL for CLIL is English (about 35% of respondents), versus the 55% of *Every FL* answer.

Finally, 15% of teachers have done European mobilities, through European projects (Comenius, Erasmus+ and E-Twinnings), preferring those together with their classrooms.

If ICTs are concerned, the 62% of respondents says to always manage them and the only 5% to not make use at all of them. In order to better understand what this involves, from the following answers it emerges that anyone of them have never used advanced devices, such as virtual reality glasses or robotics' tools, but that what they mainly use, and are mainly trained to, is the IWB, and/or, but to a lesser extent, school's computers. This is in line with the fact that the Italian Ministry introduced IWBs in every school and compulsory training of teachers on it (Circolare M.I.U.R. 11 Settembre 2006), so as to foster a multimedia didactics, in line with the European Directives, and for which often schools, in autonomy and for volunteers, have been activating training courses on educational digital tools. It also shows the non-adoption of strategies such as BYOD, given that only a few teachers (4%) affirm to allow the use of students' devices.

The second year, respondent teachers, although affirm, for the absolute majority (16 in 22), to make always use of ICTs, evaluate their competence as only sufficient in 14 and as good only in 7. The answer could involve the fact that in public schools there have been adopted the electronic registers of teachers and classrooms (D.L. n. 95 6th of July 2012), so involving at least the management of a computer for that online software. Anyway, the same majority of them (16) sees good results in using ICTs, particularly in motivation for students, but also in:

- Engagement of students
- Enhanced focus on topics
- Better knowledge of contents
- Ludic dimension
- Multimodal didactics environment
- Easier and speedier management of materials

Concerning CLIL, the 13% circa of teachers has attended courses about it, but only the half of them the methodological course at University, so about one per school, whereas the others handled brief theoretical update on it, or Cambridge CLIL TKT (Teaching Knowledge Test³¹). It is interesting that more teachers, the 16,5%, assert to have implemented CLIL almost once, involved in team projects. Then, asked the 'remaining' 70% for the reasons why they had never implemented it, they answered so:

- 1) **No interested in CLIL** (included *it does not happen*): 23%, of which 7% sceptical about its opportunity at school.
- 2) **Subjects not included by Ministry** (FL, Linguistic one, first biennium): 20%.
- 3) **No previous knowledge and training**: 14%.
- 4) **Low FL level**: 6%, with a 1% more concerning English, as the only implemented FL for CLIL.

The first year, the 72% of respondents have judged the deepening of CLIL as useful. There are reported underneath the positive motivations³², because negatives involve only the four categories above:

- Necessary innovation and more effective didactics: 14,5%
- Achievement of multilingualism and multiculturalism: 10,5%
- Teacher training and updating: 8%

³¹ TKTs are a series of modular tests for teaching qualifications on diverse areas of English teaching.

³² Only the first three have been reported with percentages, as the mostly reported.

- FL deepening
- Novelty for teachers and students
- Students' education for a globalised world
- Fostering European citizenship
- Required by law

They were also asked if they wished to collaborate to the implementation of CLIL at their school, answering positively in lesser percentage (58%) and justifying the denial in these percentages:

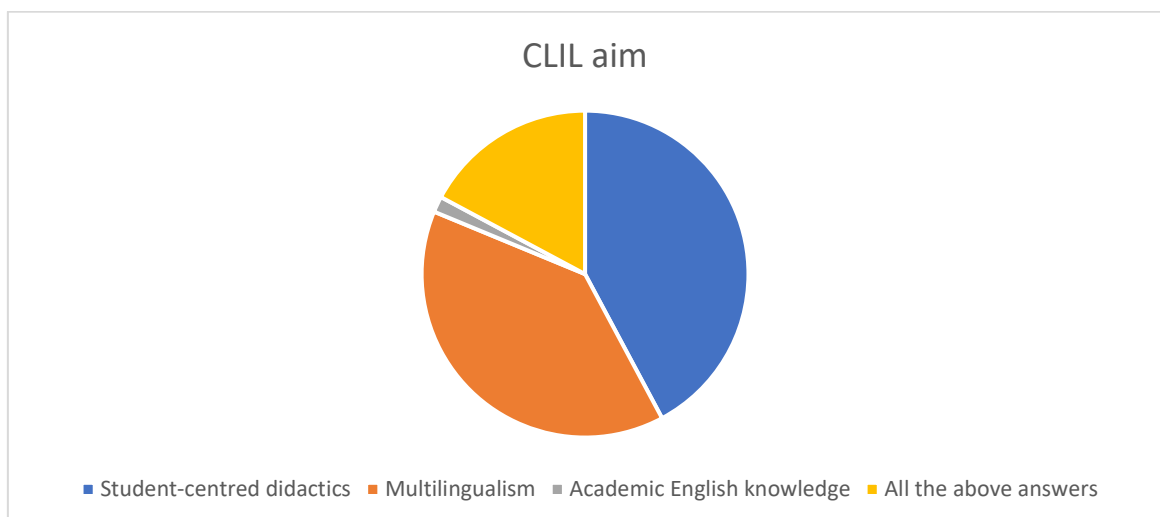
- 1) **No interested in CLIL:** 34,6%.
- 2) **Subjects not included by Ministry:** 11,5%.
- 3) **No previous knowledge and training:** 7,7%.
- 4) **Low FL level:** 11,5%.

It is important to underline that the 23% does not answer to this question.

Finally, their perception on the aim of CLIL in a multiple-choice question is showed in Graphic 3:

Graphic 3

Perceptions of CLIL aims



Note: Own source.

As it can be seen, the perception of CLIL as a way to adopt student-centered didactics prevails on the achievement of multilingualism, whilst the combination of these two important aims is not so conscious. In the regard of the student-centered methodologies (II year), in Liceo "Piga" nobody knew the *Digital Storytelling* and in "Pitagora" only 2 in 14, but they rarely implemented it; *Role playing* is the most known and implemented (about 40% in both schools) and, conversely, *IBSE* (Inquire Based Science Education, close to PBL) and *EAS* (Episodi di Apprendimento Situato, social-constructivist, competency-based, interactive and taking advantage of BYOD) almost unknown; finally, *Flipped Classroom* and *Debate* (fostering cooperative learning through formal, regulated and informed discussions) are on an equal footing in the two schools: half teachers do not know or use them, the others declare an infrequent adoption of them (except from one of "Pitagora", always for both these methodologies). But, when put into practice, they agree in the results: more curiosity and engagement of students, who feel themselves as rewarded main characters.

In the two years, only eleven teachers have experienced the CLIL (out of 89), yet only three of them for years, and two in a multidisciplinary team, judged not common, because of difficult collaboration among colleagues. Seven of them are FL teachers, one of Maths, three of Humanities, and they all used English for CLIL. They generally do not consider their training in CLIL as exhaustive (apart from 2 of them), perceiving lacks especially in FL competence (3), collaborative planning (2), ICTs management (2) and didactic methodologies for CLIL (2), but also feeling the need of the presence of a tutor during their implementations.

Only 5 of them have made use of ICTs for their CLIL lesson, aimed at:

- Giving the first input
- Finding FL activities
- Enhancing students' interest

- Opening a window on Europe

Seven teachers answer about their perceived obstacles in CLIL lessons, listed underneath:

- Management of materials (3)
- From sceptical colleagues (2)
- Coordinating different scholastic activities
- Low level of FL

Finally, Table 19 reports advantages and disadvantages in their perception:

Table 19

Perceived Advantages and disadvantages in CLIL implementations

| Advantages | Disadvantages |
|---|---------------------------------------|
| Further FL exposure (2) | None (5) |
| Deepening of content | Reducing of content in Didactic Units |
| Enhanced students' collaboration (2) | |
| Academic language knowledge in FL and MT | |
| Greater students' curiosity | |

2. Analysis of the participants biodata

Being considered important for this research the subjectivities who self-realise the world of Techno-CLIL (see p. [221](#)), it is opportune to report as first the picture of the teachers as participants, in Table 20, which emerges from the all data, as self-reported and observed.

Table 20

Coded involved teachers, with their biodata.

| Teacher | Liceo | Biodata (initial questionnaire) | Biodata (other sources) |
|--|-----------------------|---|--|
| 1) <i>MFLS</i> | Linguistico | Age: 41-50; Experience in teaching: 11-20; Certifications: No CLIL K and E: No Mobilities: Yes (at University), Socrates/Erasmus | Digital Competence ³³ : C1 FLs: Spanish C1, Sardinian C1, Russian C1, English B1 |
| 2) <i>MHB1</i> | Classico | Age: 51-60; Experience in teaching: 21-oltre; Certifications: no CLIL K and E: Yes Mobilities: No | Digital Competence: A1/A2 FLs: English B2, French B2, German A2/B1, Spanish A2 |
| 3) <i>MHB2</i> (support teacher) | Classico | Age: 41-50; Experience in teaching: 11-20; Certifications: DELE C1 CLIL K and E: Yes Mobilities: Yes (at University), Erasmus | Digital Competence: B2 FLs: Spanish C1, English A2, German A1 |
| 4) <i>MHB3</i> | Classico | Age: 31-40; Experience in teaching: 11-20; Certifications: DALF C1 CLIL K and E: No Mobilities: Yes (for teachers), Erasmus+ | Digital Competence: C1 FLs: French A2/B1 |
| 5) <i>MLT</i> | Linguistico ESABAC | Age: 51-60; Experience in teaching: 21-oltre; Certifications: No (French) CLIL K and E: No Yes (at University), Erasmus | Digital Competence: B2 FLs: French B2, English A2 |
| 6) <i>AFLG1</i> | Linguistico | Age: 51-60; Experience in teaching: 21-oltre; Certifications: No CLIL K and E: No Mobilities: No | Digital Competence: A1/A2 FLs: German C1, English B2, French B2, Spanish A2 |

³³ According to the DigCompEdu (p. [174](#)), after a self-evaluation in a meeting and the observation of implementations.

| Teacher | Liceo | Biodata (initial questionnaire) | Biodata (other sources) |
|----------------|--------------|---|---|
| 7) AFLG2 | Linguistico | Age: 41-50; Experience in teaching: 6-10; Certifications: German C1 CLIL K and E: No Yes (at University), Comenius | Digital Competence: A1 FLs: German C1, English B2 |
| 8) AFLGMT | Linguistico | Age: 41-50; Experience in teaching: 21-oltre; Certifications: No CLIL K and E: No Mobilities: No | Digital Competence: B2 FLs: German (MT), Italian C2, English B1/B2 |
| 9) AHT | Linguistico | Age: 51-60; Experience in teaching: 21-oltre; Certifications: FCE CLIL K and E: Yes (TKT) Yes (with classrooms), Comenius | Digital Competence: A2 FLs: English B2 |
| 10) APT | Linguistico | Age: 51-60; Experience in teaching: 11-20; Certifications: No CLIL K and E: No Mobilities: No | Digital Competence: A2 FLs: French A2 |
| 11) PFLE | Linguistico | Age: 41-50; Experience in teaching: 11-20; Certifications: No CLIL K and E: No Mobilities: No | Digital Competence: B2 FLs: English C1, French C1 |
| 12) PFLF | Linguistico | Age: 31-40; Experience in teaching: 1_5; Certifications: IELTS C1, DALF C2; 1 st FL: English CLIL K and E: No Yes (at University), Erasmus and visiting student for PhD | Digital Competence: C1 FLs: French C2, English C1, Spanish A1, Sardinian B2 (only receptive skills) |
| 13) PFLS | Linguistico | Age: 51-60; Experience in teaching: 21-oltre; Certifications: Yes CLIL K and E: No Mobilities: No | Digital Competence: B1 FLs: Spanish C2 |

| Teacher | Liceo | Biodata (initial questionnaire) | Biodata (other sources) | |
|----------------|--------------|--|---|--|
| 14) | PHT1 | Linguistico | Age: 51-60; Experience in teaching: 21-oltre; Certifications: DALF B2 CLIL K and E: No Mobilities: No. Visiting student for PhD | Digital Competence: B1/B2 FLs: French B2 |
| 15) | PHT2 | Linguistico | Age: Oltre 60; Experience in teaching: 21-oltre; Certifications: No CLIL K and E: No Mobilities: No | Digital Competence: A1 FLs: Sardinian C2, French A2 |

Note: Legenda of codes: M= Motzo; A= Eleonora d'Arborea; P=Piga; FLE=FL English; FLF=FL French; FLS=FL Spanish; FLG=FL German; MT=Mother Tongue; HB= History Biennium; HT=History Triennium; PT=Physics Triennium. CLIL K and E = CLIL knowledge and experience; DC=Digital Competence

As it can be seen, the majority of them (8) is more than 50 years old and has a teaching experience of more than 21 years, in line with the initial questionnaires results and with about the same average in the schools. In line there is also the fact that they are mostly FL teachers (apart from at "Motzo"), which underlines that CLIL is intended to regard in particular the multilingualism, according to its original aim and its official training at FL Departments at University. Yet, it is interesting that the participants are generally able to communicate in several foreign or minority languages (10), included 4 History teachers, whilst other 2 of these have a B2 level in a FL and only one the B1. This richness about plurilingualism is confirmed by the 8 participants (3 History teachers at "Motzo") who have done European mobilities, and/or have been visiting students for their PhD. Indeed, in the literature, European mobilities result to be scarcely adopted (see p. [112](#)), but highly recommended to achieve the multilingualism, other

than the sharing of practices. It can be the reason why at "Motzo" there were involved more History teachers than in the other Licei.

Given that we consider CLIL through technologies, it has been reported the teachers' digital competence, as a key data. It results that 3 of them has a level of C1 (none in the Liceo "Eleonora d'Arborea", 1 by the others, 1 of History), 6 of B1/B2 (1 in "Eleonora d'Arborea", 2 in "Motzo" and 3 in "Piga", 4 of History), 6 of A1/A2 (4 in "Eleonora d'Arborea", 1 in "Motzo" and 1 in "Piga", 1 of History). So, the Liceo "Eleonora d'Arborea" teachers have the lower digital competency, whilst the "Piga" the higher. However, all teachers were concerned with BYOD during the meetings, to learn by doing, and so were their classrooms.

If students are concerned, apart from a classroom at "Motzo", teachers (teams in "Eleonora d'Arborea" and in "Piga", as MHB1) would not rather involve the last year, namely where in Italy CLIL is compulsory, saying that they are not so collaborative and receptive about new initiatives as others, especially if they are resulting from two fourth classes and have been changing teachers every year, as the V EL at "Eleonora d'Arborea" and the V BL at "Piga" showed. Last classes are also addressees of too much other appointments at school, such as conferences, Universities presentations, internships, etc.

Despite these considerations, CLIL has been implemented for this research in 3 V, 1 IV and 3 III classes (one not observed) of the triennium of Licei Linguistici, other than in a I and in a II of the biennium of Liceo Classico. It can be said that the latter too can be considered as students in languages, due to the fact they study English, Latin and ancient Greek, whilst the former modern languages. It is also to underline that students of the first year of research, invited to design

their *Linguistic Passport*³⁴, indicate also the minority language Sardinian as known by them, mostly as understood than spoken. On the other hand, the more students of "Piga", in the initial questionnaires, judge their Sardinian between sufficient and very good (24 out of 36). So, although unconsciously, they are multilingual.

The classes of the triennium differ among them for FL levels: V CL of "Motzo" has the higher in English and French³⁵ (B2-C1 respectively), perhaps thanks to the European and International exchanges of the classroom, whereas the V EL at "Eleonora d'Arborea" the lower in English and Spanish (B1-A2 respectively, but we ignore it in French). It can be said that they do not take advantage from being in the chief town, as it can be thought. V BL at "Piga" has a B1 level in English, A2 in French; they are divided for the third language: who studies Spanish, has a general B1 level, the others in German A1/A2.

The IV of "Piga", although studying French as first FL, in this has a very low level (A2 generally), because of many changes of teachers and methods, whilst they are better in Spanish and English (B1-B2)

About the 3 III, the III BL of "Motzo" has seen the only teacher of Spanish as involved³⁶, who did not find colleagues willing to collaborate with her and who reported a general B1 level; the III AL of "Eleonora d'Arborea" has a B1 level of English and of German (but we ignore it in French); finally, in the same school, the III GL has a B1 level of English and A2 in German.

Relevant is the fact that, as expected, English is the most studied and perceived as the most known, not only thanks to the school (in any

³⁴ The Linguistic Passport is suggested by European Schoolnet Academy (<https://www.europeanschoolnetacademy.eu/>) as a tool which fosters language awareness, mapping levels and involved relationships in every known language.

³⁵ These are the only FLs of them, being their address ESABAC

³⁶ MFLS, before finishing the implementation, was absent from school until the end of the scholastic year, so it could not be possible to participate with her, who, anyway, filled in the final questionnaire. The MT collaborated with her and carried out her implementation and the final questionnaires.

case the absolutely first factor), but to the Internet for many of them (music, movies, tv series, online newspapers) and to mobilities for someone. Quite different result concerns the other FLs, all learnt at school (excepted the V ESABAC for French, involved, as said, in various European exchanges).

In the regard of their digital competence, there are not big differences amid classrooms or schools, according to the triangulation of what they say in the initial questionnaires at "Piga", teachers' judgements and comments, and observations. Seldom students are used to 3D headset (1 student at all), and only a little more to playstation (7 in 36), although more than the 50% of them uses ICTs explicitly to play games. In particular, teachers note that students are only used to their mobile-phones, but the management of other devices seems to be problematic for them, as computers and/or tablets for educational tools, research and adaptation of materials, collaborative online tasks. Indeed, though almost the 100% of them indicates the use of computer and mobile-phones, as used devices (and the 22% also tablets), to search for resources and materials, the most visited sites, chosen by students, for the tasks in this research were generally limited to Youtube, Wikipedia and online translators (not dictionaries, as affirmed by them), and they generally had some difficulties, as their teachers, to try to work through online educational tools, new for them. Probably they refer to their sharing of homework and ideas on tasks on WhatsApp, documented also during this research. However, the answers of the involved classrooms of "Piga" about their activities through their devices are summarised in Table 21:

Table 21

Percentage of activities through mobile devices, indicated by students of "Piga"

| Activities | % |
|---|----------|
| <i>Playing</i> | 53 |
| <i>Socials</i> | 100 |
| <i>Collaboration and sharing of tasks</i> | 69 |
| <i>Searching for resources and materials for studying</i> | 92 |
| <i>Leisure (music, readings, tv series, movies)</i> | 36 |
| <i>Updating on news and various information</i> | 11 |
| <i>Shopping</i> | 14 |

Asked to give a value between 1 and 10 to their digital skill, nobody gave 10, but the 72% between 8 and 9, and the others between 6 (sufficient) and 7. So, we may distinguish an *academic* digital skill, perceived by teachers and the researcher as high only in a few students, from a *social* digital skill, which is generally not appreciated by teachers, because it cannot be easily taken under control by them and marks the very difference in their digital competence.

All participant-students to the research were also asked if they had been involved before in CLIL lessons. At "Piga", whilst the V answers entirely that their teacher of Physics implement CLIL every year since the third year, the IV has some difficulties to recognise it and 10 out of 16 say no. Exactly the same happened in III GL of "Eleonora d'Arborea", where the majority of students have not recognised CLIL lessons in Art. Do they not perceive as CLIL what is done by an only teacher (these are the classrooms of the teaching teams) and/or not centred on students' workgroups? It is probably and correctly so, and

they, in the final questionnaires, do not appreciate that way. However, only the classrooms of biennium and the III of "Motzo", almost at complete, had not taken part before to CLIL implementations, and only a few of all participants saw CLIL lessons at Secondary school³⁷ of first grade (7 in 188) and one at Primary³⁸. Apart from Physics and Art, Geography and Science were the subjects through CLIL. The FLs in their previous CLIL experiences were mainly English and then French.

3. Analysis of data by categories

In order to report the results of the analysis of the qualitative data collected through the chosen instruments (see p. [235](#)), there are listed underneath the detected categories (see p. [256](#)) and the related data, attributed to SWODS as sayings, doings and relatings, and analysed through it.

1) Knowledge

This category includes different kinds of 'knowledge', depending on whether it concerns teachers or students. Obviously, it is not to question the preparation of teachers about their subject, but their low or high level of digital competence, or of CLIL, or aspects of it (it is worth remembering that the high majority of them were inexperienced of it), before and after the action-research, which will be discussed for their relation with the concrete products of the implementations and their and students' final perceptions.

³⁷ From 11 to 13 years old.

³⁸ From 6 to 10 years old.

Starting from strengths and weaknesses of this category, Table 22 reports the results by the three subjectivities (see p. [221](#)) of the research:

Table 22

Strengths and weaknesses of the category Knowledge

| STRENGTHS | | |
|---|---|--|
| Teachers | Students | Researcher |
| <ul style="list-style-type: none"> • Teachers says to have chosen the classrooms where students are mostly at a good level of knowledge of content and FLs | <ul style="list-style-type: none"> • About the 90% of them says to like History, for its importance to understand the present days | <ul style="list-style-type: none"> • High digital competence (B2-C1), regarding management and/or knowledge of sites and tools for 5/15 teachers (3 'Motzo', 2 'Piga') • Participant-teachers are all theoretically informed about student-centred pedagogies and methodologies • Teachers' practice before the implementation helped all them to use the chosen online tools in classroom • FL teachers know how to use Gamification for their implementations • Except for one (in Physics), the classrooms had generally a good level of knowledge, before CLIL, in content and FL separately • Students generally know how to build digital stories (apart from two classes) |

| WEAKNESSES | | |
|---|--|--|
| Teachers | Students | Researcher |
| <ul style="list-style-type: none"> • 3 teachers underline students' low knowledge and management of devices different from mobile-phones, in particular computers • Digital Storytelling was not known, or known only in theory • History teachers do not know how to gamify lessons and do not know serious/not serious games • An old teacher starts a discussion on the role of teachers in technological environments and in Flipped Classroom, which seems to him diminished in knowledge management and replaceable, so conducting students to less knowledge | <ul style="list-style-type: none"> • Students do not know sites or tools for education • Students generally do not know games related to History | <ul style="list-style-type: none"> • Low level of FL and linguistic approaches of 2 subject teachers, which inhibits at the beginning the students' work through CLIL • Low level of digital competence of some teachers, which limited multimedia and transmedia tasks. Students cannot ask them for support • Knowledge of student-centred methodologies results to be rather theoretical and not widespread • Classrooms where teachers have been changing during the years, have many lacks, which make them generally insecure to face with those subjects in FL, lacking too |

Note: Under the columns of teachers and students there are what they directly reported orally or written.

Passing to the opportunities and difficulties that the environment of CLIL through technologies has brought, they are listed in Table 23:

Table 23

Opportunities and difficulties of the category Knowledge

| OPPORTUNITIES | | |
|---|--|--|
| Teachers | Students | Researcher |
| <ul style="list-style-type: none"> • Teachers perceive after the experience to have enough knowledge about: Design and management materials (4), Planning (3), Peculiarity of CLIL (2), Methodologies for CLIL (2), Teachers' role in CLIL (2), Collaboration in team • 3 teachers see, as the best result of CLIL, students' knowledge of the topic after the implementation and 1 more as an advantage of CLIL, which allows personal paths of meaning-making • 10 teachers judge students' products as deepened in content • Digital Storytelling allows a synesthetic approach to History; for CLIL, makes learn History in the original dimension, also linguistic; students learn in autonomy | <ul style="list-style-type: none"> • The 72% affirms to have learnt the topics well/very well (thanks to FLs, multimedia content, their tasks, particularly visuals, and group-work), and the 20.5% sufficiently • Students see deepening and easier understanding of content through CLIL • Tasks let them know in easy ways and better in groups at school (understanding, practical knowledge, memorising) • They appreciate to know topics in interdisciplinary way • 95% says that CLIL foster FLs knowledge • In the regard of FLs, they declare to have learnt much, above all, academic vocabulary, but also idioms, through CLIL • Although in a small percentage (25%), they are conscious of their contemporary learning of content and FL | <ul style="list-style-type: none"> • Planning is the most acquired aspect of CLIL for teachers • Most teachers feel the opportunity to learn by doing digital tools before their CLIL implementation, some also together with students • Students have learnt in a multidisciplinary way History, from different perspectives in different subjects (through teaching teams) • Students are able to link History and modern cultural elements in their products • Most groups have learnt content and FL together doing their tasks |

| DIFFICULTIES | | |
|---|--|---|
| Teachers | Students | Researcher |
| <ul style="list-style-type: none"> • 2 teachers see low deepening of content • Digital Storytelling have not been managed before by all teachers • FL teachers feel the lack of methodological courses at University, like History teachers with linguistic competence in FLs different from English | <ul style="list-style-type: none"> • Students partially perceive what they learn as content in a subject of a team as not deepened or lacking | <ul style="list-style-type: none"> • Content already known for students' tasks chosen by the majority of teachers, or information pre-determined by them, so focused only on a subject as a deepening and with no significant differentiation among tasks per group • The above condition appears also when a teacher is strong in digital competence and do not negotiate tools for students • Low level of FL and linguistic approaches of 2 subject teachers, which inhibits at the beginning the students' work through CLIL • Low knowledge on the use of input and feedback in FL addresses with difficulty students' tasks |

Teachers do not give explicit suggestions for this category, whilst students of two classrooms ask for working through CLIL on topics of the curriculum, because they might not be used to seeing cultural aspects as related to History. Indeed, who does not like this subject gives as justification that it is boring, because a list of dates and events. Some students suggest to deepen the topics: the triangulation of data shows, on the one hand, that they have been solicited to finish their tasks in short times, because many teachers planned to adopt the Flipped Classroom, but they did not do it, so students have had to read documents and watch videos at school; on the other hand, often they

are used to consider distinctly each subject, so they sometimes have not understood how a topic was deepened through different tasks in different disciplines. The last suggestion of students is to make always interdisciplinary topics with teams of teachers, which make them engage while they learn.

This is in line with the internal analysis in "Eleonora d'Arborea" and "Piga", which highlighted analogue different conditions inside them. Indeed, in both schools a team of FLs and History teachers obtained better results in knowledge of the topics and FLs than the single one (apart from a German teacher of the first school), according to all transversal data. Conversely, if "Motzo" is concerned, single teachers, with external support of FL colleagues, have obtained high results in knowledge of content and FL. It might depend on their digital competence and on their approach really student-centred. Indeed, the digital competence of the teachers who worked alone in the former schools were low, as for the two History teachers in team in the latter and as for the German teacher above. But this left her students choose digital tools, out of her control, encouraging their autonomy during the tasks. The team of "Piga", besides, created a sharing of corrections of FLs among teachers, during and after the groups' creation of products, which have fostered students' knowledge with different perspectives and cultures, pointing the link between language and content in all disciplines.

There are to highlight some points, emerging from the triangulation of data. The fact that students perceive to have known well or very well is partially influenced by the fact that the majority of topics had been treated before almost in a subject, so through CLIL they have deepen further aspects. But students normally not strong in History and/or FLs have had evaluations better than before in knowledge and management of it. Exceptions are students not sufficiently engaged, which happened in the V of "Eleonora d'Arborea", as the V of "Piga",

that, as it will be seen, did not see a real implementation of CLIL by their teachers of Physics and History, and in the classroom I of "Motzo", regarding two older students not enough involved. The deepening of content is also agreed by the majority of teachers, above all whether they did not take under control all information students have to include. Another point regards the contested role of teacher. The fact that many teachers do not have a practical knowledge about student-centered methodologies clearly causes in someone the sense of their diminished importance with their adoption, as well as their misgiving to be going to be substituted by ICTs, in which there are lacks of training. Yet this is not confirmed by students firstly, who, in the technological environment of CLIL, underline the importance of the cleverness of their teachers in their learning process (III GL); like by other colleagues (IV CL), who stressed the continuous research for them to find ways to engage students, with no sacrifice of content, as to deepen in less times.

Finally, most teachers perceive to have acquired in this experience, above all, the design and management of materials and then planning, as conversely in our opinion, based on the following category, where there are postponed the evidences about this point.

2) Implementation

This category is the core of our analysis, although it will be completed by the others. So, due to its complexity, it is opportune to give the picture of the results not only per subjectivity, but also per aspect, always reporting sayings, doings and relatings of those subjectivities through SWODS. As a matter of fact, implementation includes its being put into practice, which pedagogy, methodology and linguistic approach teachers employed, theirs and students' materials and final products, according also to SAMR (see p. [177](#)), advantages and limits

of the CLIL experience, and Digital Storytelling for CLIL (according to the participants of the second year in particular), as well as their attitude before and during the action, which surely influenced it. Indeed, the internal analysis has highlighted, for instance, that the classrooms where involved teachers were lacking in some aspects (such as FL, or scaffolding, or ICTs competence, etc.), but serene and participatory, leaving students working on their tasks non completely pre-determined, have obtained the most satisfactory final products for all as other stronger teachers. Conversely, it happened that a teacher with really high levels of ICT management, FL and linguistic techniques, other than of formally correct CLIL, has not obtained the same in the whole, due to her attitude to consider students not free to choose their preferred path, even if addressed, just because students. So, the consideration of attitude of all the subjectivities is sometimes the meaning of happenings, or part of it, when it influences its being teacher- or effectively student-centered. It is also linked to the motivation to experiment new educational paths.

Table 24 summarises the results:

Table 24

SWODS for the category of Implementation

| STRENGTHS | | | |
|--------------------------------|--|---|---|
| Aspects | Teachers | Students | Researcher |
| <i>Attitude and motivation</i> | <ul style="list-style-type: none"> • Motivation for participating: 7 wanted to try in team the CLIL; 5 knew the theory, but wanted to implement it; 3 did not know the CLIL and wanted to know the theory • 5 teachers promote teams (1 fails) • Most teachers (13) say to have chosen their more open-minded classrooms • 6 teachers invite the researcher to be present in team, not only as a tutor, as much as possible to the implementations | <ul style="list-style-type: none"> • Most students like new educational ways at school • Most students say to like History (interesting as root of today, easy to study) • Almost the 100% say to like FLs | <ul style="list-style-type: none"> • Most teachers (11/15) is among students during the action • 4 teachers like diversifying lessons one another • 10 teachers do not speak much, but tend to personalise what learnt about CLIL and tools • 13/15 are good observer of students • All classrooms are straightforward and, apart from one, serene in the relationship with teachers |
| <i>Implementation</i> | <ul style="list-style-type: none"> • Multilingual brainstorming in almost all classrooms (apart from 2), and initial table of translanguaging • Deepened and fully implemented topic: 6 says Planning, 4 Approach in | <ul style="list-style-type: none"> • In particular classrooms of teaching teams say to enjoy tasks in groupwork to learn (groups were always inhomogeneous and always the same) | <ul style="list-style-type: none"> • 7 teachers produce and implement several lesson plans • Taking into account levels of cognition in tasks is learnt by teachers • 6 teachers correctly scaffold students • Students, as teachers, are solicited by the researcher to use |

| | | | |
|-------------------------------------|---|--|--|
| | <ul style="list-style-type: none"> team, 2 Online tools • Level of Bloom's pyramid in plan for the triennium always at least 4 (Applying) • List of strength and weaknesses of 3 teachers | | <ul style="list-style-type: none"> for tasks whatever FL they want • Generally, 4 hours per plan/implementation • Better linguistic CLIL performance after having the monitoring grid (8 teachers) |
| <i>Materials and final products</i> | <ul style="list-style-type: none"> • A teacher lays the groundwork in V of cross-curricula presentations for the final exam • 8 teachers created materials for students (to adapt content and FL or to avoid distractions on the web), 3 modified already existent material (to make them easier), 3 left students research or create their materials • Level of Bloom's pyramid planned and achieved in tasks by students: 3 the 6th, 2 the 2nd, 5 the 4th (2 were planned on bottom levels) | <ul style="list-style-type: none"> • BYOD, in different solutions: 7 classrooms use mostly mobile-phones, 3 their computers • 12 final products are done through online tools, of which 11 also presented orally | <ul style="list-style-type: none"> • 7 teachers prepare their multimedia material • 8 teachers are creative about materials for students • 3 classrooms present plurilingual final products (related to 2 teams and a History teacher), 3 plurilingual (related to a team and 2 single teachers), 2 in a FL (German and Spanish) • Almost all final products are multimedia, at least partially (apart from for the team in the II and for a German teacher in team), whilst they are transmedia in 5 classrooms (though of not all groups) • The level of SAMR of final products is mainly 3 (Modification, 8/13 p.). 3 products have the level 4 (Redefinition) |
| <i>CLIL experience</i> | <ul style="list-style-type: none"> • 6 teachers see the students' active | <ul style="list-style-type: none"> • The high majority of the students | <ul style="list-style-type: none"> • Interdisciplinarity • Interactive products |

| | <p>involvement as best result, other than their empowerment, and personal, active learning paths</p> <ul style="list-style-type: none"> • Planning in an interdisciplinary way, so less fragmentation of content for students • FLs give added value to History • Cooperative groups • A teacher points time-saving • Further inclusivity • Students have appreciated the activities | <p>say to have had a positive experience, particularly in: firstly, content and FLs together, then respectively in tasks different from usual, groupworks, use of ICTs for tasks</p> <ul style="list-style-type: none"> • Studying is easier | <ul style="list-style-type: none"> • Further allowed creativity and interaction among participants • The classroom I goes beyond the Bloom's level planned by the teacher • Sharing of skills, when groups are cooperative • Reflection on educational practices |
|---|--|---|--|
| <i>Practice of DST for History through CLIL</i> | <ul style="list-style-type: none"> • It encourages students to learn and to multimedia research • Final products are motivating and presentations tinier • It involves all the classroom | <ul style="list-style-type: none"> • It is an enjoyable, engaging, and faster way to learn • It allows the deepening of topics through visuals | <ul style="list-style-type: none"> • It makes easier and personalised students' learning • It allows participatory learning, when sources and tools are shared |
| WEAKNESSES | | | |
| Aspects | Teachers | Students | Researcher |
| <i>Attitude and motivation</i> | <ul style="list-style-type: none"> • 2 of them do not get along with colleagues • One of them discusses on the opportunity of Flipped classroom and ICTs, which seems to him as diminishing | <ul style="list-style-type: none"> • A few students present themselves as not able to orally present the final product in plenary, others to work in group • Students are less involved if they are not | <ul style="list-style-type: none"> • Two classrooms are not generally welcoming (one does not accept to work per groups and to be corrected in FLs and becomes hostile towards History teacher and the researcher) |

| | | | |
|-----------------------|---|--|--|
| | <p>the role of teacher</p> <ul style="list-style-type: none"> • 2 classrooms V are presented as not inclusive | <p>strong in a subject (Physics, French in a team)</p> | <ul style="list-style-type: none"> • Insecurity and inexperience on CLIL make teachers postpone the implementation for a while (3 sent lots of emails, to be reassured) • A teacher becomes angry when students do not do all as she planned and she seems always in tension • The researcher feels herself in team with colleagues, apart from with 3, who would make her the main character of the implementation |
| <i>Implementation</i> | <ul style="list-style-type: none"> • Most teachers, and in particular teams, do not judge as opportune involving their V • Scaffolding is generally perceived as lacking • Students do not know how to manage computers adequately • 2 classrooms are not enough involved to perform correctly in tasks | <ul style="list-style-type: none"> • Most classrooms are not used to work in group and with ICTs for tasks, so ask for many information on how to do. • Problems with collaborative online platforms • Problems to use the mobile-phones for education (shared accounts, management) , so limited collaboration | <ul style="list-style-type: none"> • 3 teachers would make the researcher as the main character of the implementation • 4 teachers are belated in planning • Learning styles are not generally taken into account in planning and tasks • 5 teachers speak a lot to introduce and clarify students' tasks • 4 teachers do not stay among students in any activity • 6 teachers broaden planned times (2 very much) • 4 teachers plan firstly without FLs, engaged by the educational news • No use of new methodologies (3 teachers) |

| | | | |
|-------------------------------------|--|--|--|
| | | | <ul style="list-style-type: none"> • 5 teachers are not able to share all in the platform (Padlet) • Planning in team (2) is done collaboratively only on the choice of topic or historical period • High digital competence of teachers does not allow students' autonomy in choosing sites and online tools |
| <i>Materials and final products</i> | <ul style="list-style-type: none"> • Short time to ask for multimedia products (3 teachers) • Students' management of given materials for tasks • Too much time to make materials easier | | <ul style="list-style-type: none"> • Learning styles are not generally taken into account • A team and a teacher do not plan interactive tasks • A teacher does not share final products • Students are not generally free to choose materials for tasks and/or online tools |
| <i>CLIL experience</i> | <ul style="list-style-type: none"> • Need of more practical experience, possibly tutored (4) • More collaboration among colleagues to plan CLIL interventions • Being short in time (not enough for the all implementation and to plan more FL interventions, as to complete the preparation on programs) | <ul style="list-style-type: none"> • Not getting along with classmates in groupwork, when not cooperative for tasks, make the experience not significant • Understanding what to do for tasks, according to teachers and in short times • Decisions on what to do as not shared with students at the beginning of | <ul style="list-style-type: none"> • 3 teachers do not embed content and FL (1 only initially), although encourage students to do it in their tasks • Lip-service of 3 teachers about student-centred meaning, but not fully realised by the majority (in particular, not often students participate to the creation of tasks and are free to choose materials and tools) • Constant use of MT in the relationships |

| | | | |
|---|---|---|---|
| | <ul style="list-style-type: none"> • Students' constant use of MT | <ul style="list-style-type: none"> the experience • Too short times • Participation of external teachers to the project (a CLIL teacher out of the team and the research) • Not enough interactive experience | <ul style="list-style-type: none"> • In a team, the stronger teacher aligns her level to the lower • Groupworks not always inclusive • Perception of CLIL as an occasional project |
| <i>Practice of DST for History through CLIL</i> | <ul style="list-style-type: none"> • Not enough tried to judge (1) | <ul style="list-style-type: none"> • Many students are not aware of what is DST, although in their tasks | <ul style="list-style-type: none"> • Pre-determined students' narration by teachers |

OPPORTUNITIES

| Aspects | Teachers | Students | Researcher |
|--------------------------------|---|--|---|
| <i>Attitude and motivation</i> | • | • | • |
| <i>Implementation</i> | <ul style="list-style-type: none"> • Multilingual approach • WebQuest really appreciate by 2 teachers | <ul style="list-style-type: none"> • Content is better learnt with FLs • Content is better learnt through interactive tasks in groups • Appreciation for a new way to learn, more practical and technological | <ul style="list-style-type: none"> • Mainly FL teachers are used to scaffold students • 4 teachers adopt Flipped classroom and Digital Storytelling together • 10 teachers adopt the Communicative approach (mostly notional-functional), 5 Affective Humanistic (linked to Genre (4) or Transformative pedagogy) • Social-constructivism is adopted alone by 3 teachers, by 1 together with Transformative and by another with Genre and Competency-based; this also |

| | | | |
|-------------------------------------|--|---|--|
| | | | <p>with Transformative; Transformative alone by 1 teacher; Genre alone by 6</p> <ul style="list-style-type: none"> • Gamification has been used by 4 teachers (2 warm-ups on vocabulary, 1 evaluation, 1 between two tasks) • Role playing has taken part in 3 projects • Planning in Italian firstly foster the bilingual planning • WebQuest adopted by 2 teachers |
| <i>Materials and final products</i> | <ul style="list-style-type: none"> • Final products well-done | <ul style="list-style-type: none"> • Students are proud of final products | <ul style="list-style-type: none"> • |
| <i>CLIL experience</i> | <ul style="list-style-type: none"> • Learning through practice • Put into practice the cooperative learning in building competences (2) • It is a learning by doing, so the evaluation is not by performance • It enhances students' motivation and active participation (5) • Enhancement of personal cultural empowerment • It helps the professional growth | <ul style="list-style-type: none"> • The majority of students liked to have studied a subject through FL | <ul style="list-style-type: none"> • Enhancement of the cultural element • Engagement and motivation of the all participants (apart from 2 teachers with their V classrooms) |

| | | | |
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| <i>DST for History through CLIL</i> | <ul style="list-style-type: none"> • It is a funny way of learning and foster students' autonomy • It fosters the active participation of students • It allows a holistic vision of History • It makes History a continuous research (2) | <ul style="list-style-type: none"> • 100% liked in particular where there were teams for teaching | <ul style="list-style-type: none"> • It appears as enjoyable for teachers and students • It enhances learning as meaning-making and sharing of personal results |
|-------------------------------------|--|--|---|

DIFFICULTIES

| Aspects | Teachers | Students | Researcher |
|--------------------------------|---|--|--|
| <i>Attitude and motivation</i> | <ul style="list-style-type: none"> • Difficulty to adopt a really inclusive approach | <ul style="list-style-type: none"> • Difficulties in relationships with their teacher and the researcher of a V | <ul style="list-style-type: none"> • 4 teachers were always to encourage to post their materials and to put into practice what they have planned |
| <i>Implementation</i> | <ul style="list-style-type: none"> • Management of suggested tools and platforms • Working with classrooms which have been changing teachers • Availability of enough computers • Most difficulty: evaluation • Limited time • Adoption of FL in which students are not at a good level | <ul style="list-style-type: none"> • Management of suggested tools and platforms • Only the topic on which a group works results as deepened, not the same knowledge of other topics of other groups • Research and screen of information on the Internet • Use of mobile-phones for tasks • Videos with too speed spoken • Adoption of FLs not well-known | <ul style="list-style-type: none"> • Flipped classroom planned, but not implemented by most teachers • Not good management, in particular, of platforms of sharing • Student-centered approach • Lesson plan results initially as difficult and only a teacher is able to adapt it step by step • Content and FL are not linked in every step (input and feedback are particularly difficult in FL, as communication among peers) • Difficulties in choosing activities by levels of Bloom's Pyramid |

| | | | |
|-------------------------------------|--|--|---|
| | | <ul style="list-style-type: none"> • Online collaboration on tasks | <ul style="list-style-type: none"> • Technical problems with devices and accounts • Tendency to use only FL, with no MT and/or codeswitching, of many FL teachers |
| <i>Materials and final products</i> | <ul style="list-style-type: none"> • Adapting materials by content and FL (too long) | <ul style="list-style-type: none"> • Working on given materials | <ul style="list-style-type: none"> • Not all final products are interactive and transmedia |
| <i>CLIL experience</i> | <ul style="list-style-type: none"> • Students can give more importance to the form than to the substance • Going on with CLIL, without methodological courses for all • Use of FLs different from English • Support teachers and MT in FLs cannot be autonomous to implement it whenever they want | <ul style="list-style-type: none"> • Difficult topics through FLs • A few students think that content is more deepened if in MT • The majority of students disliked short times • 9 students disliked to use different approaches than usual | <ul style="list-style-type: none"> • Organisational problems to meet teachers in teams, or to implement CLIL in the fixed timetable • Tutoring a Physics teacher • 4 teachers consider the researcher as a FL teacher • Most teachers do not involve low-skilled classrooms, in particular if V |
| <i>DST for History through CLIL</i> | <ul style="list-style-type: none"> • To deepen yet (1) | <ul style="list-style-type: none"> • Not a product with DST, but a text to read | |

Note: In order to report the data with clarity, it has not been opportune to completely follow APA 7th.

Suggestions are mainly about longer times for the implementation and tasks in particular, both from teachers and students. Actually, it is interesting the suggestion of a student, who would appreciate a period of schooltime only for CLIL activities, which should be in many subjects and FLs. These are suggested, other than enjoyed, by the majority of classrooms and some students would see as the best thing to do them in more than a FL. The other frequent suggestion is to choose more interesting topics, which could be linked to the low involvement of

students in many decisions, solicited by them. A teacher solicits the adoption of the Debate within CLIL, actually already adopted in some CLIL courses, but which needs higher linguistic competence of students and teachers, so not included in this research. Some students suggest also to direct all CLIL activities in a multifunctional laboratory.

As it appears, this analysis covers many different aspects. It is a richness of data which can be triangulated only in some parts, so as to not lose the multiplicity of the reality emerging from these action-researches.

The internal and external analysis of single teachers and single related classrooms highlights, as first point, that the last classroom (V), when not excluded *ab principio*, is the more difficult where implementing CLIL and the results are not so satisfactory as in the other classrooms. It is also true that these were chosen because of their being generally inclusive and collaborative, whilst the V for the mandatory of CLIL, but this reason only in a V has been an incentive; and it is to consider too that the others have been changing teachers for years and that their involved teachers have a low level of FL and digital competence, but the teachers excluded to work with them as well. Conversely, the first biennium responded well to the solicitation of the environment of CLIL, although their results are not always technological and proportionate to their age and project of teachers: indeed, the first class was deeply engaged and the second obtained the 4th level of Bloom's pyramid ([p 26](#), further than planned).

The need of more practice and tutoring of some teachers is understandable, giving that they were inexperienced in CLIL, but it emerges also by the three History teachers who had attended the methodological course at University. It seems to be confirmed also by students, who, after this experience, say to have never work through CLIL, whereas they have had CLIL teachers, who did their CLIL activities. This need is partially fulfilled by teaching teams, who

obtained the more engaging and best results in classrooms, because they perceive to support each other particularly in planning, other than accuracy of content and FLs; at the point that almost all the other single teachers miss working in a team, and write to want to try further, but with colleagues of FL, if History teacher, and vice versa. External collaborations of FL teachers to the work of their History colleagues are felt as precious, but not engaging as teams. But it is to say that teams were not fully collaborative, because they have not shared important parts of the implementation, such as evaluation, often limiting the collaboration to the choice of the topic or of the historical period, to be treated in complete autonomy by the others, only discussing the results at the end together. So, the potential of CLIL in learning FLs results limited mainly to academic vocabulary, as it will be seen in the next category of analysis, and the embedding of content and FL is improvable.

When the collaboration among colleagues in team was promoted, times have been respected by teachers and students and CLIL has been perceived as time-saving. But, as it will be seen also below, for the category of Collaboration, teachers' attitude can have a big influence on times. Indeed, some teachers speak much and tend to explain, so having a form of control, every step of the implementation, with two consequences: taking time from students' tasks and influencing their meaning-making, limiting their autonomy in the construction of meaning through tasks, so in their learning by doing and learning to learn.

This form of centrality of teachers emerged also in other classrooms, as the V of "Eleonora d'Arborea" and "Piga", not welcoming for attitude, as said, when students, generally in difficulty with the novelty of the CLIL environment, not involved at the beginning in any choice, felt the experience as forced and asked continuously for information to their teachers, who accepted to lose hours in this way. Nevertheless, at the

end, one of this V gave a general positive judgement of CLIL, in the correct understanding of its being a way to learn content and FLs together, whilst the other V cooperate adequately for tasks and their final products are well done, at least for the multimedia content and the level of Bloom's pyramid achieved (not the same in FLs).

The problem of time has been largely perceived also in the regard of materials, whose preparation took effectively a long time, given that it results that the majority of teachers prepared students' materials by themselves, instead of flipping the classroom and making use for it of online materials, as suggested by the researcher, being them inexperienced of CLIL materials and Flipped classroom. This difficulty and spending of time can be related to their being still teacher-centered in CLIL implementation, for which they need further training, and to their initial phase of implementation, for which learning by doing is essential for them too, so positive. Students too ask for more engaging and interactive materials, as to be involved more in their production and choice. Then, if we take into account that the perception of teachers was to have acquired, in particular, materials' design and management (see Table [22](#)), it can be considered not confirmed by this triangulation. For sure, the more impressive results, according to teachers and students, have been obtained by students allowed to go beyond of teachers' explanations and digital competence, choosing their best ways with no mandatory tools and steps to follow, as for the IV at "Piga", the III at "Eleonora d'Arborea", and the V at "Motzo". This point results to be crucial for students, who regret this need, when it was not allowed.

Another interesting point appears to be the teachers' adoption of various pedagogies and linguistic approaches for CLIL, also varied by the same teacher in different implementations with different classrooms, or for different moments in the same classroom, although Social-Constructivism was almost always associated to Communicative

Approach, whereas Transformative mostly to Affective-Humanistic, and Genre in the middle of them.

More active participation of students is the best result of CLIL for teachers, together with the deepening of knowledge (see Table [23](#)). The former can be seen as the cause of the latter, but, above all, a symptom of the change of schooling, even though initial in student-centered methodologies, as underlined. Indeed, students enjoyed the experience for the absolute majority, but suggest how to improve it as well: more interactive and engaging activities in groups, chosen together with them, more multilingualism in cross-curricular topics, more use of ICTs for tasks, and more CLIL, maybe in established periods of schooltime. On the other hand, teachers appreciate their CLIL experience, asking mainly for teams, training and tutoring in classroom.

Finally, Digital Storytelling has been adopted the first year of the action-research with no complete awareness and training on it of teachers, which gave more freedom to them and students to choose modalities and tools, though with products of high level, in the regard of the 4 C's (p. [25](#)) and SAMR (p. [177](#)). The second year, it has been object of two meetings, in which its adoption was agreed and teachers, particularly of the team, chose how to implement it and some tools, such as Emaze and Spark Adobe, the easier ones for them. Actually, some teachers made use also of blogs and sites for Gamification (included in the meetings with some tools, such as Quizlet), but not accepted to try serious and non-serious games, or the augmented reality. However, Digital Storytelling for History through CLIL has been welcomed by teachers and students, because it fosters the autonomous research in this subject, and so its understanding in an engaging way. But the observation of the researcher and the comments of students agree the necessity to give students more opportunities to build their digital stories with tools they know, also if teachers do not know them

and/or they are not able to manage them, because it improves a participatory environment and real students' leading-role, other than more engagement, autonomy and responsibility for the results, otherwise transmedia at high level.

3) Communication

This is another essential category, because it includes one of the bases of CLIL, i.e. language, in particular FLs, as well as the entire linguistic relationship among participants and its effects on the final products, and the management of the Internet for them.

Always following our SWODS analysis, the results concerning this category are reported Table 25:

Table 25

SWODS for the category of Communication

| STRENGTHS | | |
|--|---|---|
| Teachers | Students | Researcher |
| <ul style="list-style-type: none"> • Teachers says to have chosen the classrooms where students are mostly at a good level of knowledge of content and FLs • 3 plurilingual plans and 3 multilingual ones • Multilingual brainstorming in almost all classrooms (apart from 2), and initial table of translanguaging • 8 teachers created materials for students (to adapt content and FL or to avoid distractions on the web) • DST encourages students to multimedia research | <ul style="list-style-type: none"> • Almost the 100% say to like FLs • 12 final products are done through online tools, of which 11 also presented orally • DST allows the deepening of topics through visuals | <ul style="list-style-type: none"> • Teachers and students were invited to build a map with their <i>Linguistic Passport</i> to foster their language awareness • FL teachers know how to use Gamification for their implementations • Except for one (in Physics), the classrooms had generally a good level of knowledge, before CLIL, in content and FLs separately • Students of three classrooms have been solicited to use whichever FL they preferred and/or were able |

- Students generally know how to build digital stories (apart from two classes)
- 10 teachers do not speak much, but tend to personalise what learnt about CLIL and tools
- 6 teachers correctly scaffold students
- 7 teachers prepare their multimedia material
- 3 classrooms present multilingual final products (related to 2 teams and a History teacher), 3 plurilingual (related to a team and 2 single teachers), 2 in a FL (German and Spanish)
- Almost all final products are multimedia, at least partially (apart from for the team in the II and for a German teacher in team), whilst they are transmedia in 5 classrooms (though of not all groups)
- Short and diversified inputs (not more than a minute for oral and of 4-5 for videos) to the classroom generally have engaged students for their output, conversely of longer ones
- Feedback almost fully positive by teachers to their classrooms and groups
- Some negative feedback (2) fostered groupworks

| WEAKNESSES | | |
|---|---|--|
| Teachers | Students | Researcher |
| <ul style="list-style-type: none"> • Students' constant use of MT • Scaffolding is generally perceived as lacking • Videos too long are not useful as warm-up (they distract students) | <ul style="list-style-type: none"> • Students do not know enough sites or tools for education • Not enough interactive experience | <ul style="list-style-type: none"> • Low level of FL and linguistic approaches of 2 subject teachers, which inhibits at the beginning the students' work through CLIL • Low level of digital competence of some teachers, which limited multimedia and transmedia tasks. Students cannot ask them for support • Classrooms where teachers have been changing during the years, have many lacks, which make them generally insecure to face with those subjects in FL, lacking too • Most classrooms are not used to work in group and with ICTs for tasks, so ask for many information on how to do • 4 teachers plan firstly without FLs, engaged by the educational news • Pre-determined narration by teachers for students' DST • 3 teachers do not embed content and FL (1 only initially), although encourage students to do it in their tasks • A teacher becomes angry and gives a negative feedback getting loud, when students do not do all as she planned • Insufficient use of codeswitching, in particular to |

| | | compensate low levels of FLs of teachers |
|--|---|--|
| OPPORTUNITIES | | |
| Teachers | Students | Researcher |
| <ul style="list-style-type: none"> • Some teachers consider CLIL a multilingual approach • Digital Storytelling for CLIL makes students learn History in the original dimension, also linguistic • FL teachers (4) underline an improvement in FL academic and relational vocabulary, other than in oral presentations and pronunciation • German teachers tried CLIL implementation to find a more engaging approach for a difficult FL to learn • A Spanish teacher points students' learning FLs in a natural environment for communication • Teams of History and FLs teachers as great value for the subject to learn | <ul style="list-style-type: none"> • The 72% affirms to have learnt the topics well/very well (thanks to FLs, multimedia content, their tasks, particularly visuals, and group-work), and the 20.5% sufficiently • 95% says that CLIL foster FLs knowledge and that this is its aim • In the regard of FLs, they declare to have learnt much, above all, academic vocabulary, but also idioms, through CLIL. In small percentage, they see an improvement also in oral exposition and pronunciation • Although in a small percentage (25%), they are conscious of their contemporary learning of content and FL • Most groups have learnt content and FL together doing their tasks • The majority of students (70%) liked to have studied a subject through FL (enjoyable, like a game, it opens minds) • Finding on the web information and materials, other than working through ICTs is evaluated as the second advantage of CLIL • Content is better learnt with FLs | <ul style="list-style-type: none"> • Gamification has been used by 4 teachers (2 warm-ups on vocabulary, 1 evaluation, 1 between two tasks) • Mainly FL teachers are used to scaffold students • Final products as the result of linguistic collaboration of students in FLs • Communication in groups solicited the integration of weak students • When there was high integration among students (3 classrooms), the oral presentation was at the same level of fluency for all students • FL teachers are used to diversify tasks and tools for learning • BYOD supports the students' autonomous research of visuals, texts to adapt in FL and FL vocabulary in the Internet • Gestures, for feedback in particular, have created complicity, as shared participation, between teachers and students (these generally use gestures more than teachers) • Translanguaging also in Ancient Greek and Latin was done in the biennium of Liceo Classico |

| | | |
|---|--|---|
| | <ul style="list-style-type: none"> • Content is better learnt through interactive tasks in groups | |
| DIFFICULTIES | | |
| Teachers | Students | Researcher |
| <ul style="list-style-type: none"> • Adapting materials by content and FL (too long) • FL teachers feel the lack of methodological courses at University, like History teachers with linguistic competence in FLs different from English • Adoption of FLs in which students are not at a good level • Use of FLs different from English • MT teachers in FLs cannot be autonomous to implement it whenever they want • Lack of a multilingual approach in studies different from Liceo Linguistico (only English) • Lack of teams including History and FL teachers, so as to well balance content and FL and correctly evaluate them | <ul style="list-style-type: none"> • Difficult topics through FLs • A few students think that content is more deepened if in MT • Research and screen of information on the Internet • Videos with too speed spoken • Adoption of FLs not well-known or not previously studied • Difficult translating in FLs • A few students would rather deepen FLs through readings, movies and Youtube at home • Many students have problems in finding materials for their tasks and final products on the Internet • Difficulties in sharing on collaborative sites, or Padlet and Impari (preferred emails or WhatsApp) | <ul style="list-style-type: none"> • Low level of FL and linguistic approaches of 2 subject teachers, which inhibits at the beginning the students' work through CLIL • Low knowledge on the use of input and feedback in FL of non-linguistic subject-teachers • 4 teachers consider the researcher as a FL teacher addresses with difficulty students' tasks • Both students and teachers (not of FLs) tend to do everything first in MT and then to translate • Tendency to use only FL, with no MT and/or codeswitching, of many FL teachers • Content and FL are not linked in every step (input and feedback are particularly difficult in FL, as communication among peers) • Long inputs and feedback to the classroom and to groups create many questions on how tasks should be done, according to teachers' idea • In particular non-linguistic subject teachers are used to do long oral presentations of students' tasks |

| SUGGESTIONS | | |
|-------------|---|------------|
| Teachers | Students | Researcher |
| • | <ul style="list-style-type: none"> • More CLIL, in particular in several FLs, because languages are important • Cross-cutting topics in several FLs • Adopting for CLIL only already studied FLs • More explanations about tasks (execution, key words), in particular because in FL • More communication between teachers and students • More linguistic competence of the involved teacher of History | • |

Note: In order to report the data with clarity, it has not been opportune to completely follow APA 7th.

It is to remind here that most teachers and students involved in the action-researches take part to a Licei Linguistici, where FLs are given more importance than in other schools, whilst the involved initial biennium belong to a Liceo Classico, so another school where languages, although mainly ancient, are the core of its curriculum. And it is to underline as well the fact that teachers chose preferably their best classrooms in FLs and content. This is important, because the most relevant evidence results to be that FLs, for the majority of students, make easier and more enjoyable content, which become so more understandable. This result has been obtained despite the inputs were not always adequate (too long, in MT instead of FL, with not engaging videos, completely in a difficult FL). Actually, they have influenced more the immediate work of students, so the environment of working, than their engagement in using FLs to learn other subjects.

For sure, teams of teachers made easier the attention to the accuracy in FLs of students' final products and presentations, whilst, according to the students' final questionnaires, the obtainment of it is felt as a process of translation from MT, so Italian is perceived by them as a language of implementation, together with FLs. It is more difficult the same consideration for FL teachers, which sometimes do not accept any students' feedback and collaboration with peers in MT. This is confirmed by the fact that codeswitching is not largely adopted, and neither encouraged for students, apart from in German, because German teachers are aware of the difficulty of this language. Besides, although tables of translanguaging have been always done through the initial brainstorming, and in 2 cases through the online Quizlet³⁹, this strategy was rarely adopted to foster multilingualism with the different FLs involved in implementations, but limited to an initial bilingual glossary, FL by FL with Italian. It can be a symptom of not perfect coordination among teaching teams. However, students go further, if they can, and see CLIL as a way to achieve their multilingualism, despite this fragmentation of vision of teachers, at the point to suggest to use always several FLs for cross-cutting topics. This is another intuition of what they can do through CLIL, because, actually, their products are sometimes cross-cutting, whereas teachers decided together above all the historical period to treat, but with no links one another. Indeed, multilingualism is present in some projects, but in others it can be seen rather plurilingualism.

All in all, teachers started this work together with enough collaboration among them in the regard of FLs, being them without experience in CLIL, as said. Balancing content and FLs in their projects, according also to the level of cognition in the Bloom's pyramid, has been hard for them and not always really balanced in their lesson plans. But in this

³⁹ Quizlet was suggested by the researcher in a meeting

too, students often found their way in group, but risking to focus their attention on the appealing of their products, instead on their linguistic demands. Undoubtedly, there is the need to deepen student-centered communication, at the basis of participative environments, as it is demonstrated by the request of more communication with them from some students, by the use of negative feedback to enforce teacher's role, by their request of a lot of information, in order to do what teachers would want for their products. On the contrary, when they are allowed to create in autonomy and groups are really cooperative, ICTs are more used through BYOD, even though with some technical problems, and their products are transmedia and multimedia, as well as their presentations in plenary more fluent and serene. Indeed, there is so a sort of scaffolding among peers, more frequent than teachers' scaffolding, highlighted as a trouble for teachers in the regard of diverse groups. And the students' underlining the low level of FL for 2 teachers of non-linguistic disciplines was born, in effect, in situations of low levels of communication between teachers and students; conversely, other teachers more participative have not been judged, because students focused on their responsibility for learning through tasks. It is really interesting how the same classroom with a teacher is able to build interactive products, finding materials and personalising from sources on the Internet, going further the instructions of the same teacher, and with another use the Internet only to translate through online dictionaries. As a matter of fact, 2 classes in different schools have had the same problems in the management of computers for their work at school, whilst they are more able to use mobile-phones and apps: indeed, on the one hand platforms of sharing have been a common problems with teachers, on the other students shared in any case through Google apps, or WhatsApp, or emails what they were doing in group and/or products. Most teachers shared plans, opinions and materials mostly through emails, but some through Google Drive

too, in every school instructing one or two of them, and/or the researcher, to finally post them in Padlet.

Finally, some students say that Digital Storytelling for CLIL allows the deepening of content through visuals, a teacher sees its importance in highlighting the original dimension of History, which is also linguistic, finally another links those two, affirming that it fosters the multimedia research in History for students. Actually, Digital Storytelling fosters students' narration and their contemporary understanding of it concerning History, making them learning by doing, but also by communicating among peers, giving through visual, written and, at the end, often oral presentations their personal and shared vision of periods, cultures and historical figures. This is why serious games, as some not serious ones, and augmented reality, could have contributed to this immersion and personalisation, but teachers did not consider them, as well as students were not gamers of such games. Conversely, gamification took part of some implementations and contributed exactly to the reinforcement of academic vocabulary in primis, which is also what students say to have learnt in FLs through CLIL.

4) Collaboration

In order to better understand the meaning of this category, it is opportune to specify better the difference between collaboration and cooperation, which is present in the analysis. Indeed, it has been done the more generic name of 'collaboration' to this section, because always present, or lacking, in every relationship in the classrooms and among the three subjectivities, but so as to include also the cooperative and participative environments sometimes developed, and so highlighted in Table 26:

Table 26

SWODS for the category of Collaboration

| STRENGTHS | | |
|--|--|--|
| Teachers | Students | Researcher |
| <ul style="list-style-type: none"> • Teachers says to have chosen the classrooms where students are more collaborative • Motivation for participating: 7 wanted to try in team the CLIL • 5 teachers promote teams (1 fails) • 2 teachers see a CLIL good point in cooperative groups • 6 teachers invite the researcher to be present in team, not only as a tutor, as much as possible to the implementations | <ul style="list-style-type: none"> • In particular classrooms of teaching teams say to enjoy tasks in groupwork to learn (groups were always inhomogeneous and always the same) • Content is better learnt through interactive tasks in groups | <ul style="list-style-type: none"> • All classrooms are straightforward and, apart from one, serene in the relationship with teachers • 6 teachers correctly scaffold students • Sharing of skills, when groups are cooperative • Participative environment with most teachers of a team ("Piga") and other 2 teachers with their classrooms |
| WEAKNESSES | | |
| Teachers | Students | Researcher |
| <ul style="list-style-type: none"> • Scaffolding is generally perceived as lacking • More collaboration needed among colleagues to plan CLIL interventions | <ul style="list-style-type: none"> • Not enough interactive experience • Most classrooms are not used to work in group and with ICTs for tasks, so ask for many information on how to do • Some students and a classroom V dislike to work in groups • Problems with collaborative online platforms • Problems to use the mobile-phones for education (shared accounts, management), so limited collaboration | <ul style="list-style-type: none"> • Students cannot ask low skilled teachers in ICTs for support • A teacher becomes angry and gives a negative feedback getting loud, when students do not do all as she planned • 4 teachers do not stay among students in any activity • Planning in team (2) is done collaboratively only on the choice of topic or historical period • 4 teachers do not stay among students in any activity • Lip-service of 3 teachers about student-centred |

| | | |
|---|---|--|
| | | <p>meaning, but also not fully realised by the majority (in particular, not often students participate to the creation of tasks and are free to choose materials and tools)</p> <ul style="list-style-type: none"> • In a team, the stronger teacher aligns her level to the lower • Groupworks are not always inclusive |
| OPPORTUNITIES | | |
| Teachers | Students | Researcher |
| <ul style="list-style-type: none"> • CLIL puts into practice the cooperative learning in building competences (2) | <ul style="list-style-type: none"> • The 72% affirms to have learnt the topics well/very well (thanks also to group-work), and the 20.5% sufficiently • Most groups have learnt content and FL together doing their tasks • Content is better learnt through interactive tasks in groups • In particular classrooms of teaching teams say to enjoy tasks in groupwork to learn (groups were always inhomogeneous and always the same) | <ul style="list-style-type: none"> • Mainly FL teachers are used to scaffold students • Final products as the result of linguistic collaboration of students in FLs • Communication in groups solicited the integration of weak students • When there was high integration among students (3 classrooms), the oral presentation was at the same level of fluency for all students • FL teachers are used to diversify tasks and tools for learning • Gestures, for feedback in particular, have created complicity, as shared participation, between teachers and students (these generally use gestures more than teachers) |
| DIFFICULTIES | | |
| Teachers | Students | Researcher |
| <ul style="list-style-type: none"> • Lack of teams including History and FL teachers, so as to well balance content and FL | <ul style="list-style-type: none"> • Difficulties in sharing on collaborative sites, or Padlet and Impari (preferred emails or WhatsApp) | <ul style="list-style-type: none"> • Not good management, in particular, of platforms of sharing of teachers and students |

| | | |
|--|---|--|
| <ul style="list-style-type: none"> and correctly evaluate them • Difficulty to adopt a really inclusive approach • 5 teachers say to see collaboration in team the aspect to deepen for CLIL implementations (non-linguistic discipline and FLs teachers) | <ul style="list-style-type: none"> • Not getting along with classmates in groupwork, when not cooperative for tasks, make the experience not significant • Decisions on what to do as not shared with students at the beginning of the experience • Difficulties in relationships with their teacher and the researcher of a V • Online collaboration on tasks, in particular through mobile-phones at school | <ul style="list-style-type: none"> • Not enough collaboration during the phases of planning, implementing and evaluating of almost all teachers and between teachers and students • Misunderstanding of some teachers on the collaboration of the researcher during the implementation (not a manager, but a scaffolder) |
| SUGGESTIONS | | |
| Teachers | Students | Researcher |
| <ul style="list-style-type: none"> • | <ul style="list-style-type: none"> • Working with teaching teams more frequently | <ul style="list-style-type: none"> • |

Note: In order to report the data with clarity, it has not been opportune to completely follow APA 7th.

This is a transversal category, because it involves the relationships among teachers, among students, between these subjectivities, and between them and the researcher.

Starting with a brief overview on the latter, teachers recognised in the researcher a more expert colleague in CLIL, but also a scaffolding tutor during the implementations. Nevertheless, her role has been misunderstood by three teachers, who wished she would have been the implementer in their classrooms, closer to a manager of their implementations, because they were insecure in particular of their level of FL and of speaking in FL to their classrooms. Although this difficulty, two classrooms, a V and the II, collaborated by groups and generally appreciated the experience (the II also with products of high level of SAMR), whilst in another V the collaboration has been the more lacking

aspect, among teachers, the researcher and students, and among the same students too. Consequences have been evident in their final products, not accurate in content, FLs' level and, last but not least, not engaging for them. Indeed, tasks for groupworks have been judged by most students as an important point in learning through CLIL, the third motif precisely. And two teachers define CLIL as cooperative didactics, one of them specifying that so it 'fosters students' building their competences'. Cooperative groups, actually, have been designed by two teams and two teachers, creating a participative environment among the three subjectivities as well. But, also in these teams, cooperation and participative environment were related to the teacher and his/her attitude to consider students able to autonomy in learning among peers, far from the apprehension of their low engaging or becoming distracting without a teacher's strong guide. As a matter of fact, once students of team did not do their task, but copied by the Internet the answers of a crossword, and it happened with the only teacher of the team who had this apprehension. It can be said that the collaborative relationship between teachers and students is at the base of lucrative and really cooperative groupworks of students. Conversely, where cooperation has worked, students have recognised its effects in their learning, engagement, productions of their learning, and serene environment, giving also the suggestion to see more teaching teams. This is what has been recognised by teachers too about their collaborations. Indeed, on the one hand they affirm to want to deepen the implementation of CLIL in team, and, when not formed, asked for help colleagues not involved in the action and/or the researcher for more hours than planned; on the other, teams are the reason why two older teachers of History (and one of them attended the CLIL methodological course) put into practice the implementation, despite their reluctance if alone. There have been lacks in collaboration during

diverse phases, probably due to their already said inexperience, but they have felt only the fact that there was this collaboration.

A form of collaboration between teachers and students, in order to make students have success with their personal and in-group work for task, is teachers' scaffolding. It was evident the difficulty to do it without taking the situation in their hand and paying attention to all students with their different needs, in particular when roles and personal tasks have been not indicated, to build cooperative groups, although mainly FL teachers were more used to put into practice this strategy. During the lesson of one of them, part of a team, the participative environment of teaching and learning was so evident, that scaffolding has been shared with students as a fluid relationship among participants, which has involved the researcher too in this ordinary sharing. Gestures have taken part in this environment, as well as in another of the same team, and obtained a raise of complicity among participants during the activities.

More difficult for teachers and students has been the online collaboration, trouble which might be one of the reasons of a limited adoption of the Flipped Classroom, together with their difficult approach with platforms of sharing. With no doubts, it would have needed more time to be deepened, even though students highlighted more their involvement in presential groups, to share ideas and 'interacting, listening to different points of view'.

5) Engagement

As seen in the theoretical part 1, engagement is important for CLIL as strictly related to one of the 4 C's, namely Cognition, so one of the aims of it. In the theoretical part 3, engagement has been related to motivation, which causes active participation to any learning for students, but also crucial for involving teaching. This is why this

category is also taken into account by all the involved subjectivities, as in Table 27:

Table 27

SWODS for the category of Engagement

| STRENGTHS | | |
|--|---|--|
| Teachers | Students | Researcher |
| <ul style="list-style-type: none"> • The majority of teachers say to have had a really positive experience with CLIL in their classrooms • 2 teams and 2 single teachers say to want to repeat CLIL implementations • A team highlights as a wonderful result the fact that a student with many relational problems was so involved during the all CLIL activities to ask for doing her oral presentation for first | <ul style="list-style-type: none"> • Students are proud of final products • The majority of students liked to have studied a subject through FL • The high majority of students say to have had a positive experience, particularly in: firstly, content and FLs together, because of their passion in FLs, then, respectively, in tasks different from usual, groupworks, use of ICTs for tasks • A student says that through CLIL she understands better the topic, with less effort and more interest. • CLIL environment is defined as funny, interesting, alternative, creative, and exciting) • DST for CLIL, for most students, is an enjoyable, engaging, and faster way to learn | <ul style="list-style-type: none"> • Engagement and motivation of the all participants (apart from 2 teachers with their V classrooms) • 4 teachers like diversifying lessons one another • Gamification has been used by 4 teachers (2 warm-ups on vocabulary, 1 evaluation, 1 between two tasks) • Role playing has taken part in 3 projects |

| WEAKNESSES | | |
|--|--|--|
| Teachers | Students | Researcher |
| <ul style="list-style-type: none"> • 2 classrooms are not enough involved to perform correctly in tasks | <ul style="list-style-type: none"> • Not enough interactive experience for some students • Students are less involved if they are not strong in a subject (Physics, French in a team) | <ul style="list-style-type: none"> • 2 teachers of 'Motzo' judge their commitments at school too many to go on with CLIL, highly demanding • The researcher feels herself in team with colleagues, apart from with 3, who would make her the main character of the implementation • Two classrooms are not generally welcoming (one does not accept to work per groups and to be corrected in FLs and becomes hostile towards History teacher and the researcher) |
| OPPORTUNITIES | | |
| Teachers | Students | Researcher |
| <ul style="list-style-type: none"> • 6 teachers see the students' active involvement as best result, other than their empowerment, and personal, active learning paths • CLIL enhances students' motivation and active participation (5) • A teacher defines the practice of CLIL as really engaging, so as to foster students' motivation and active participation | <ul style="list-style-type: none"> • Most students like new educational ways at school • In particular classrooms of teaching teams say to enjoy tasks in groupwork to learn (groups were always inhomogeneous and always the same) • Content is better learnt through interactive tasks in groups • Better understanding and better knowledge of content are indicated by students as the basis of their engagement in CLIL | <ul style="list-style-type: none"> • Communication in groups solicited the integration of weak students • Teams are engaging for almost all teachers, and motivate them. • Most teachers, some after initial troubles, feel as engaging their implementation through CLIL • Gestures, for feedback in particular, have created complicity, as shared participation, between teachers and students (these generally use gestures more than teachers) |

| DIFFICULTIES | | |
|---|--|---|
| Teachers | Students | Researcher |
| <ul style="list-style-type: none"> • Doubts on the future adoption of CLIL, due to too commitments at school | <ul style="list-style-type: none"> • 9 students disliked to use different approaches than usual • FLs, groupworks and ICTs are not engaging, but difficult for a little part of students | <ul style="list-style-type: none"> • Not fully collaborative groupworks can be only partially engaging • Allowing students to personalise tasks in more engaging ways for them (in particular in the choice of ICTs) • Classrooms with negative attitude toward their teachers were not fully involved in the action and engaged in CLIL |
| SUGGESTIONS | | |
| Teachers | Students | Researcher |
| <ul style="list-style-type: none"> • | <ul style="list-style-type: none"> • More engaging topics • More interactive tasks | <ul style="list-style-type: none"> • |

Note: In order to report the data with clarity, it has not been opportune to completely follow APA 7th.

The literature of CLIL underlines the engagement of students, in particular, and teachers as the more evident result in its implementations. Actually, it can be confirmed, according to our results, but pointing that the engagement of students can be independent by that of their teachers, if groups work and students can build their products with not large indications of what to do through ICTs. Indeed, it is not easy to identify a single cause of students' engagement, because they stress the use of FLs, working per groups, use of ICTs, cross-cutting topics, and also teaching teams as motives of the success of the experience, on the other hand perceiving sometimes the same motives, apart from the last one and adding the relationship/communication with teachers, as difficulties. It might be that, if CLIL is perceived as an environment, which offers diverse opportunities, students result to be engaged by the aspect they need

or appreciate more, as well as, if what they need/appreciate more was not taken into account, it provokes nonparticipation. Indeed, most students showed active participation and motivation, according to teachers, when they felt themselves engaged in different aspects of their tasks, but almost all proud of their final products, so of their personal results, whatever main personal preference for one or more CLIL aspects.

If teachers are concerned, the theory of CLIL was difficult for all, but only two of them had chosen to participate only for it. They were engaged by the opportunity of put into practice CLIL and so learning by doing, and mostly to do it in teams. And this is really to take into account when CLIL training courses are designed.

But it is not enough. Indeed, the fact that students were easily involved and learnt better History, as observing a more inclusive environment, fostered teachers' engagement. There is a big limit to it, namely the lack of opportunity to continue the training through the methodological course at University. Indeed, teachers say they need more knowledge and training, or else they are not able to do it alone.

6) Evaluation

This category concerns the most difficult point to discuss and to implement, because, as seen, it is essential that evaluation covers students' paths and not only their performances and final results. As it will be seen, this difficulty is largely perceived in the results in Table 28, but with some originalities:

Table 28

SWODS for the category of Evaluation

| STRENGTHS | | |
|--|---|--|
| Teachers | Students | Researcher |
| <ul style="list-style-type: none"> • 3 teachers use a rubric built on Rubistar to evaluate • 3 teachers are used to adopt rubrics for students' evaluation • 2 teachers use their evaluation's tools (1 Kahoot, 1 her own printed rubric in French) • 2 teachers use their own built rubrics for students' self-assessment (content-language- interaction -improvements as parameters) • A teacher posts on Padlet her self-assessment, according to strengths and weaknesses | <ul style="list-style-type: none"> • Students of a classroom build an easy rubric for their self-assessment, considering their learning paths and final products | <ul style="list-style-type: none"> • Teachers in teams discuss their evaluation of students' products each other • Teachers in teams with FLs and not FLs teachers divide the evaluation per teacher's competence, although after their personal, in particular on content • Teachers of FLs are used to evaluate both content and FL • 5 teachers evaluate together with students their results |
| WEAKNESSES | | |
| Teachers | Students | Researcher |
| <ul style="list-style-type: none"> • A teacher of a not collaborative classroom is worried to evaluate them, because in V, but deserving negative evaluations on content, FL and groupworks • A teacher says to students that he is not going to evaluate what they would have done | <ul style="list-style-type: none"> • A classroom V contests to be evaluated for their CLIL works | <ul style="list-style-type: none"> • 2 teachers do not evaluate what students have done in the experience • 7 teachers evaluate final products only by content and/or FL • Most teachers do not evaluate with students (some explain their evaluations) |

| OPPORTUNITIES | | |
|--|---|--|
| Teachers | Students | Researcher |
| <ul style="list-style-type: none"> • 9 teachers personalise their rubrics on <i>Rubistar</i> • Teachers evaluate within results the integration of students in difficulty • There is a learning by doing with CLIL, so the evaluation is not by performance | <ul style="list-style-type: none"> • Students are always sincere and rigorous in their self-assessment • Students are able to give an evaluation on their learning process, other than on their performance | <ul style="list-style-type: none"> • Evaluation through rubrics, using the online tool <i>Rubistar</i>, is tried by almost all teachers |
| DIFFICULTIES | | |
| Teachers | Students | Researcher |
| <ul style="list-style-type: none"> • 4 teachers consider evaluation for CLIL as to deepen (2 evaluating students among classmates in groupwork, 1 FL teacher about the two kinds of learning, linguistic and of content, 1 because not deepened during the meetings) • Only 3 teachers use a rubric of <i>Rubistar</i> to evaluate • Teachers of History do not consider the evaluation of FL | <ul style="list-style-type: none"> • | <ul style="list-style-type: none"> • 6 teachers do not discuss their evaluation on final products with students and do not take into account their self-assessment • The majority of teachers are not used to show their evaluation rubric to students • Students generally are not involved in the recognition of the evaluation parameters • Teachers are not generally used to analyse strength and weaknesses for their implementations (both alone and in team) |
| SUGGESTIONS | | |
| Teachers | Students | Researcher |
| <ul style="list-style-type: none"> • | <ul style="list-style-type: none"> • | <ul style="list-style-type: none"> • Finding online tools for evaluation in several languages (<i>Rubistar</i> is only in Spanish and English) |

Note: In order to report the data with clarity, it has not been opportune to completely follow

APA 7th.

How evaluation is crucial for students can be seen in the fact that as soon as a teacher says he is not going to evaluate them, they do not do anything, underestimating the all experience. Correctly and together with the researcher, another, who was in team with that teacher (despite her troubles for the attitude of the former), explained to them that everything is always important and taken into account, i.e. their knowledge, their engagement, their collaboration with all, and their paths, but they kept on seeing the evaluation as something to be afraid. This is in line with the mainstream form of evaluation, which can have highly influenced involved teachers, who did not discuss with students the parameters of their evaluation, or at least show their rubrics to students. Almost all teachers are not used to use rubrics, as they admit (only 3 FL teachers use them), so they did not use, despite their online personalisation on Rubistar. And they had got troubles as well to evaluate the single contribution in a groupwork, in line with their difficulty with scaffolding per groups, but apparently not in their oral presentations, 'because used to this kind of evaluation', as a teacher wrote. Indeed, four teachers wrote in the final questionnaire to consider evaluation as to deepen for CLIL, and this is evident also for almost all involved History teachers, who tended to not evaluate FL and linguistic aspects, if a FL colleague do not collaborate.

Self-assessment is taken seriously by students, and it reveals how strong is their demand to participate to a formative assessment, regarding their growth, not only their performance, as a teacher said in the regard of the opportunities of CLIL. A classroom, indeed, solicited by the teacher, has built their own rubric of self-assessment, including in it what they thought as relevant, namely learning paths in collaboration with classmates and final products, for content and FLs. Also a few teachers showed their consideration of evaluation as formative, building their own rubrics through different original ways

than Rubistar, tool that, however, was difficult for whom did not speak English or Spanish.

Gamification through Kahoot was the way a FL teacher chose for evaluation, to make it more serene, as serene was the only teacher who posted her list strength and weaknesses of her implementation and choices. Good example for her colleagues, definitely not at the same level of self-assessment. It can be said that the learning by doing concerning evaluation might start from this point, to become really participative with students.

4. Limits

In order to highlight the results of these action-researches and answer to the specific objectives of this part, it seems to be opportune firstly defining its limits, which hugely influence them.

The most important limit, as many times said, is that involved teachers were mostly not trained and with no experience in CLIL before. Being CLIL complex, teachers' implementation in classroom, as well as their design of it, has been learning by doing in the initial phase. On the other hand, trained CLIL teachers have been teaching in some involved classrooms, even though they did not accept to participate to this initiative, and students did not hesitate to compare their two experiences, so there are taken into account their opinions.

Related to this limit, there is the fact that almost all teachers were not young, but long-experienced in teaching, so mainly used to teacher-centred approach. Nevertheless, it is not a limit only of them, conversely widespread amid teachers, and never to underestimate in CLIL in-service training.

It is to consider a limit also the fact that these action-researches have been conducted with exclusively the triennium of three Licei Linguistici and a biennium of a Liceo Classico, so with students generally engaged in linguistic studies. It is to further deepen whether our evidences can be the same at all in other schools.

Little time limited the discussion of the evaluation system and its opportunities, if rubrics are adopted, as well as their building process and parameters, which, for their importance and width, have rather to be the topic of further specific researches.

Last but not least, this research does not have the pretension to be exhaustive in its results about the best and more correct practice of CLIL, perhaps unreachable goal for all, being CLIL implemented as an open environment. This research rather wants to be a contribution in underling how the change of teaching and learning practice at school through CLIL can be productively done, according to the fact "that practitioners are the greatest resource of all for changing educational practice, and that, therefore, teachers' research is the most potent force for changing educational practice" (Kemmis et al., 2014, p. 25).

5. Results

In order to report the results of this empirical part, it is opportune to start from what the theoretical parts premised, in the form here of questions to answer, not in the will to do it a definitive way, but so to acquire evidences from the practice of involved teachers with their students and the researcher, and their contribution in sayings, doings and relatings, useful to spread the implementation of CLIL, with its benefits and difficulties to face with, in order to change their same mainstream environment of education.

1) Which teachers have to implement CLIL (referred to History)?

In the theoretical part 1, the literature has suggested that, in Secondary schools, non-linguistic subject teachers should primarily take this role, because CLIL is born to widen the use of foreign or minority languages at school, so apportioning its benefits to students in terms of cognition, holistic knowledge and European citizenship (e.g., see [p. 23](#)). Their required FL level is different amid countries, but it is generally between B2 and C1 (e.g., see [p. 45](#)).

As seen, the subject of History results to be the most involved in Europe, thanks to its referring to cross-curricular themes, as well as for the opportunity it gives students to develop HOTS through its activities (see [p. 47](#)), such as analytical and reflexive skills (Marsh, 2012).

In Italy, as said ([p. 219](#)), in Secondary schools, History is taught by different teachers of Humanities, as well as by FL teachers in the final triennium. And it has been seen that CLIL can be language-driven, as well as content-driven (see [p. 20](#)), so available to deepen content through FLs, as vice versa, so suitable by the former like by the latter, taking also into account that this difference does not subsist, if they are both aimed to the cognitive and holistic growth of students, as it was concluded (e.g., [pp. 20](#) and [55](#)).

In this research all these diverse teachers were involved, so with different kind of educational background and training, and teaching in the biennium and/or the triennium, although CLIL is compulsory only in the last classroom in Italy (see [pp. 72-73](#)). So, it is here to highlight whether their teaching experience and preparation has influenced or

not their CLIL implementation, and how, other than, vice versa, if this is linked rather to other factors.

The three History teachers of the biennium, all of Liceo Classico and so teachers also of Ancient Greek and Latin, have had quite different results. In the first class, the teacher was really in difficulty for her low level of FL and of linguistic approaches, but took advantage of her digital competence, adopting the BYOD and suggesting to the classroom a tool for a multilingual digital storytelling, as well as fostering collaboration among students to build their final products (although her pretension that the researcher would have had the role of FL teacher). These have been cognitive further than teacher's level of Bloom' pyramid planned, which can be read as a success of groupworks through ICTs, stressing the importance of the same ICTs in the acquisition of the autonomy in learning for students, although the linguistic limits of the teacher. Indeed, they say to have had the opportunity to open their minds, linking their understanding and their learning new vocabulary in FLs, in a more practical way than usual. Which is exactly what CLIL offers to non-linguistic subject teachers, in particular of History.

In the second class, where two CLIL yet experienced teachers participated, better results have been obtained by one of them, in terms of cognitive level of tasks through ICTs and cooperation of students in FL acquirement. When the two teachers implemented CLIL together, with low demanding and not interactive tasks, the results have been more limited in terms of new knowledge, both of content and FLs, but, anyway, judged engaging by students, like by teachers. As a limit, it is to underline that in general they did not enjoy Spanish, because, they say, never studied before, although the high level CEFR of the teacher (C1).

So, the obtained evidences for the biennium are:

- first classes can be productively involved by their teachers in CLIL environment through ICTs and groupworks, felt by them as new schooling, engaging and as learning by doing, more productive in terms of knowledge;
- it seems to be irrelevant the level of FL of teachers in these initial classes, when students are involved through ICTs to learn academic vocabulary in the adopted FLs, to form easy level's sentences in collaborative groups, where peers correct each other, and together work by groups for common products on content, provided that they are cognitively demanding;
- the large use of MT for inputs and feedback of the first teacher, even though it lengthened scheduled times, has not limited in these classes neither the results of students, nor their contemporary learning of content and vocabulary in FL;
- the experience of teaching ancient languages is an additional value for students, because they can benefit from deepening the meaning of modern words in several FLs, and from translanguaging. But it seems to be the same for teachers, already used to linking content and language, paying attention to their contemporary learning for students. It is to say that, in Italy, teachers of classical languages have been normally not admitted to methodological courses for CLIL, because of their linguistic subject.

History teachers of the triennium were two of Philosophy and History (so with a master degree in Philosophy), and one of Italian and History. Another teacher adopted CLIL in V for a cross-curricular historical topic in Italian, French and English Literature. One of the first teachers, as reported, cannot be considered as implementing CLIL, although the large support and presence of the researcher during his implementation (in a critical V about teachers and tasks, other than not collaborative among classmates as well), because he was afraid to

use a FL for History, he said to be too old to try a new approach, being also wary about large uses of ICTs, he did not collaborate as well to foster students' tasks, 'ensuring' them he would have not evaluate anything. Encouraged them by the researcher, together with their teacher of Spanish, involved too in this implementation, they did their tasks, but with no good results in terms of engagement, knowledge of content and FL, although their teachers presented them as well prepared in both, even though not collaborative with them. If we compare this situation to the previous of the first classroom, the difference is in the better digital competence of that teacher, which allowed the latter to adopt a student-centered approach, although the same not positive attitude of the two teachers, depending basically on being afraid of their FL level.

Conversely, the other teacher of Philosophy and History, engaged his students of IV through ICTs, collaborating with his French colleague for the students' tasks and evaluation, dividing the responsibilities for content and FL, although his B2 CEFR level in French. As a matter of fact, he, like the other two teachers of Humanities of the triennium, all with a B2 CEFR level in a FL, were more focused on content acquisition through cognitive demanding tasks, including a strong cultural component, nor emerging in the biennium, but essential for CLIL (e.g., see p. [30](#)), because it is at the basis of students' European citizenship, as a pluricultural awareness, fostered by plurilingualism. Indeed, all of these three teachers obtained by their classrooms plurilingual final works, other than cross-cutting transmedia digital storytelling products, regarding historical periods, despite the fact that only one of them has a good digital competence, whilst the others sufficient.

So, it can be said, taking also into account the evidences of biennium teachers, that these teachers of Humanities (whichever subject they teach) of the triennium were more open to consider their CLIL topics open to students' cultural deepening through FLs than their biennium

colleagues, but less focused on vocabulary acquisition (though students reported academic vocabulary as first in FL acquisition through CLIL), because more interested in content understanding through materials in FLs, and written and oral presentations of groupworks. Another aspect they paid attention was the inclusivity in the created environment of learning, which brought sharing of knowledge and roles between teachers and students, other than among students themselves, more difficult to perceive in the classrooms of the biennium.

It seems that History teachers of the biennium and of the triennium have had different linguistic aims and created different contexts for CLIL, yet which can be all considered as changing of schooling, each adequate to students' age, in which cognition and communication should have mostly attention, guided by content in a cultural dimension. Exactly what designed by 4 C's framework applied to History (see p. [25](#)).

Last, but not least, it is to see how FL teachers have taken advantage of CLIL for History, considering that they were all triennium teachers. Firstly, it is to highlight that they appeared to be definitely more expert than their colleagues in linguistic approaches and, with some exceptions, educational use of online tools. Nevertheless, students often felt the limit of using only FLs, and not Italian too, for inputs and feedback, in particular in FLs perceived as difficult for them, such as German and sometimes French, and they were not encouraged to codeswitching when in difficulty with vocabulary. Actually, they do not see the advantage of the use of MT, neither they conceive the enrichment of it, if merged to FLs (e.g., see p. [54](#)), according to a long tradition of Direct approach (see p. [140](#)). So, it can be considered a need of update for FLs teachers.

Besides, these teachers, as their colleagues, affirm to have difficulties to scaffold students in groups, leaving them to collaborate alone, or

waiting for their questions. As a German teacher says, they are more used to evaluating oral performances, than to following their paths in meaning-making. But, as their History colleagues, they underlined as results, above all, knowledge of content and FL, in a natural and engaging context of collaborative work, with a particular accent to cultural dimension for the chosen topics. This is in line with the huge adoption of the Communicative approach by all the involved FL teachers, and of History as well. Unlike these, who generally have not evaluated through Rubistar's rubrics, as suggested, because in difficulty with this novelty for them, FL teachers evaluated content and FL accuracy in the products of students, although not in progress, and some of them adopted different ways to do it, like personal rubrics, encouraging original students' self-assessment as well, and gamification (e.g., through Kahoot).

So, it appears that the results of FL teachers in CLIL adoption for History are similar to those of their colleagues of the triennium, according to what concluded in the theoretical part 1, but generally enhanced by more authentic and technological embedding of content and FLs.

Concluding, it results clear that all the teachers have taken advantage of CLIL and of History for the students' cognitive and pluricultural growth, and that the biennium could be successfully involved in History through CLIL, with preparatory results for the triennium.

2) 'Hybrid' teachers or teams?

The answer to this question is grounded in the theoretical part 1, where, on the one hand, the Three-dimensional Model (Ball et al., 2015, [p 33](#)) called for a new kind of teacher, defined as "hybrid",

because competent in content, but in its three dimensions (conceptual, of knowledge, procedural, of pedagogies, and linguistic), for a single-focused CLIL; on the other, both the theoretical parts 1 and 2 showed the benefits of teaching in teams for CLIL, due to a better balance of content and FL for pluriliteracies (see p. [104](#)), as answer to low FL level and lack in FL acquisition of non-linguistic subject teachers (see respectively pp. [102](#) and [108](#)), as suggested by the Communicative Approach (p. [143](#)) for pluriculturalism, and to give students a holistic vision of topics (see pp. [138-140](#)), for which we suggested teams as large as possible (see Table [10](#)) and training in teams, in order to learn by doing through the sharing of knowledge and practices in interaction, as then requested to students (see Table [11](#)). Moreover, Italian Directives go towards the same direction, because of the lack of CLIL teachers (see p. [72](#)).

As a matter of fact, all involved teachers, during the blended courses, have been invited to plan and shortly implement CLIL firstly alone and then in teams. Not all tried alone, and not all tried in teams, but they all commented this aspect of their experiences, as well as their students, and were observed by us.

Starting from teachers who put into practice CLIL alone, there were two of them already trained in it, who planned an intervention in a first moment alone. One of them, younger than the other and, at the moment, Support teacher, have had some difficulties, particularly in planning objectives of cognitive demanding tasks, according to the Bloom's pyramid, but not in balancing content and FL (English, studied by students of the II classroom). Although after asking for permission to another curricular teacher, she was enthusiastic of the results: only two groups out of four built final cooperative products through English (at the 3rd level of SAMR, as the others, and 6 of Bloom's pyramid, [p 26](#)), because she 'did not want to force them, so as to make enjoy everything they were doing. Indeed, also the shy ones and those with

difficulties participated actively'. It seems that CLIL has been an engaging environment of learning, but not for all immediately bilingual. The other yet trained teacher, on the contrary, did not implemented alone, despite her three lesson plans (already known by her in the structure) for diverse classrooms, because not enough motivated. At the point that she asked the Support teacher for planning together a plurilingual intervention (English and Spanish) in the same II classroom. The results have been lower, in terms of multimedia use and cognitive level of tasks, as well as not as engaging as in the first case.

So, can it be answered that teams can limit the results? They are both "hybrid" teachers, being teachers of Humanities, but trained in FLs and their acquisition through CLIL as well, one with enough ICTs' management, whilst the other scarcely. The problem is that being a single CLIL teacher appears as not always engaging for teachers, and consequently for students, especially if ICTs are not used for tasks. The evidences of this results are:

- the low motivation of the just said teacher of Humanities, who needed the collaboration of a colleague to implement at least once in this project;
- the fact that students, involved before in CLIL provisions by their trained single CLIL teachers, sometimes did not recognise to have participated to CLIL implementations, or did not appreciate enough those previous experiences;
- another participant teacher of History of the triennium, trained in CLIL as well, but with low digital competence, neither had done any lesson plan alone, nor implementation, until he was involved in a team.

Another indirect evidence is the fact that 7/15 teachers, in the final questionnaires, affirm to have participated to the action-research about CLIL because they wanted to try it in team, 4 say to have

deepened in particular the approach in team, whereas, conversely, single teachers with no external collaboration with colleagues of FLs, or History for these teachers, underline their lack of opportunity in this field, in particular in planning and evaluating final products, and asked the researcher to be present in team with them as much as possible. An external collaboration of colleagues can lead to good results, particularly if the involved teacher is digital competent and fosters student-centered tasks.

As a matter of fact, in terms of knowledge of content and FLs, engagement for tasks and achievement of HOTS, teams formed by a History and several FL teachers have obtained the best results in absolute. Indeed, students have written in final questionnaires to have learnt well the cross-curricular topic, thanks to its interdisciplinary and plurilingualism, which offer different points of view, and suggest to repeat often this implementation, or to dedicate to it a specific period. As well as teachers say that in this way History 'returns to his original pluri-dimension, which is also linguistic', apart from the perceived difficulty in forming teams and the fact that they rather divide their roles according to their different subject than cooperate effectively for a common plan and evaluation; appreciate 'planning in an interdisciplinary way, so with less fragmentation of content for students' and which leads to time saving. It could be added that the experience of FL teachers in linguistic approaches and management of ICTs for educational aims have given training in practice to some History teachers, whilst these contributed at the same level choosing cross-cutting topics, in which MT, in academic vocabulary, has been enriched in meaning-making by means of collaborative tasks, and the oral presentations of students in FLs were fluid and free of anxiety for their accuracy.

All these results make prefer the solution of teams for implementing CLIL, according to the theoretical results of this research, to which CLIL

training should focus, and only in second instance to single *hybrid* teachers.

3) How should teachers plan a CLIL intervention for History?

Planning didactic activities is required to all teachers, at least once a year, and for the entire scholastic year, for each classroom in which they teach. This action can be considered in two opposed ways. According to the traditional one, teachers are responsible in particular for their transmission of knowledge in their subject, however they choose to do it (orally, through videos and even online tools), which is unchangeable year by year, and classroom by classroom, consequently they have to essentially timetable this progression of content (including within *content* also FLs, for which see p. [15](#)), counting on their preparation and control of its correct acquisition by students, namely exactly as imparted. This is the meaning of teacher-centred approach. On the other hand, planning is a way to adapt teaching to students' learning styles and their concrete needs of cognitive growth, which, then, cannot consider only the acquisition of the same content for all students and in the same times, or being aimed exclusively at general high performances in written and/or oral presentations of students. Yet, planning should respect and encourage personal paths of each student, in relation with peers and as part of a community. This is why this action is really complicated if so, i.e. student-centred, and it would be always in progress during a scholastic year.

As said more than once (e.g., see p. [60](#)), CLIL is intrinsically complex, due to it takes into account many elements together (content, language, culture, and so on. See, for instance, p. [11](#)), and it is 'not about deciding which content or which language needed to be taught

but involved a much deeper and complex conceptualisation of learning including cognitive demands and intercultural understanding' (Coyle, 2015). This is why the design of always new models for CLIL teachers (see p. [22](#)) has tried to support planning, so as to take under consideration this complexity, namely this student-centred richness of CLIL (e.g., see p. [24](#)), while planning and implementing CLIL lessons. As a matter of fact, all models have been generated by the 4 Cs one (p. [25](#)), because it allows teachers to consider holistic vision of topics in planning.

Indeed, involved teachers in the action-research have planning firstly according to it, and underlining the cultural dimension of their topics. In particular, multiculturalism, together with multilingualism, is seen as an important aim of CLIL in the initial questionnaires of the first year. It is fostered, according to teachers, by 'planning in an interdisciplinary way, so with less fragmentation of content for students', so 'saving time', as compared to traditional ways, more usual for them. Who said it, planned in teams, with the decision to offer to students a multicultural vision of a historical period in different countries, through different subjects and FLs. Apart from this decision, they planned a collaboration between the History and the French teacher, so as to correct the final students' products in History. Students have enjoyed the activities and asked for almost another CLIL implementation through teaching teams. This is surely important, but not enough. Indeed, only two of the four teachers of the team created a participatory environment, in which students were part of decisions of how arrive to final products, and put into practice a competence-based approach, as needed in particular for formative evaluation (see pp. [52-54](#)). The same accent put into saving time in content acquisition could be worrying, as pointing a certain following the same criteria of teacher-centred approaches. Indeed, materials and tools were chosen almost exclusively by teachers, even whether with low digital

competence, and only when students did not manage to work through them, they left students free to choose what they preferred. According to what in the theoretical part three, they substituted other tools for sharing with WhatsApp, so mainly through their mobile-phones and not computers (see p. [157](#)), whose use resulted almost difficult for a part of them, consulting, for their final products, mostly Wikipedia (see p. [331](#)) and Youtube (see p. [158](#)), taking advantage of BYOD for their groupworks, like to share their final transmedia digital storytelling products (e.g., see p. [180](#)).

This is why planning CLIL interventions should be done:

- in a participative environment, in the respect of what everybody is able to do, which has to highlight starting levels and maximum cognitive growth to reach;
- it is needed as well to show rubrics of evaluation at the beginning, but in the common agreement of criteria, in order to make evaluation serene and an opportunity for students' growth (indeed, they rejected the evaluation of final performances, when not involved initially in it, and they were not serene in oral presentations, when evaluation did not take under consideration their path in tasks. Conversely, they felt evaluation as an award, if they perceived the demand of tasks, but were sure of the positive consideration of their contribute to their final products, in particular multimedia ones);
- tasks should be designed to achieve cognitive growth of students as first, by means of content, FL language (according to the Language Triptyc. See [p 20](#)), related cultural elements, relationships among classmates in cooperation (so each with specific roles), in authentic and interactive, but adequate to all and each student, learning environments with the use of ICTs (see p. [50](#)).

Concerning teachers too appears to be opportune to consider a path in planning, and then in implementing, CLIL. Indeed, as said above, they are used mainly to teacher-centred approaches and the change they have done in these action-researches is significant, but initial. Indeed, they planned, in a few cases:

- too long videos not engaging for students as warm-up, or with too speedy FL presentation for them, only because they liked them (videos can be so only apparently a student-centred strategy);
- although students' groups were inhomogeneous, their role in them were not always assigned, so sometimes they were not inclusive and scaffolding to groups became impossible;
- differences of works, according to students' different learning styles and skills, has been scarcely done;
- the evaluation of content and language has been done separately and, sometimes, by different teachers without common agreement, but as two distinct aspects;
- materials, content to know and tools to achieve it were strictly their prerogative, for the majority of teachers.

Nonetheless, at the end of the implementations, 6 teachers, in the final questionnaire, wrote to perceive as better deepened the aspect of planning, and we partially agree. As a matter of fact, many of them planned more than once, and exercise also with colleagues in team. And precisely teams are the answer to well balance content and FL, to differentiate tasks per levels and learning styles concerning meaning-making though content and FL, related to different teachers, but sharing personal skills, choices and evaluation of progress, learning different approaches each other step by step. Single teachers have underlined more than those in team these difficulties in planning, and students as well have been more enthusiastic for what teams of teachers proposed.

Hence, viewing the planning for CLIL impossible to be acquired once-for-all, because student-centred, so always to differentiate, and to do in team, but with the common agreement of all parts of it, from the involved participants emerged some positive important points:

- both teachers and students underline their appreciation for cross-cutting topics, as plurilingual and multicultural, according to the literature (e.g., p. [16](#)), in particular if there are involved difficult FLs for them;
- inexperienced teachers in CLIL need tools, as grids, to take into account all the aspects they have to plan, not only during their implementations, especially in the relationships between inputs and students' output, at the linguistic and cognitive levels, which can also detect their needs of further training (see pp. [247-251](#));
- planning is done firstly in MT by inexperienced teachers in CLIL, which is preparatory to FL adoption for it;
- Cooperative learning is to plan at the basis of tasks and evaluation, above all in the form of Jigsaw or Small-Group Teaching (see p. [186](#)), which some teachers tried, as easier to plan than the other forms, who recognised CLIL as essentially cooperative;
- teachers, in particular FL ones, should include MT in planning students' tasks, as an integral part of multilingualism to achieve, as another language to enrich of academic vocabulary (see p. [53](#)), and as a tool, through translanguaging and codeswitching to gradually better perform in FLs (e.g., p. [103](#)), according to the requests of students;
- videos and visuals have to be included in students' materials, according to the EdTech Quintet (p. [182](#)), as well as to the common perception of students to learn easily through them, in particular when they are period movies, or they might be done

by groups through online tools (such as Emaze, Spark Adobe, I-Movie, and so on);

- tasks should be planned in the inclusion of ICTs, which, first of all, make them engaging for students, which foster their contemporary learning of content and FLs, thanks to online plurilingual sources, and it is founded on their well-known wider communicative environments, but leaving groups free to choose their already known tools, at least initially, and sources, in order to personalise their cognitive path, deepening and construction of common final products. These are the clearest evidence of it: the more teachers trusted in groupworks, not taking under control previously what was to obtain by them, the more students arrived to the highest level of Bloom's taxonomy ([p 26](#)), in a multi-faceted vision of History;
- SAMR and EdTech Quintet might be the more useful tools to change gradually schooling through CLIL in the subject of History. Indeed, both students and teachers are not used to large adoption of ICTs for educational approaches: students do not use yet high levels of technology (indeed, they say that Augmented Reality and 3D do not generally take part of their leisure), and teachers have only rarely planned spaces for Gamification, not considering at all Game-based learning. But they are all interested to change their schooling in a more engaging way, and the key was seen in the hands of students, who went, in any case, further than their teachers in their building participative transmedia products of Digital Storytelling by means of ICTs. So, if it is the starting point, SAMR and EdTech Quintet can be taken into high consideration as pointing gradual steps, starting from planning;
- the environment of Flipped Classroom helps teachers to focus on student-centred methodologies and students to cognitively work

per groups at school. Students asked for working at school in the demanding way of CLIL, because they felt it was hard collaborating from their home with classmates, without any scaffolding in presence and with online tools not so easy to manage for them at computers, although their engagement and appreciation for the novelty. On the other side, teachers understood the importance of flipping their classroom, so as to give more value to students' meaning-making in groups at school, and insert it in almost all their lesson plans, though not always they succeeded, given their inexperience of this methodology;

- Gamification has highlighted good results in different moments: as warm-up, to refresh and propose new academic vocabulary, also in building initial translanguaging tables (for example, using online quizzes tools for words, as Quizlet, or crossword's tools, as Hot Potatoes and Learning Apps), included in 4 teachers' plan, but implemented by 2 of them; as ludic moment between two demanding tasks, so as to check what learnt in the first and preparing the second (e.g., through the online Kahoot and Quizizz), as done by a teacher; and as evaluative moment, teaming up from the groups, according to Jigsaw of Cooperative learning (see p. [186](#)), planned and implemented by a FL teacher;
- the designing of rubrics, such as Rubistar, and self-assessment of students are perceived as crucial by teachers who attempt to put into practice student-centred approaches, as competency-based (they affirm that it is good to leave the evaluation of performances, as in the mainstream one), whereas the others only planned them, although almost all of them have had difficulties in their use. Then, the way could be to start from participative rubrics with students, in which parameters of their self-assessment are self-created and at the beginning accepted

in planning (as a teacher allowed), and those of rubrics are almost previously discussed together, as only three teachers of a team and another single teacher considered appropriate;

- in order to foster a gradual improvement of CLIL through technologies, it might be useful to plan a post-implementation grid for teachers and students, to underline strengths and weaknesses from both critical points of view of the all aspects (there can be included the categories above, for instance) which are to take into account within the formative evaluation as well. In this action-research, a teacher shared her list of strengths and weaknesses on Padlet, and it solicited the reflexion of the other colleagues, as well as answering to the final questionnaire of teachers and students, in the common will to analyse what put into practice together.

As seen, all this points mark what emerges from sayings, doings and relatings of the participants, and, as most relevant evidence, indicate that CLIL planning itself is a path, in which personalising the tenets of it is to consider, on the one side, a limit from inexperienced participants, but which is, on the other side, source of suggestions on how to go on in this way.

4) What use have teachers done of pedagogies, linguistic approaches and related educational methodologies in their History lessons through CLIL?

In the theoretical part 3, there is a picture of the literature of CLIL, which concerns student-centered educational integrated methodologies related to it (p. [179](#)), according to pedagogies and linguistic approaches on which they are found (see Table [9](#)). The

premise to the results in this field is always to take into account that the majority of teachers were not experienced in this field, so the management of methodologies in particular could appear not yet deepened and with the mistakes that learning by doing can present in the initial phase.

As seen in the theoretical part 1 and 3, CLIL was founded on social-constructivism (e.g., see p. [25](#)), which fosters task-based approach, as a discovery learning, strong scaffolding of teachers and the social-cultural dimension in learning more languages (see p. [129](#)). As a matter of fact, this was only the starting point for pedagogies and CLIL embedding, which is not concluded yet (e.g., as the Phenomenon-based learning now in Finland. See p. [140](#)), in the research of a pedagogy that can include the great complexity of CLIL, in taking a not univocal aim and opportunity of change of schooling. This is why Genre (p. [131](#)), Competency-based (p. [133](#)), Transformative pedagogies (p. [136](#)), after Social-Constructivism, try to better answer to aspects to particularly pay attention to for CLIL: different subjects' specific literacy and linguistic functions, backward design and evaluation as main point, affective filters' removing in a participative environment of practitioners-researchers focused on interculturality.

It seemed to be clear to almost all involved teachers, who mainly adopted Genre (7), as a more precise answer to the specific History literacy, together the attention to its academic vocabulary. The fact that almost the same number of teachers (5) made use of Social-Constructivism, from which Genre derives, sharing many aspects with it (such as task-based approach, collaborative groupworks, scaffolding, etc.), can underline a greater focus on language of the former, which adopt more content-based activities, given that there were more FL teachers than History ones, but an intrinsic mirroring of CLIL in their common assumptions. Nevertheless, their adoption has been not full, given that scaffolding has been highlighted as a strategy particularly

to deepen, and that the same implementations contained teacher-centred elements (as the control of content to know, sources and tools).

Transformative pedagogy appears to be definitively less used than the previous, probably because it is absolutely student-centred, with no spaces for interferences of teacher-centred approaches, whilst the previous can be adopted gradually, in particular in the design of tasks. Finally, competency-based was almost ignored, at the point that no teachers adopted it as the only one, and that the evaluation of involved competences in the students' final tasks results to be mostly disattended.

If linguistic approaches are concerned, it is evident the large adoption of the Communicative Approach (p. [143](#)), in particular in the notional-functional method (only one of the 10 teachers that choose it preferred the situational one), according to the prevalence of Genre pedagogy, but also Social-Constructivism, which stresses the importance of communicative functions to arrive to communicative acquisitions in different contexts, as, for instance, different genres for different subjects. It is also confirmed by the use of role-playing as most-used technique. On the other hand, Transformative seemed to be linked by teachers to the adoption of Affective Humanistic Approach (see p. [141](#)), thanks to the prevailing attention of both to language and cultural awareness, and to serene and participative environment of learning. Undoubtedly, this is a point to be further researched, being crucial for the CLIL implementations. Moreover, it is to underline the extreme reduced use of codeswitching, fostered by both these linguistic approaches, which is not felt by FL teachers, in particular, in line with an immersive environment as CLIL. The strategy of translanguaging, supported as well by these approaches, generally is limited to the initial brainstorming, but it is adopted more when several FLs are involved, or in parallel with ancient languages, such as Latin and Ancient Greek.

But what more clearly emerges, it is that teachers tend to use more than a pedagogy, and linguistic approaches as well, although to a lesser extent. Indeed, for example, one of them made use in a project of Transformative, and, with the same classroom but in team with a colleague, of Genre, obtaining the best results of final products in the first case. As a matter of fact, Transformative has been applied only by a teacher in an exclusive way, another time as an alternative of Genre, as just said, or together with Competency-based (with the same classroom, but in different activities), with which it shares the importance of evaluating the acquirement of transversal skills for students' life, and finally with Social-Constructivism (in the same classroom), aimed at deepening the pluricultural dimension of topics through language awareness of students and plurilingualism in the classroom, as well as at creating a participative environment, especially during tasks.

In the regard of the educational methodologies that the literature link to CLIL, it is to premise that PBL (p. [191](#)) has been excluded ab origine of this action-research, because it would have required long-terms projects, which were not possible, due to our limited time for implementations given by managers and by the same teachers of the schools. It is also to remind that teachers did not accepted to include DGBL (p. [198](#)), neither in the form of Augmented Reality. It suggests the opportunity of graduality in the adoption of the methodologies as well, as the EdTech Quintet's progression (see p. [182](#)), given that also students were not used to digital games or AR neither out of school. About the other methodologies linked to CLIL in the literature, as in the theoretical part 3, it is here opportune to give a picture of the results.

Flipped classroom, adopted firstly with teachers during the blended courses, has been recommended by the researcher for the implementation of CLIL in the classrooms, in order to foster the

adoption of a student-centered methodology, which puts into practice the majority of common literature suggestions with the same CLIL (task-based, cooperative or collaborative groupworks, role of teacher, personalisation of learning. See p. [184](#)). As said, almost all teachers insert it in their lesson plans, but only 4 of them put it into practice. Actually, two reasons could have caused it: their being inexperienced in this methodology, as well as in the management of CLIL materials, so it would have been really demanding to find, or prepare, adequate pre-school homework⁴⁰; and their low adoption of really student-centered approaches. In any cases, there have been consequences in the implementation: teachers tended to choose topics almost partially presented in MT before the implementation, in particular History teachers, because insecure of the level of FL of students; times of implementation have been quite often extended, due to the fact that students had to see or read at school what was planned as homework, soliciting their asking for further information to teachers, instead of deepening in their groupworks.

Teachers who flipped the classroom, indeed, took advantages in these aspects, as well as have been facilitated in the creation of a participatory environment with students. It has been evident in particular in two flipped classrooms, with the result of perceived inclusivity and serene environment, which allowed the active participation of the weaknesses as well to the groupworks: in the first one, teachers in team were surprised for the change in attitude of a problematic student, who set aside her normal silent estrangement at school, to contribute to the final product of her group, and who asked to present this work as first of them, doing it with troubles (she rarely

⁴⁰ The researcher suggested to post short videos, chosen amid the available on Youtube, and/or other online sources for students in an online platform of sharing, with which many of them, as their students, have had some problems of management.

had done oral tests before); in the second, the researcher asked colleagues for indicating the weaknesses, because they appeared almost all at the same level of knowledge and fluency. Indeed, many of these students affirm to know well what done, thanks to the fact that they have deepened at school, and suggest to keep on treating in this way the topics, namely through a technological CLIL and flipping the classroom.

Cooperative learning (pp. [186](#)) has been included by teachers, almost as attempt, at various levels and for different activities:

- Small-Group Teaching was at the basis of all students' groups, according to the roots of task-based approach (e.g., p. [129](#)). As a matter of fact, it has been considered by students as one of the more engaging aspects of the action-research, because it has given value to their autonomous work, recognised by some teachers, as to the inclusivity. Students have had so the opportunity to socially work for a concrete product of knowledge and creativity, but limited in this by the suggestions of tools of many teachers. Anyway, their oral presentations in FL have taken advantage from the sharing of ideas, points of view, and also corrections about FL in particular (choice of words, pronunciation). It has been really important, given that scaffolding of teachers was generally lacking, and that the perception of the change in schooling of teachers and students has been attributed in part exactly to this way of working;
- Jigsaw, as said (p. [325](#)), has been used by some teachers as an alternative to Small-Group Teaching, especially during the gamified activities, in which students cooperated to finish their assignments before and better the other groups. This has given students the engaging responsibility of their personal contribute to the common success of their groups, contributing to the development of their social skills and self-assessment.

In particular two teachers, one of History and Literature and one of FL, were really interested in Short-term WebQuest (pp. [187-188](#)), and included it in their lesson plans, although all teachers showed their interest for this methodology, which is born in the field of FL teaching. The first teacher tried it in a second classroom as mainly in Italian and monodisciplinary in History, but assigning to a student of each cooperative group, strong in English, the translation of the conclusive part. The suggestion to adopt Flipped Classroom together with WebQuest for saving times in aiming at the highest levels of HOTS, has been disattended, but students kept on cooperating online from home for their tasks through the platform Edmodo, judging, at the end, the methodology as demanding, as well as being really proud of their results, in terms of deepening of topic and engaging work. As a matter of fact, the researcher had given teachers links of repositories of ready WebQuests in many FLs, which offer a wide variety of topics and modifiable (such as [WebQuest.org](#), or [Zunal.com](#)), or to build themselves (as in the previous sites, or in [Aula21.net](#)), but learning by doing prevailed for teachers, so both teachers designed autonomously their WebQuests. Unfortunately, it has been not possible to see the results of the second WebQuest, because of the teacher did not personally conclude the implementation (substituted by her MT colleague of Spanish, who cut the tasks for only oral presentations). Yet, from the final questionnaires of students, it is clear the difference from the previous example: the FL teacher gave the same WebQuests to all groups with the same limited sources for tasks, and, although her great commitment and enthusiasm, did not allow students to personalise their meaning-making through tasks; on the contrary, the History teacher differentiated as much as possible materials and the same tasks, cooperatively teaming up and scaffolding groups. It is to underline also the fact that the former, in the questionnaire, underlines the lack of collaboration with a non-linguistic subject teacher, precisely

to manage the content for tasks (other than to evaluate it), as well as the latter felt her limits in managing FL in tasks. Despite this observation, the WebQuest of the latter's students are deepened in content and at the highest level of Bloom's pyramid and SAMR, although with a short bilingual part: the best result, anyway, for a second classroom, definitely in line with Participatory Learning.

Having highlighted yet the results of Gamification, engaging but too poor to be further considered, it is now to report here the results of Digital Storytelling, already underlined above.

According to the initial questionnaire of the second year and the final of the first, Digital Storytelling have not been managed before by all teachers, but they affirm that it 'gave students a synesthetic approach to History' and 'highlighted the original dimension of History, which is also linguistic'. According to students,

Digital Storytelling for CLIL allows the deepening of content through visuals, and, as a matter of fact, their original products by means of this methodology, sometimes together with Flipped Classroom, are transmedia and multimedia, often at high levels of HOTS, normally between the 3rd and the 4th level of SAMR, personalising and deepening content and academic vocabulary at least in a meaning-making perceived as highly engaging. And the opinion of another teacher about it mirrors these results: 'DST fosters the multimedia research in History for students and their active participation as best result'. It can be said that DST has made History engaging, because through it (namely, through wide authentic online environments, accompanied by sharing of ideas, opinions and co-creation of products, so, through high communicative contexts) the understanding of historical cultural dimensions has been supported by the enrichment of different plurilingual narrations to the univocal and teacher's interpretation of topics, to which they have added theirs, as multimedia.

Students felt, in this way, their value as real “prosumers”, in particular when materials and resources for their products derived from their autonomous research in the Internet (action perceived as engaging as difficult by them, underlining so their responsibility in content curation, and a certain digital competence as well), and sharing online their products, usually with classmates and teachers in collaborative platforms. The only limit to this result has been, as said more than once, not being often allowed to be more autonomous to choose materials and tool, too often addressed to what teachers had already managed (like Emaze, Spark Adobe, or Padlet).

It is, finally, to remind that Digital Storytelling has been adopted the first year with no complete awareness and training on it of teachers, which adopted it in an intuitive way, but so giving more freedom to students, and obtaining, despite this, products of high level, in the regard of the 4 C’s and SAMR. The second year, it has been object of two meetings, in which its adoption was commonly agreed and teachers mainly oriented themselves and students toward the easier for them, namely Emaze. However, they did not accept to try the highest form of DST, according to Puentedura, i.e. serious and non-serious games, or the Augmented Reality. Another time, these implementations can be seen as a work in progress at the initial phase what done during the action-research.

5) What kind of materials and resources have been chosen?

In all the theoretical parts, it has been seen the relevance of this point to research:

- materials are intrinsically communicative, as well as they are teacher’s communication and students’ communication (Coonan,

- 2011), so teaching should pay attention to way these communications happen (see p. [28](#));
- ICTs are essential for *Digital Natives* as nowadays students (see p. [165](#)), but their digital competence concerns communication mainly through Socials for entertaining content (see p. [157](#)), massively through their mobile phones (e.g., see p. [157](#));
 - CALL and MALL, widespread in language learning, suggest that multimodal inputs, thanks to multimedia environment, give students the opportunity of interactive feedback, for them engaging and highly formative (e.g., p. [30](#));
 - it is opportune the differentiation of materials, according to students' learning styles, fostered by multimodal inputs, which leads to transmedia products for the achievement of new literacies (see p. [29](#));
 - materials, and lessons in which they take part, so as to be tailored for the classroom, are rather to be created, or adapted, in cooperation among students, and between students and teachers, which fosters the personalisation of knowledge, like the adaptive learning aiming at HOTS, in democratic environment (e.g., see p. [52](#));
 - the dearth of CLIL materials, or the perception of teachers of their inadequacy for their classrooms, whether not self-made and so finely-tuned, are often perceived as a lack, or as a reason of workload, but it could be read as an opportunity to prepare them in collaboration with colleagues and teachers, after CLIL training (see pp. [110](#) and [109](#)).

In the awareness of this last point, and of the limited time of teachers in which they were trained, the researcher suggested to make use of the wider online repository of CLIL lessons, which contains topics for whatever subject, FL and level CEFR: "Clilstore". As a matter of fact, none of them tapped into it for their materials, as a great resource,

but, according to the literature, not tailored for their students. Nonetheless, an important limit has been having little time to implement CLIL in classroom, felt in particular by students, which may have influenced in particular the fact that many teachers have prepared by themselves materials for students, as they declare. However, also the same facing with new kinds of materials, which should be designed linking content and FL, can be considered as underlining their will to experiment something unusual for them and their students too, as well as it testifies their desire to adapt materials to the needs of their students. On the other hand, they underline that collaboration in team, as suggested by the literature, helped them in the design of them, and sometimes also in the choice of online resources and adaptation, although this is perceived by a few teachers as time-demanding.

But what kind of materials have teachers adopted? Really various: from papers with visuals, to photocopies of books or online resources, to online ancient pictures, to videos, often on Youtube (as said, the most used, in particular for warm-up, but in some cases too long or too speedy in FL communication), to multimedia resources in online sites (in particular for historical sources), to movies or part of them, to a mind-map, to quizzes and crosswords. They enjoy the novelty, for the majority, of managing interactive materials, and students felt it as a change in their relationships with teachers, even though, as said before, not perfectly participatory, but judged as engaging because interactive and new.

And, on the other hand, what kind of materials have students chosen, when were allowed to choose autonomously? They underline, as first, and as first cause of their better understanding, visuals and videos, according to the literature (e.g., see p. [29](#)). As a matter of fact, students received the teachers' choice of materials and, in their products of Digital Storytelling, have modified them into transmedia of their meaning-making in groups, so deepening knowledge in an

engaging way through plurilingual resources (as mostly write in their final questionnaire, calling for working in a multi-functional classroom for CLIL tasks). As their engagement, as the their management of materials to modify, so as to create new content to share amid the scholastic community, but also in collaborative sites online, is felt by a part of them as a complete communicative task, not to further present in plenary orally, at the point that a classroom accepted this only because they were not able to insert their voices in a multimedia tool, suggested by their teacher. However, they chose some materials: in particular they made large use of online dictionaries (as Wordreference, but also Reverso and Leo), in their plurilingual translations of content for multimedia tasks firstly in MT; as well as of Wikipedia and Google visuals, to add information and pictures to teachers' materials; Youtube, searching for explanatory videos for difficulties with tools, or to insert in their presentations, through mostly Google Presentation and PowerPoint, and Prezi as well (normally felt as more engaging). It is a really limited use of the potential of the Internet related to materials, but, on the one side, teachers, as said, would rather choose by themselves materials, on the other side, they affirm to perceive really difficult for them this research (and it is a transversal opinion, from the first classroom to the V). But, the evidence from their final judgements is that the more is difficult this research and the management of materials to complete their tasks, the better they perceive to have worked together. With no doubts, cooperative groups, as suggested by the literature, thanks to their shared roles, have less underlined their struggle in this field.

Finally, it is opportune to give an example on how students can create materials for their tasks autonomously. An English teacher, part of a team, in Flipped Classroom linked them on Google Drive short texts about the historical period students had to see through CLIL, so they,

in classroom and per groups, wrote an interview to important personalities, in order to make a short drama movie.

Another teacher of History, prepared on Emaze 12 rooms, each with a picture concerning the age of Louis XIV, in which students by groups had to insert their photos, as tourist guides, who, through vignette, explained the pictures at the light of the historical period. It can be really said that engaging materials guided as students as teachers in participatory and interactive environment, in their production of entertaining content for both these subjectivities, although not for Socials, but as key of active participation, cause of cognitive and communicative growth for students.

6. Discussion of the results

The results of this research have evidently confirmed, as first, the complexity of CLIL, recognised as premise at the beginning of the Theoretical Part I (e.g., see Models for CLIL, p. [23](#)), and moreover if embedded to ICTs, if teachers are at the lowest levels of digital competence. They highlights particularly two aspects of this complexity: on the one hand, because CLIL is open to what teachers choose, in terms of pedagogies, linguistic approaches and strategies, according to their attitude, knowledge and practice of didactics and methodologies for teaching (see the explanation of Table [10](#)), which, as seen as an evidence of the empirical part (see p. [284](#)), can give good results for the classroom in general, whether not fully student-centered as well (see p. [318](#)), because in an initial phase of CLIL practice (as the teachers involved in the action-researches). On the other hand, they confirm especially that CLIL is an open and significant

environment **of**, **for** and **through** learning (recalling the prepositions of *Language Triptych*. See [p. 20](#)) for students, who become, so, able to go further of what teachers planned about cognitive acquisition and knowledge for them, whether allowed (e.g., see [p. 284](#) and [p. 298](#)). Indeed, engagement and inclusivity, i.e. the most important benefits of CLIL in the literature (e.g., Aguilar, 2012; Marsh, 2012; Pérez, 2018b), are nourished by their finding, in this environment, the opportunity to deepen knowledge of content and language (see Knowledge, [p. 279](#)). And they underline that it should be included also their MT, not only FLs⁴¹. See Communication, pp. [298](#) and following), but starting from what they already know and are able to (i.e., before their cognitive progression through CLIL tasks), as content they are going to learn in groups, managing and adjusting it, in the development of their competences (environment **of** learning, so intrinsically significant). At the same time, there is another opportunity at the basis of CLIL, namely to take advantage of the simultaneous learning of content and language, which offers to all participants a holistic vision of topics, cross-curricular, cultural and interactive (as teachers and students highlighted for History, for which see Implementation ([p. 284](#)), and according to our conclusions of the theoretical parts [1](#) and [2](#)), so as to build their meaning-making like a personal “transmedia digital storytelling” (see [p. 188](#)) to share and adapt with the scholastic and networked community, according to their stigmergic role of prosumers of the convergence culture⁴² (environment **for** learning, so actively taking advantage for education from the “convergence culture”⁴³). Finally, CLIL, thanks to its collaborative, at minimum, but hopefully participative, environment (see results of the theoretical

⁴¹ According to what hypothesised in the theoretical part 1 (e.g., see [p. 28](#)) and in the same literature (Dalton-Puffer, 2008; Marsh, 2012).

⁴² See [p. 152](#).

⁴³ Jenkins, 2006. See [p. 159](#).

parts [1](#) and [2](#)), gives to the stakeholders the opportunity of creating and/or adopting always new ways through learning, switching among, or merging, pedagogies, linguistic approaches, tools, ICTs and strategies, as concretely happened in the action-researches (see pp. [330-337](#)), according to what underlined in the theoretical part [3](#) (environment **through** learning, so the educational *participatory culture*⁴⁴).

This is why the complexity of CLIL has been perceived by many teachers too demanding to be learnt in theory, as they wanted, and abandoned the action-research exactly when their learning by doing should start, planning and putting into practice with students a new way to learn, without absolutistic roles, but in a communicative community of teaching and learning in different subjects (Gierlinger, 2015), as the conclusions of the theoretical parts [1](#) and [2](#) of this research suggested. Yet arriving to this point is to consider a path for all, teachers and students: for the former, because they are used to teacher-centered approaches (e.g., see Limits, p. [318](#)), to low levels of collaboration with colleagues and, moreover, with their students (see Collaboration, p. [306](#)); because they would need of continuous training, as underlined by the results of the theoretical part 2 (e.g., see p. [105](#)), but there are not always opportunities of it for them, in particular if they are competent in FLs different from English (as some involved teachers regretted⁴⁵, and according to what reported about the same definition of CLIL⁴⁶); because traditional timetables of lessons at school cannot be easily changed, to give teachers more chances of planning and implementing together, apart from short-time projects; because their digital competence is to improve, so as to plan starting from the first levels of EdTech Quintet (p. [182](#)), Social and Mobility

⁴⁴ Jenkins, et al., 2016. See p. [158](#).

⁴⁵ See Table [23](#).

⁴⁶ E.g., see p. [18](#).

(whose importance has been underlined for the implementation of the Technological CLIL. See, for instance, p. [180](#)), clear for students but not always for them, to arrive to the highest level of it, namely Gaming, being not afraid to lose seriousness in tasks (according to, in the theoretical part 3, pp. [195-205](#)); last but not least, because the Italian Directives of the Ministry during the last decade were not clear for all, for instance in the need of including in training all teachers (see pp. [72-74](#)), in particular addressing the CLIL especially to the V classrooms, whereas they are not considered by the majority of teachers (but also of students) as adequate to start CLIL, like emerged by the action-researches. See, for instance, p. [288](#)). If students are concerned, they affirm that learning in groups cross-curricular content, FLs and digital tools, as the *prosumers* (see p. [154](#)) of the literature, is highly engaging and makes them learning more deeply, even though most of them have to cooperate more, particularly in the research of materials, and acquire, step by step, better management of devices, different from mobiles, and of educational tools (see Table [23](#)).

The use of ICTs, FLs and teams results to be engaging also for teachers, mainly in participative environments, who perceived an important change of schooling through these three points (see Table [23](#)), although their age and long experience in teaching differently. As a matter of fact, from the beginning they answered in the initial questionnaires that CLIL is aimed firstly at putting into practice a student-centered approach, then at multilingualism achievement (see Graphic [3](#)). It is important, because it stresses the importance of what teachers has to focus as first, and what should be their first objective of training, i.e. student-centered pedagogies, linguistic approaches and methodologies (according to the results of the theoretical part 2), because their work primarily concerns their relationship with students. Teaching teams, though often difficult to form, as also some teachers of the first year of action-researches experimented, support this vision

of CLIL needs, and offer teachers the opportunity to discuss together, and adopt diverse techniques during CLIL implementations, in order to make students grow at all levels through tasks, matching their learning styles, with the assumption of the responsibility of their path in the sociality of groups (as the results of the theoretical part 1 have called for).

But to arrive to the consolidation of these results, two emerged instances are to welcome: firstly, according to the results of the theoretical part 1, massively adopting CLIL as a cross-curricular option to teach and learn, in modality of learning by doing for the all scholastic community, which allows deep changes in the relationships at school, and not only a trial to do it; secondly, offering a continuous training for non-linguistic subject teachers and of FLs together, according to the suggestions and results of the theoretical part 2, preferably online or, better, blended (see p. [86](#)), which does not have to start from FLs, as usual, given that the correct instructional approach with students, together with being able to manage ICTs educationally, have demonstrated to foster better results from students, in terms of knowledge of content and FL embedded, like in terms of cognitive growth and activation of communicative functions (see Implementation, p. [284](#), and p. [298](#)), than starting from teachers who are highly competent in FLs. In other words, if CLIL and technologies create a significant and open learning environment (so, intercultural, plurilingual, cross-curricular, multi-tasking, highly communicative), as described in all the theoretical parts of this research, its being participative should be put as ground condition, not as a consequence, so as not to limit the active participation of students. Indeed, whenever this condition did not happen, they called for being consulted further in several aspects, as the choice of interesting topics, of materials, devices, online tools, ways to present their works (e.g., see Table [24](#)). This is mostly evident in subjects as History, which has shown its

potential in the achievement of multiculturalism by means of cross-cutting topics in different FLs, so open to multi-faceted meaning-making of students to reach a common holistic vision (see pp. [47-48](#)). For its full achievement, the opportunity of sharing personal skills and knowledge in serene relationships, so with teachers not in a position of power depending on their knowledge and role, is crucial. It has been repeated more than once that students, sometimes, have been allowed to go further than teachers' plan in their results of final products, thanks to their creativity with ICTs and cooperation within groups (e.g., see Implementation, p. [284](#), and Communication, p. [298](#)). Actually, even though it is a great result for students, it also underlines a huge need of training for teachers exactly in managing ICTs for educational purpose in History (but it can be supposed for all subjects, as the Lack [IV](#) of the theoretical part 2 has underlined), giving them knowledge by practice of participative platforms and variety of tools, in particular to adopt Flipped Classroom and Digital Storytelling together, and this also in the more immersive form of Game-based and/or Augmented Reality, excluded by this action-research by all teachers, but put in the top of student-centered approaches by the EdTech Quintet (p. [182](#)). This tool, and SAMR before than this, have been taken into account during teachers' planning, according to what emerged in the theoretical part 3 (see p. [180](#)), and enlarged the opportunities for teachers and student to involve interactive tasks, Internet based. Nevertheless, something important has not been deeply taken into account: namely, the fact that students are mainly used to communicating through social media with their mobiles, as "creative audience" (see Figure [22](#) and p. [160](#)), and that this should have been the starting point of their involvement. As a consequence, they have found difficulties in many tools' management and in the research of information (see Table [25](#)), but, actually, social media themselves, at the top of the interest of teenagers (see p. [159](#)) offer rich and adequate resources in this fields

in all languages, which are linked to many sites of History and resources, despite the fact that they have been ignored by teachers, exactly because from social media. So, these “Digital immigrants” (see p. [166](#)) should be absolutely trained firstly to ICTs, because they have to understand the communication with and among students, and, consequently, planning in the respect of this great and engaging diversity and richness. Furthermore, teachers have to guide students to acquire a full digital competence, namely one of the skills of the XXI century (p. [45](#)), as one of the DigCompEdu (p. [174](#)), which fosters this competence in teachers, (European Commission, 2017). They have to take advantage of what the Internet offers, in a massive variety of communicative tools and sites, for which they should know almost part of this multiplicity of online proposals, maybe through the Padagogy Wheel (see p. [178](#)) as an initial tool, thanks to its connections among Bloom’s pyramid (p. [26](#)), SAMR (p. [177](#)) and online tools.

It resulted evident as well that the progression in CLIL and ICTs implementations for History can be done, first of all, in teams including FL teachers, who are already called to teach History in their subject (see Italian Licei, p. [223](#)), and who are generally more flexible in didactics; secondly, starting from the initial biennium of Secondary schools, or in the third classroom at least, because V classroom are more difficult to involve in new learning environments.

And this leads to the relationship between ICTs and FLs, which students affirm to have known in particular in the field of academic vocabulary (see Table [23](#)). Another great result, because CLIL undoubtedly is focused on academic, or genre, functions of languages (Llinares & Morton, 2010), but still not enough, if the same ICTs do not foster more plurilingualism, as pointed out by the literature (e.g., Cinganotto et al., 2017; Marsh, 2002, 2012; Meyer, 2010). In effect, FL teachers were generally careful to diversify tasks, more than History ones, so as to make students aware of the syntaxis of languages and the

colloquial vocabulary as well, yet not including much codeswitching and translanguaging, which help students, like all plurilingual people, to internalise different languages at the same time (e.g., Pavón et al., 2015; Pérez, 2016b). Indeed, students mainly resorted to translations with the support of online vocabularies, instead of taking advantages of online different resources in different FLs about their topics, risking to merge FLs in their oral presentations, on the other hand divided by different FL teachers, even whether in team.

All these considerations bring us to definitely consider the implementation of CLIL as a path, in which it is not opportune starting from FLs high performances, but, in order of relevance, from student-centered approaches (according to the purpose of its same creation. E.g., see [p 26](#)) as much as possible in team (see p. [319](#)), secondly from ICTs management (as highlighted by the action-research, (see p. [284](#)), in line with the results about Lack [IV](#) in the theoretical part 2), and, only at last, from focusing on the correct merging of content and FLs, often put as first concern by researchers (e.g., Martí & Portolés, 2019; Pérez, 2018b; San Isidro & Lasagabaster, 2019), which is perceived as enhancing learning if teachers are guides and scaffolders. And History, so trans-curricular and demanding on critical transversal skills (Coyle, 2015), offers the opportunity to be the first subject to be implemented through CLIL and ICTs, for which Digital Storytelling, in particular if in Flipped Classroom dimension, is the key of variation in materials, tools, times, and, above all, of different personalisation of content and FLs, aimed at the production of new transmedia multiple User-Generated Content through educational stigmergic collaboration (see p. [153](#)), as deep holistic learning of students, and at the basis of the XXI century skills' acquisition.

7. Third objective: Technological CLIL and History

The third general objective of this research was: looking for the best strategies and tools within the implementation of Technological CLIL for History in the last triennium of Secondary schools, and in particular in Italian Licei Linguistici (see Table [11](#)). Due to its wideness, it has been divided into four specific ones, which is opportune to report below, so as to answer their questions through a resume of the results point by point.

SO 1: Describe the adoption by teachers of CLIL implementation in classroom through technologies, also in teams, for the subject of History, according to the CLIL literature about pedagogies, linguistic approaches and related educational methodologies.

- *How teachers implement Techno-CLIL in their classrooms, and History by means of Techno-CLIL?*
- *What tools are chosen?*
- *Are tools chosen by teachers or by students?*

Both alone and in teams, CLIL implementations for the subject of History started with a common brainstorming on specific topics, in line with the need to start from prerequisites of students (see pp. [175-176](#)) so as to build a table of translanguaging⁴⁷ of key words by inhomogeneous collaborative/cooperative groups. Depending on the teachers' decision, but also on students' competence in FLs and on the presence of teaching teams, thanks to the given choice according to the theoretical tenets (e.g., see p. [148](#)), they composed their tables,

⁴⁷ About the need to make use of translanguaging, see, e.g., p. [103](#).

with the help of online dictionaries (mainly Wordreference, but also Reverso and Leo), chosen by them, in Italian and one or more FLs, also whether teachers were competent in only one. It was possible in every classroom, thanks to the adoption of BYOD, at least in this phase. In a classroom of biennium, after this, teachers gave their written glossaries for tasks, whereas in the others groupworks built theirs.

When Flipped Classroom (see p. [189](#)) has been adopted, at this point teachers presented a platform for sharing materials (Edmodo, Impari, or Google Drive), asking students for reading some documents about topics, in line with this methodology, adapted by them from online sites of History, or seeing a short video (about 10/15 minutes), choosing them always from Youtube, one of the preferred social media of young people (see [p 159](#)). This is the reason why these students felt more secure in content knowledge during their tasks than the others, who had to work in classroom on preparatory materials for their tasks.

Warm-ups took place at this point, for which were adopted mainly videos⁴⁸ in a FL about the topic, generally of 5-10 minutes, or longer as well if parts of movies, often chosen by teachers on Youtube, to give a multimodal initial input (according to the results of the theoretical part 2) through IWB⁴⁹ to the whole classroom, sometimes followed by a gamified interactive moment (on Quizlet, or Kahoot), to involve all students⁵⁰, through BYOD with mobile phones, according to their preferred device (see Figure [22](#)), or in a laboratory with computers, to refresh or deepen academic key words.

So as to make students start their groupworks, mainly in BYOD modality, adopting, for students' final products, the methodology of Digital Storytelling (p. [185](#)), highly suggested by the literature (and in particular by EdTech Quintet for putting into practice SAMR), teachers

⁴⁸ About the importance of visuals, see, for instance, Marsh, 2002; Oxbrow, 2018.

⁴⁹ See p. [169](#), which explains that teachers are trained mainly in IWB use at school.

⁵⁰ According to the most common aim of it. See Gamification (p. [201](#)).

has assigned each group a key word to develop autonomously through ICTs for a multimedia presentation⁵¹, in this case including twice WebQuests, or a cultural aspect of the period of the country related to the adopted FL. Role playing and dramatization of content were adopted strategies, the former more than the latter. Teachers chose as tool Emaze, once Prezi and another Spark Adobe, but often students would rather work on Powerpoint or Google Presentations, more widespread and known by them. They primarily chose as resource for information Wikipedia, which points out their belonging to the networked society (Jenkins, Ford, & Green, 2013), and for visuals Google search; and, secondly, they visited sites for Italian students' shared resources, like Skuola.net or Studenti.it, because their stigmergic collaboration starts from peers' sharing. On the other hand, teachers suggested specific sites of History, as, for instance, Herodote.net, or institutional ones, like culturaydeporte.gob.es, or also of Art, as visuals' resource for students to use in their tasks, such as the site of DDR Museum in Berlin.de, or ArteHistoria.com. One of teachers used Hot Potatoes for crosswords, to give students a pause between two tasks, and Fle Vidéo to gamify a part of the knowledge acquisition of students through quizzes by groups, in order to keep their attention focused (as one of the aims and effects of Gamification). Afterwards, students' final works have been posted on Padlet, mostly by teachers, and presented orally to the classroom, which, finally, was involved in self-assessment, by means of rubrics of 'I can do statements', all built by teachers, apart from one, entirely thought by students, or, in a case, through Kahoot, so gamified⁵². Rubrics of

⁵¹ Indeed, language becomes, in this way, firstly a tool for content, but then, through the construction of a multimedia presentation, it is content to be meant as a tool for language. This interchangeability is exactly what emerged in the theoretical part 1, pp. [15-22](#).

⁵² Indeed, Gamification offers this great opportunity to ease students' self-assessment, as seen (p. [201](#)).

evaluation, with the online tool Rubistar or personal ones, have been scarcely really adopted in practice, according to the literature (see p. 79).

Mostly teacher appeared to be generally unexperienced in student-centered pedagogies and linguistic approaches, but considered the action-research as an initial step in the environment of CLIL and technologies, for which they adopted as pedagogies Genre and Social-Constructivism as first (confirming CLIL literature. E.g., see pp. [25](#) and [132-133](#)), even though taking in their hands, as seen, the choice of tools and materials without great differentiations among groups, and, consequently, having difficulties in scaffolding. Competency-based has been totally ignored, at the expense of evaluation as crucial point for CLIL and absolutely deriving from this pedagogy, whereas Transformative has been adopted by teachers most participative, with students, also as in alternation with the former ones. As a matter of fact, Communicative approach has been the linguistic choice of the majority of teachers, with particular attention to the notional-functional method, whilst Transformative pedagogy has been related to Affective-Humanistic approach, in the creation of definitely more serene and participatory environments for learning. This opportunity of choice and merging pedagogies and linguistic approaches, other than methodologies and related strategies, is the evidence of CLIL as open and significant environment, as we defined it in all the theoretical parts. The tool of the Lesson plan (see p. [239](#)), although the difficulty perceived by teachers in filling in its parts, at the end gave them the perception of having acquired planning more than other points within CLIL implementation (see p. [284](#)).

Moreover, the use of a tool as a grid (p. [254](#)), created and used by the researcher for the observation of teachers, revealed its utility for the teachers themselves, who found in it the list of what they had to take into account during their implementations, such as inputs related to

output of students, use of feedback, the need to measure the length of these elements and of interaction in MT and FL with and among students, choice of devices and tools, students' achievement of HOTS through tasks, their feedback for tasks, level of cooperation and inclusivity, deepening of content and academic FL, modality of final presentations.

SO 2: Identify pros and cons, difficulties and suggestions of the stakeholders, before, during and after the Techno-CLIL implementations, concerning adopted strategies, ICTs and tools.

- *What pros and cons, difficulties and suggestions of the stakeholders emerge in Techno-CLIL implementations, concerning adopted strategies, ICTs and tools?*

In order to answer to this objective, it appears opportune to report here the obtained results of the two involved stakeholders through Table 29, so as to offer an eyesight, as immediate comparison of their points of view, also in the consideration that suggestions came almost exclusively from students:

Table 29

Pros, cons, difficulties and suggestions of teachers and students, about adopted strategies, ICTs and tools

| PROS | |
|---|--|
| Teachers | Students |
| <ul style="list-style-type: none"> • Cooperation and learning from the practice through CLIL foster better learning for students and building of competences • Content is deepened through engaging tasks in FLs • Multilingual brainstorming and tables of translanguaging foster knowledge of academic languages • ICTs and CLIL are a natural environment for communication • Teams of History and FLs teachers as great value for the subject to learn • Integration of students in difficulty, thanks to task-based approach and use of ICTs • DST fosters holistic learning • DST allows a synesthetic approach to History, and, within CLIL, it makes learn History in the original dimension, also linguistic, in autonomy from teachers • DST encourages students to learn, involving all the classroom, and to multimedia research • Final DST products are motivating and presentations tinier • Evaluation is not by performance, thanks to groupworks • Some teachers use evaluation's tools (1 Kahoot, Rubistar) • Some teachers use their own built rubrics for students' self-assessment (content-language- interaction - improvements as parameters) • Teachers' reflexion about practices through a list of strength and weaknesses | <ul style="list-style-type: none"> • Tasks in groupwork for better learning content and FLs (groups were always inhomogeneous) • Content is better learnt through interactive tasks in groups and FLs, in their understanding, practical knowledge, and memorising • They appreciate to know topics in interdisciplinary tasks, thanks to teams of teachers • DST is an enjoyable, engaging, and faster way to learn • DST allows the deepening of topics through visuals • Students are able to give an evaluation on their learning process, other than on their performance |

CONS

| Teachers | Students |
|--|---|
| <ul style="list-style-type: none">• Students' low knowledge and management of devices different from mobile-phones, in particular computers• Low deepening of content, if students focus only on the form of their digital stories• Videos too long are not useful as warm-up (they distract students) | <ul style="list-style-type: none">• Not enough interactive experience for some classrooms• Most classrooms are not used to work in group and with ICTs for tasks, so ask for many information on how to do• Sometimes students dislike to work in groups• Some students disliked to use different approaches than usual• Only the topic on which a group works results as deepened, not the same knowledge of other topics of other groups• Problems to use the mobile-phones for education (shared accounts, management), so limited collaboration• DST concerning History is sometimes seen as not focused on curricular themes, when it is mainly about cultural aspects |

DIFFICULTIES

| Teachers | Students |
|--|---|
| <ul style="list-style-type: none">• Scaffolding is generally a strategy to acquire• Management of educational tools and platforms• Difficulty to adopt really inclusive strategies• Evaluation for CLIL as to deepen: difficult evaluation of students among classmates in groupwork, and in the regard of the two kinds of learning together, linguistic and of content• With no teams, including History and FL teachers, there are often problems of balancing content and FL and correctly evaluate them• Role of teacher in student-centred methodologies, such as Flipped Classroom• Need of long times to ask students for multimedia products and to ease materials for tasks• Students massive use of MT | <ul style="list-style-type: none">• Problems with collaborative online platforms and some tools chosen by teachers• Many students have problems in finding materials for their tasks and final products on the Internet• FLs, groupworks and ICTs are not engaging, but difficult for a little part of students• Students partially perceive what they learn as content in a subject of a team as not deepened or lacking, because part of a whole not recognised• No use of MT among the other languages• Scarce involvement of students in the decisions on tasks and tools• Research and screen of information on the Internet• Translating in FLs• Use of mobile-phones for tasks• Online collaboration, in particular out of school |

-
- Lack of multilingual approach in studies different from Liceo Linguistico (only English taught)
 - Availability of enough computers at school for tasks, in particular through BYOD

| SUGGESTIONS | |
|--|---|
| Teachers | Students |
| <ul style="list-style-type: none"> • More collaborative CLIL interventions in teams • Adoption of Debate | <ul style="list-style-type: none"> • Working with teaching teams more frequently • Period of schooltime only for CLIL activities, which should be in many subjects and FLs • Creation of multi-functional laboratories for CLIL lessons • More interactive tasks • More CLIL, in particular in several FLs and with cross-cutting topics • More communication between teachers and students, in particular concerning tasks in FLs • More linguistic competence of the involved teacher of History |

This table will be the basis for the construction of some models of CLIL and ICTs for History, GO 4 of this thesis, and there deepened.

SO 3: Determine, according to the stakeholder’s perceptions and opinions, opportunities and limits of the adopted way of implementation (according to SO 1) of Techno-CLIL for History, in the sense of their motivation and students’ positive results (knowledge of content and FL, collaborative practices, active engagement, inclusivity).

- *Do the adopted didactical strategies and tools in Techno-CLIL for History foster better teaching and learning environments than mainstream and normally used in classroom?*

Always in the awareness that teachers were not experts of CLIL implementations, but that most students, on the other hand, had tried it before with CLIL teachers, the results have been generally positive for both the stakeholders. Indeed, they, at least, understood the importance to adopt, even though gradually, the student-centred environment of CLIL with ICTs (according to the suggestions of the results of the theoretical parts [1](#), [2](#), and [3](#) of this thesis).

Teachers perceived the importance of:

- students' holistic vision of History, according to the aim of holistic knowledge of CLIL (e.g., see p. [140](#)), in particular through Digital Storytelling (see p. [185](#)), which allows personalised construction of meaning, that they can reach through teaching teams, planning the deepening of pluricultural aspects of topics in different FLs (in the achievement of plurilingualism and pluriculturalism, first aim of CLIL and of EU. E.g., see [pp. 30-31](#)), so as to make emerge students' critical skills, at the basis of their cognitive growth through CLIL (see p. [25](#));
- deepening of content in a collaborative/cooperative environment of high communication, in which students work in groups for cross-cutting topics, evidenced by the use of different FLs, taking advantage of interactive tools, resulting engaging and motivating for all the participants (according to the results of the theoretical part 1);
- groupworks for tasks, which show their inclusivity, in particular when they allowed students' autonomy in the management of materials and their responsible choice of meaning-making in building final products (as suggested by the results of the theoretical parts [1](#) and [2](#), other than being a characteristic of the prosumer);

- learning by doing (e.g., see p. [104](#)), which enhanced the active participation of students, as one of the best results;
- bilingual, or, better, plurilingual tasks, to give History its original dimension, which is also linguistic, and to develop students' research of historical sources and their critical understanding of them (as suggested by some teachers. See p. [284](#)), thanks to the aim of building personalised products through them;
- building cognitive-demanding tasks for students through ICTs (see p. [25](#)), so involving their transmedia creativity;
- Flipped Classroom (see p. [189](#)), because, when adopted, gives teachers the perception of time-saving for the activities and the opportunity of online collaborative practices with students, as this same methodology is aimed, and as an answer to the lacks [VII](#) and [IX](#) of the theoretical part 2;
- WebQuests (see p. [198](#)), because engaging for students, who cooperated in multimedia environments, highly communicative, as requested by CLIL (e.g., see Communication, p. [298](#)) developing their creativity through autonomous inquiry of historical sources for their tasks;
- BYOD, because, although some reported limits (see Implementation, p. [284](#)), it gave students the opportunity to work mostly by means of their mobiles (really engaging for them, as in Figure [22](#)), overcoming the difficulty of large availability of computers at school and giving them the opportunity to use them educationally;
- Digital Storytelling (p. [185](#)), which allows a synesthetic approach to History, as a teacher thinks, and, within CLIL, it makes learn History in the original dimension, also linguistic, in autonomy from teachers, always in the opinion of teachers; which encourages students to learn, involving all the classroom, and to multimedia research; whose final products are motivating and

- presentations tinier (for all this points, see Implementation, p. [284](#));
- students' final products, obtained through all the points above, because students are proud of them, and so more involved and participative at school (see Engagement, p. [311](#));
 - evaluation not by performances for students (see Evaluation, p. [315](#));
 - having achieved professional growth through these implementations (see Knowledge p. [279](#)).

On the other hand, students have had the perception of:

- have learnt the topics mainly well or very well, in interdisciplinary way, thanks to FLs, multimedia content, their tasks, particularly including visuals, and groupworks, because so they have been deepened and understood better, which evidences how CLIL changes students' learning, according to the literature (see the results of the theoretical part 1);
- tasks let them know content in groups at school in easier ways and better than through traditional ones, in terms of understanding, practical knowledge, memorising (in line with the literature results of task-based approach. See p. [130](#)), together with FLs, in particular about academic vocabulary, but also idioms, and, in smaller percentage, an improvement in oral exposition and pronunciation, because 'enjoyable, like a game, it opens minds' (see Knowledge, p. [279](#));
- the positiveness of new educational ways at school, more engaging, in particular whether teaching teams are involved, more practical and technological;
- advantage of BYOD for interactive tasks;

- the importance of visual input and visuals management for tasks, in particular for DST ones, for their engaging meaning-making, which became easier and more deepened, as aimed by Techno-CLIL (see p. [25](#) and p. [298](#));
 - finding on the web information and materials, other than working through ICTs, as the second advantage of CLIL (see Communication, p. [298](#)) and as School 2.0 and 3.0 fosters (p. [171](#));
 - DST for CLIL, which is an enjoyable, engaging, and faster way to learn History (see Implementation, p. [284](#)).
- *What are the limits of the adopted didactical strategies and tools in Techno-CLIL for History?*

The first limit, as said (see Limits, p. [318](#)), is due to the inexperience of teachers, so the differentiation of tasks and of methodologies results to be not wide. Indeed, a percentage of students, even though rather low, says to prefer traditional ways of studying, in particular if they disliked groupworks. The reasons are various, and include the attitudes of students, not having taken into account their previous skills to be involved productively in groupwork, or not having planned really cooperative groups, in which, consequently, inclusivity has not been reached and strongest students have done tasks almost alone. This aspect could have been overcome by means of a correct scaffolding, but it appears as the strategy to improve the most (lacking also in the literature. See Lack [II](#) in the theoretical part 2), together with linguistic inputs and the technique of feedback (for which see Lack [V](#)). Another limit, coming from inexperience, concerns teaching teams, because not always they have given students an overview of common topics, apart from taking care of their particular focused content and FL.

The exclusion of DGBL (see p. [204](#)) and the limited adoption of Gamification (see p. [201](#)), together with the almost exclusive choice of materials and tools by teachers, are the symptom of only initial phase of student-centered strategies (evidenced in the literature through the progressive steps of EdTech Quintet, p. [182](#)), for which students, consequently, call for more collaboration and communication with them.

The strategy of BYOD has been not always welcomed, firstly because students are mainly not used to search information for tasks online, managing for them educational tools, especially whether they have to do it from computers; secondly, because sometimes they perceived the difficulty of working through the small screen of their mobiles.

Online collaborative tools, such as platforms (as Padlet, for instance) and/or Google tools (Presentations as first), highly suggested by the CLIL literature (see, for instance, Lack [IX](#)), are not easily managed both by teachers and students, who prefer to collaborate through emails or WhatsApp, also for educational purpose, partially confirming the supremacy of social media of the literature (pp. [165-168](#)). Maybe consequently, Flipped Classroom has not largely adopted.

Finally, DST sometimes make students focus primarily on the form of presentations, instead of their construction of meaning-making, with no positive results in knowledge of content and FLs, other than lip-service to tasks.

SO 4: Analyse opportunities and limits of the Techno-CLIL for teaching and learning History, in particular in the final triennium of Italian Licei

- *Do the methodologies and strategies suggested for Techno-CLIL match its implementation in History, in particular in the final triennium of Italian Licei? Why?*
- *What kind of tools can be considered the most useful in it?*

Undoubtedly, the methodologies that the literature has suggested for CLIL and ICTs together (pp. [180-205](#)) , and that teachers have put into practice in their implementations for History (see p. [284](#)), although at the initial phase of their changes of mainstream ones, have given high results, from the I classroom, but particularly in the III and IV, and sometimes in V. As a matter of fact, whilst the other classrooms all enjoyed the novelty of the environment of CLIL and interactive tasks per groupworks, in which they had to personalise their paths of learning, and to develop cognitive, digital and collaborative skills (according to the results of the theoretical part 1), only V particularly used to managing ICTs and yet skilled in FLs have had good results in knowledge and cognitive growth, according to the judgement their teachers.

Conversely, most involved students and teachers have had the perception of the positiveness of embedding content and FLs in the subject of History, especially for students' activities (see Knowledge, p. [279](#), and Communication, p. [298](#)), and as a deep change in teaching too, in particular through Digital Storytelling, which, according to the literature, takes advantage of ICTs for personalised narrations, built screening online plurilingual resources, autonomously and critically chosen by them. The more engaging form of it, for teachers and students, involved cross-curricular topics and teaching teams, with adoption of a variety of online tools, as Emaze; whether alone, the preference of teachers went to WebQuests, leaving students more autonomy of embedding content and FLs in their inquire by groups, because essentially participative, as the literature affirms.

However, it is to strongly underline that CLIL and ICTs have demonstrated the results of our theoretical part 1, namely to create together a highly significant environment for the scholastic community, open to a great variety of tools in particular, but also of methodologies,

in which teachers and students commonly have to choose what works better for that community of teaching and learning, so as to go on in making students the main characters of their learning and building of competences for their life. On the other hand, in-service teachers have to be scaffold, so as to become scaffolders and guides of their classrooms, according to the literature (e.g., Knight, 2012), through tools, which should accompany them in the diverse moments of CLIL interventions, such as:

- CLIL lesson plans, which make them choose pedagogies, linguistic approaches, methodologies, tasks, and kind of evaluation of students' progress;
- grids during the implementations, so as to take into account as much as possible the CLIL aspects to pay attention to, concerning their role, students' output, together with cognitive results, inclusivity and collaborative creativity;
- evaluation and self-assessment rubrics, in order to foster its formative relevance.

The more these tools are personalised, the more they are effective. In the regard of the adopted strategies, variations within them are perceived as highly engaging, even though Role Playing has been mostly chosen, in a multimedia manner, which contributed to satisfactory DST transmedia products. This is in line with which highlighted in Table [10](#). Then, dramatization, containing creative interviews to historical protagonists, have had great success, and fostered content and FLs deepening (in both accuracy and fluency), other than the participative environment.

Last, but not least, the contemporary adoption of CLIL and ICTs by teachers has been felt as a double opportunity in teaching: indeed, teachers more competent in a FL have found in ICTs a concrete way to be involved in engaging wider environments for them and students; whereas not highly competent in FLs, teachers have found in ICTs a

way to compensate this lack, but with the same more active participation of students. Both these results are in line with the literature concerning School 2.0 and 3.0 (p. [171](#)), other than being advantages offered by the same communication of this “creative audience” (Castells, 2010).

Chapter III

Models for the subject of History

1. Suggestions from the literature and links to our results

As seen in the theoretical part 1, CLIL literature is particularly rich of suggestions of frameworks (pp. [25-40](#)), so as to plan and to implement CLIL in its complexity, and so to take the highest advantage of it in whichever subject.

As a matter of fact, the distinction between content-driven and language-driven programs should be the starting point of this part. Indeed, if within the former instruction “subject matter content is taught through the L2, content learning is the priority and language learning is secondary if not incidental, content objectives are determined by the subject matter curriculum and/or derived from content standards, teachers must identify language objectives that correspond to the content, students are evaluated on subject matter knowledge/skills/understandings, and both teachers and students are held accountable for content learning (Met, 1999)” (as cited in Tedick & Cammarata, 2012, p. S31), within the second “content is used to learn an L2, language learning is the priority and content learning is incidental, language objectives are determined by the L2 curriculum, students are evaluated on language proficiency, and neither teachers nor students are held accountable for content outcomes (Met, 1999)” (p. S31). But CLIL is implemented through a wide range of possibilities between these two extremes, depending not only on the subject of teaching (non-linguistic or FL), but also on what they have to teach and evaluate, according to the curriculum of schools, which in Italy

derives, in particular for students' evaluation of subjects, from the Directives of the Ministry (see p. [72](#)). In the respect of this, in the previous chapter it has been seen that in Italy the subject of History is taught by different teachers, and that FL ones, in the final triennium of Licei, are called to evaluate both content and FL within History, which takes into account mainly cultural aspects of it, whilst History teachers are only allowed to teach and evaluate content for History in the curriculum, but which necessarily includes the related MT academic language. So, the hypothesis of teams, as evidenced by the action-research (see p. [318](#)), in which evaluation can happen and take into account students' growth in pluriteracies within CLIL environment, is to prefer, in order to overcome this concrete obstacle. Indeed, 'A pluriliteracies approach focuses on developing literacies for purposeful and appropriate meaning-making in subject disciplines/thematic studies across languages and cultures. It is predicated on the principle, that the primary evidence of learning is language (Mohan) which in turn mediates and structures knowledge in culturally determined ways. (The Graz Group, 2014)' (Coyle, 2015, p. 96) (See also p. [34](#)). But with this premise, if a CLIL instructional progression line is admitted, as the results of the previous empirical part call for, and despite the fact that teaching teams are meant to be better approaching pluriliteracies, there are valid reasons to consider equally considerable at least starting also with a single teacher of History. In fact, it is not always easy to form teams (and both non-linguistic and FL teachers, who implemented alone CLIL, underlined this unsuccessful attempt), as well as, since CLIL environment has always delivered in the literature highly positive results in students' motivation (which is reflected by the active participation, underscored in this research too. See, for the literature, pp. [51-52](#)), through it 'it is clear that there are benefits, both cognitive and motivational, which can enhance content learning and the position of the content teacher' (Coyle et al., 2010, p.11). It is to add that, as

seen (e.g., [54-55](#)), CLIL strengthen social and digital skills, through the linguistic ones in MT as first, and that 'findings so far indicate that approaches involving literacies impacts on the learners' first as well as additional languages, thus reinforcing the principle that CLIL teaching is *good teaching* impacting across the curriculum' (Coyle, 2015, p. 98). This is the reason why, with this point of view, it does not matter the distinction of CLIL of content/language driven, given that the linguistic reinforce that CLIL achieves, despite the evaluation of the target language is assigned to a non-linguistic subject teacher or to a FL one: both of them see positive results through CLIL in content and languages together, as also our results have reported.

As a matter of fact, precise models, which concern different teachers and/or teams, are offered by Coyle et al. (2010), and mainly of two kinds (cited, p. 42):

- Extensive instruction through the vehicular language, in which the target language is almost the exclusive one for the subject (and it is what FL teachers tend to do, both for CLIL and non-CLIL lessons);
- Partial instruction through the vehicular language, in which the target language is limited to specific content of one or more subjects, so fostering translanguaging, namely the alternation of languages for specific reasons (and this is what non-linguistic subject teachers and CLIL teams put into practice).

The adoption of one of these kinds, is included in the five models for Secondary schools (Coyle et al., 2010, pp. 17-21. They indicate the range 12-19 years old, almost the same of Lower and Upper Secondary in Italy, 11-18 y.o.):

- Model B1 concerns "**Dual-school education**", in which involved schools of different countries share a project of CLIL teaching through VoIP (Voice on Internet Protocol, so Skype) in an additional language for both. As a matter of fact, *Skype for the*

Classroom, a precise application of this tool for teachers and their classrooms, assists this kind of projects, really engaging for History, because it allows multicultural cooperation, and visits of historical sites with local guides all over the world and in whichever language, with subtitles of translation as well, always in whichever language.

- Model B2 is called "**Bilingual Education**", because it matches with the extensive instruction through the vehicular language. As seen (p. [72](#)), Italian Directives suggest the adoption of the 50% of the involved curricular subject through CLIL, according to what is the same characteristic of CLIL versus CBI (Nikula et al., 2013) (see also p. [11](#)). It is to say that some classrooms before the action-research had known this model, as taught by non-linguistic subject teachers in high percentage of the curriculum, because, in their Linguistic Liceo, Physics was implemented by a CLIL teacher almost completely in English, whilst other classrooms of another Liceo had had the same experience for Art in French. All these classrooms do not report positive evaluation of these implementations, apart from a deepening of the vehicular language in its academic function, because not enough interactive, too much focusing on the linguistic competence of teachers and students, instead of active participation of students for their holistic visions of topics, which they claim as merging MT as well.
- Model B3, "**Interdisciplinary model approach**", involves teams for specific models, and it is so designed by the authors: "A specific module, for example environmental science or citizenship, is taught through CLIL involving teachers of different

disciplines (e.g., mathematics, biology, physics, chemistry and language).

- Learners engage in an across-the-curriculum module which is taught in the CLIL language because of the international dimension of the content learning (e.g. the environmental responsibilities of individuals worldwide).
- Used in the international network partnership between school, and often focuses on formative portfolio-type assessment. Both of these aspects are seen as complementing language teaching by providing an extra-platform for authentic language use" (p. 18).

As it can be seen, models that involved teachers in teams during the action-research only partially correspond with this model, precisely only with the fact they chose cross-curricular topics in History, always cultural relevant and highlighting theme of citizenship, but not due to the international dimension of the content, rather due to their relevance in all involved subjects, leading to cultural and artistic results so far. With no doubts, they also provided an extra-platform for authentic language teaching and learning, yet not differently from all models, when interactively task-based on the Internet. Moreover, it can be argued that, being 'used in international network partnerships between schools', can be an extension of model B1, with the variant of 'formative portfolio-type assessment', instead of being 'sometimes linked to forms of international certifications', as added value for students to access to 'formalized assessment systems' of B1. Actually, this formalized assessment is what each school in Italy provides *in itinere*, at the end of each scholastic year, whilst at the end of the low Secondary school (13-14 years old. D.M. 742/17), and of both the first biennium and the final triennium of the Upper Secondary, there is the release to

students of a rather standardised certification of achieved competences, in line with the European Directives (Council of the European Union, 2018), although generally as lip-service by now. Nonetheless, this kind of 'formative portfolio-type assessment' is what CLIL provision needs at all levels and, hopefully, in all kinds of models, in order to make clear students' acquisition of competences. Indeed, the same authors indicate this model as 'a major tool for re-developing existing educational practice across subjects' (Coyle et al., 2010, p. 20)

- Model B4, "**Language-based projects**", is addressed to FL teachers and so designed:

"This type differs from Examples B1-B3 in that it is the language teacher who takes primary responsibility for the CLIL module. This may be done through international partnerships and is an extension of both content-based and communicative language teaching. The module involves authentic content learning and communication through the CLIL language, and is scaffolded through language-teacher input.

- Learners view this as a part of language teaching but see it as an authentic way in which to use the language to learn non-language content.
- Content assessment is usually formative and complementary to existing language assessment" (p. 19).

This is exactly how FL teachers usually implement CLIL, namely as content-based in authentic contexts, such as the academic historical and as derived from the ICTs' use, welcomed as a demanding and engaging novelty by students in the action-research. It is to underline that content assessment for them in the triennium, in Italy, is not formative, but takes part to summative evaluation of FL subjects. The limit of this project is in the time of exposure to target languages, which is not

widened, as in the first aim of CLIL, but contained in the same hours of non-CLIL FL lessons. However, advantages can be seen in the greater students' motivation, typical of CLIL, in the adoption of an environment aimed to cognitive growth of students and higher communicative skills' involvement.

- Finally, the model B5, so the "**Specific-domain vocational CLIL**", stresses the importance of this sectorial opportunity:
"Learners develop competence in the CLIL language so that they are able to carry out specific task-based functions which might range from customer service through to accessing and processing information in different languages. Where applicable, this is carried out by content and language teachers working in tandem. It marks a shift away from existing practice such as teaching language for specific purpose towards practice which seeks to achieve the same objectives through a closer tie to content teaching and learning."
 - Learners learn through the CLIL language and the first language, so that they can carry out specific tasks in diverse contexts.
 - Assessment is often bilingual and competence-based" (p. 19).

This model, although designed for vocational and professional schools, appears to be also close to what teachers in the action-research have generally put into practice, which can be defined *Genre CLIL*, and referring to the specific domain of History, but to develop concretely their European citizenship, other than pluriteracies, and being inserted in the kind of partial instruction through the vehicular language. As a matter of fact, students were addressed by teachers 'to carry out specific task-based functions' for History genre, to make them able 'through to accessing and processing information in different languages',

above all in teaching teams' provision. The same request of some students to use their MT with target languages can find their answer in this model, as well as teachers with a not high level of FL. As said about the assessment for model B3 (pp. [364-365](#)) is valid also in this case, for which is reported exclusively the competence-based, as normal for vocational CLIL provision.

The last three models of Coyle are going to be our basis for building up ours of CLIL and ICTs in the subject of History, according to the last objective of this research, thanks to their characteristics reflected in what emerged by the action-research. Nevertheless, it seems opportune to be more precise about the diverse phases of CLIL implementation in each of our two models, according to the evidences of the action-research, so as to offer a tool for teachers, which can be useful, because coming from the practice of it, but flexible and adaptable to diverse contexts in open environments of implementation.

2. Building a model of CLIL and ICTs for History teachers alone

As seen more the once, History is a subject imparted in Italy by teachers of Humanities, History and Philosophy, and FLs of the final triennium. So, if the first two kinds are concerned, the model of relation will be the above B5, whilst B4 in relation of FL teachers. They should be both considered "hybrid teachers" (Ball et al., 2015), thanks to their embedding strategies for content and language teaching and learning. It is to add that it is really important that they have a digital competence at least at B2 level (see p. [170](#)), so as to take the highest

advantage of ICTs for content and FL together, which compensates not being in team, as the results highlighted (see p. [314](#)).

According to the literature (see [3.](#) Models for CLIL), planning is crucial for CLIL, and researchers strove for finding always more complete frameworks. In the awareness that personalising, according to different contexts and stakeholders, is as important as having accurate lesson plans, the Three-dimensional model (see [p 33](#)) can offer to all CLIL teachers alone the reflection of what is to involve. Indeed, it leads back CLIL to one focus, but with three dimensions (conceptual, procedural and linguistic), which all kinds of teachers should take into account, giving paramount importance to procedure, hence to pedagogical approaches and linguistic approaches together for HOTS acquisition, this also aspect of conceptual dimension. in which the 4 Cs framework (p. [25](#)) is the main element to care, together with the Bloom's taxonomy (see [p 26](#)). Finally, the linguistic dimension can be planned through the Language Triptych (Coyle, 2015; see [p 20](#)), so as to take into consideration different needed language functions in CLIL implementation. Another point to take into consideration for this dimension is if and how use translanguaging during the implementation, to prevent scarce or massive use of MT, given that FL teachers rarely include it, whilst History teachers do not accurately plan what to assign to MT, both in theirs and in students' communication and work.

So, Table 30 is the general design of the implementation, according to the Three-dimensional model ([p 33](#)):

Table 30

General design of CLIL and ICTs implementations in History for single teachers, according to the Three-dimensional model

Design of implementation 1 (single teacher)

| Dimensions | |
|-------------------|--|
| <i>Conceptual</i> | <p><u>Content</u>: cross-cutting topics <u>Cognition</u>: according to Bloom’s taxonomy, progressive demands to achieve HOTS <u>Communication</u>: language awareness through Linguistic Passports; environment of interactive tasks for groupworks, preferably BYOD or multifunction room at school, starting from social-networks and multimodal inputs <u>Culture</u>: starting from linguistic and cultural awareness, cultural reflexion and actualisation of History Content, aimed at achieving multiculturalism and European citizenship</p> |
| <i>Procedural</i> | <ul style="list-style-type: none"> • Choice of the main characteristics of one or more student-centred pedagogies, according to stakeholders’ characteristics and contexts, to link with linguistic approaches (it could be suggested to inexperienced teachers as first the Communicative one, with notional-functional method, the more chosen in the action-research). • Competency-based should guide the design of tasks, as well as learning by doing, and evaluation. • The design of tasks should take into account the EdTech Quintet, as a pedagogical and digital progression, arriving at least at the third step (DST), but starting absolutely by Social (first step). • Cooperative learning, especially in the form of Jigsaw or Small-Group Teaching, should be adopted in assigning precise roles and works to each student within groups, so as to facilitate scaffolding and inclusivity. • Flipped Classroom is highly suggested, so as to foster personalised learning and cognitive-demanding groupworks at school, at the same time reducing their times. • Digital Storytelling should guide students’ transmedia tasks, by means of engaging, creative and demanding plurilingual activities, and can assume different forms, from dramas, to interviews with historical characters (in which role-playing prevails), to movies or presentations, but in particular to WebQuests, arriving to AR and Game-based, for more digital competent teachers, or as an arriving point. • Rubrics of evaluation help teachers to highlight students’ learning paths, their cognitive and collaborative |

progression, as knowledge too, this also verifiable through Gamification's online tools. As students' self-assessment, it is opportune an initial agreement between teachers and students on parameters.

- A list of strengths and weaknesses can be adopted by teachers after the implementation to self-detect pros and cons their role and choices. If students are allowed to contribute, it fosters participative environments of teaching and learning.

Linguistic

Activities in FL: prevision of inputs and related students' output, in the consideration of the four skills to acquire (Writing, Reading, Listening and Speaking); map of academic key words for the CLIL topic (content-obligatory language, so language of learning) students have to acquire and use in tasks (some of them generally appear in brainstorming), linking them to various historical common terms (content-compatible language, i.e. language for learning), expecting the individual presentations of students, written or oral, according to their deeper understanding of concepts (content-enriching language, so language through learning). Language of and for learning should be at least bilingual, so as to demonstrate personal meaning-making of all students of content through FLs. Gamification through online tools might be included to assess the acquisition of academic vocabulary and knowledge of topics.

Activities in MT: although they are not necessary, particularly whether students are not strong in the target language, it might be opportune their inclusion. So, since quite often in groupworks the communication among students for building their final products happens in MT, planning exactly when they can do it, together with them, can be a correct mediation, taking into account a progressive reduction of it. Another activity in MT concerns the discussion of evaluation and self-assessment parameters, to negotiate as the previous, as well as some brief feedback.

Note: In order to report the data with clarity, it has not been opportune to completely follow APA 7th.

After this design, there is to plan the implementation step by step. With this aim, it can be useful Table 31, deriving (and modified through the results of this research) from the lesson plan adopted in Italy for CLIL methodological courses:

Table 31

Lesson plan for CLIL and ICTs implementations in History

| Lesson plan | |
|---------------------|--|
| <i>Introduction</i> | <ul style="list-style-type: none">• A grid with crucial points to take into account during the all CLIL implementation, as critical guide as well, should be kept at hand by the teacher• Plurilingual brainstorming of the classroom on the transversal topic of History, culturally related• Consequent building of a common table of translanguaging• Choice of an online platform or other tools for sharing preparatory bi-/plurilingual materials in Flipped Classroom (Edmodo, Impari, Padlet, etc., or Google Drive, like also, initially, clouds or WhatsApp), which has to be preferably multimedia, or including visuals at least, possibly diversified and/or tailored on students' levels.• At home, each student takes his/her time to focus on, and critically examine, the topic through teacher's materials• Teacher forms cooperative groupworks and discuss parameters of evaluation and self-assessment with students |
| <i>Warm-up</i> | <ul style="list-style-type: none">• If materials have been posted online before, an activity of Gamification, in BYOD modality or as a tournament through the IWB of the classroom, in plenary, to refresh the involved academic vocabulary (e.g., through Quizlet, TES, or similar)• If the classroom is not flipped, there can be now a short introductory video (max. 10 min.), concerning the main points of the topic, for the whole classroom, or, better, as many videos as groups of students, so as to adapt materials to the addressees |

Tasks (max. 3 per topic)

- The teacher assigns to each group a key word or an aspect of the theme, to inquire online, or to deepen if materials and resources were posted before, so as to build together, according to their different roles, a digital transmedia storytelling, which should include a creative re-elaboration of materials by means of visuals, writings and also audio, if allowed by the tool. It is to do preferably through an online collaborative tool chosen by students, but also suggested by teachers, and depending on what they want to build (for example, Imovie for videos; Prezi, PowerPoint, Google Presentations, Emaze, Spark Adobe, etc., for multimedia presentations). If teacher agrees, a WebQuest can include all this, with the advantage of a clear initial presentation.
- The second activity can be something lighter, so as to relax, so, for instance, a gamified activity, such as crosswords, quizzes, or similar (e.g., through the plurilingual tool Quizziz, or Kahoot, or Hotpotatoes, etc.), with the aim to start a self-assessment of content and language together
- The third task can be immersive, such as a game on the topic, or building an historical map through QR codes, or animated AR. Given that it is often perceived as difficult, there can be a role-playing activity, or a drama, written by groups
- The teacher is a guide and scaffolder of each student and groupworks. It is also possible to establish that a strong student in content and FL, or two (one for content and one for FL), are assigned of this role within the group.
- At the end, groups present to the classroom their digital storytelling and other products, if the third task required them, often with an oral presentation, supported by online tools of work, so as to develop this competence. All presentations should be shared in the online platform with the other groups, or collected in an e-book
- Self-assessment first (*I can do statement*, or gamified), then evaluation through rubrics (e.g., Rubistar), as much as possible personalised and shared with students, formative and competence based, conclude the implementation

Prevision of time for each phase and of interaction in FL

- Each phase should be planned in time, but in a flexible way, so as to be inclusive for all students, on the one hand, but in the respect of curricular programs as well

Resources and materials

- It is opportune to list resources and materials, possibly by groups
- At the end, verify whether students have significantly contributed or not, comparing their choices

There are to give some clarifications, which help to understand some links to what emerged by the action-research.

Firstly, it is to specify better the meaning of the term 'demanding', because it is a key word in the results, which has been taken into account in the design of models, and in particular of this for a CLIL teacher alone. In the results, *demanding* referred to CLIL, according to the literature (e.g., see at pp. [47-48](#) the "C complex", Coonan, 2011); referring to History (p. [372](#)), because through CLIL students have the opportunities of a critical approach, holistic because multi-faceted and cross-cutting, and, consequently, of meaning-making for deep understanding, aimed to conscious citizenship; finally, to tasks, which have to be always cognitively so, but initially 'using less demanding language' (Coyle, 1999, p. 50), but in progressive difficulty (see p. [24](#)), because, if low cognitively demanding, the products of students are more limited in terms of new knowledge, both of content and FLs, and, consequently, of HOTS' level achievement (see p. [314](#)). It is especially referred to demanding tasks the core of education through CLIL, and it is to be clear, because too often the attention is focused on what teachers have to do (and the C complex partially confirms it. See p. [48](#)). As a matter of fact, in particular if a single CLIL teacher is concerned, the action-research has evidenced the importance of the development of students' soft skills through CLIL group-activities in History, such as autonomy, self-confidence, management of information from different sources and of different kinds, working by objectives, creation of products tapping given resources and times, sometimes leadership, inclusivity and teamwork, plurilingualism, and social communication. The utmost results have been obtained through cooperative groups, which were set free to choose a consistent part of online materials and tools, in which they felt confident, plurilingual (including MT, but also admitting different languages per different groups, or within a single group, despite the fact that the teacher was

not competent in all languages, so with the external support of FL colleagues for the linguistic correction and evaluation), and asking them their transmedia, creative, so engaging, re-elaboration, through multimodal inputs, very short when oral. Indeed, whereas FL teachers are aware of the difficulty to balance content and FL for students' learning, given that they face with it in the triennium in non-CLIL lessons as well, non-linguistic ones, although always in troubles for students poverty of academic language in MT, scarcely consider the linguistic aspect in their lessons, as well as both of them are used to involve task-based approach in classroom, and they are afraid to leave students the responsibility of their learning. On the other hand, students have been clear, and most of them said to have learnt better, thanks to FLs, groupworks, use of ICTs, creative products. So, they have learnt better in complex and demanding tasks, including all these aspects, to be respected in whichever model.

The second aspect to better clarify is the other key word 'progression', concerning, as first, the step-by-step growth of students in their knowledge and skills through CLIL and ICTs, to evaluate in their personal *progressive* paths (see p. [316](#)), but to support accurately by teachers, in the respect of their diverse attitudes, ways of learning, autonomy of choices and working, and of their different levels of results as well, which should be the starting point for further acquisitions of just knowledge and skills. This is the reason why students should actively participate not only to the execution of tasks, but above all to their design, through their choices and/or agreement on materials and tools; as well as their participation should be required to make the evaluation participated, and so formative for them. Teachers, on the other hand, are responsible of their progression in these aspects, stimulating them always in new situations for tasks, so in higher levels of HOTS and soft skills, as 'preparation to working-life' (see Coyle et al., 2010, about model B5, p. 21).

But *progression* concerns teachers as well. Indeed, passing by teacher-centred methodologies to student-centred ones takes its time, despite any enthusiasm. So, with the aim to go always on with this deep and primary change of education, teachers alone should list strengths and weaknesses of their CLIL implementations, involving students as well, so as to better highlight their further step. Secondly, it is to consider as *progressive* teachers' correct adoption of CLIL and ICTs, so their balancing content and FL, their choice of engaging topics to implement in this way, their attention to all the aspects to take care, so as to personalise tasks and students' roles, creating real significant participative CLIL environments, all through learning by doing. Besides, in the regards of FL competence, the literature points that teachers involved in CLIL with an initial low level of FL, thanks to the enhanced results of students and the engaging CLIL activities, generally feel encouraged to acquire further training in this field, and after three years show definitely better performances (Pérez, 2018b). During the action research, if low levels of FL (B1) were balanced by high levels of digital competence and multimodal input, students, having the same level or lower, were correctly addressed and engaged to their bilingual tasks as well, other than fostered in their autonomy through peers' scaffolding. Hence, it does not matter if, in this path, it happens at the beginning that inputs and feedback are sometimes in MT, or too long, or if the design is almost all in their hands, as long as concrete changes in schooling are done, although gradually. Finally, their teaching alone should be preparatory to teaching teams, which for students were more engaging and productive, at the point to call for them more frequently, as well as for teachers (see p. [350](#)), thanks particularly to the clear *transversality* of multidisciplinary themes and further plurilingualism. Consequently, some changes have to be done in a proper model for them, as in the next paragraph.

3. Building a model of CLIL and ICTs for History teachers in teams

In the literature, the aforementioned model B3 of Coyle et al. explicitly refers to interdisciplinary modules, taught by different curricular teachers and including a FL one. As a matter of fact, it considers themes of international concern, as seen, like citizenship, but it does not take into any consideration plurilingualism for pluricultural themes, as the international. Secondly, History offers many multicultural themes, as parts of the History of different countries, which are at the base of current times. And this can be a choice more founded on curricular subjects, which students can recognise as integrated in their curriculum, as they claimed during the action-research, when the starting point was cultural, but based on History, instead of historical-cultural (see Table [29](#), Cons). Consequently, the accent of culture should start in its historical dimension, arriving, as follow-up, to nowadays consequences, which students can so understand better and critically elaborate in tasks. In order to do it, as emerged by the action-research (see pp. [321-322](#)), teaching teams focused more on cultural aspects, but mainly due to the participation of different FL teachers, who fostered plurilingualism and pluri-culturalism through their coordination. It is to say that Licei Linguistici offer this opportunity more than other Licei, obviously; nonetheless the inclusion of MT, when only a FL is imparted, or of ancient languages' materials, such as Latin, subject of all Licei, or also of other FLs materials, if students are more competent of teachers, support the open vision of multi-faceted common European culture and citizenship. So, teams should adopt more than one FL, not a 'CLIL language', as for Coyle et al. (2010, p. 19). In this way, all the involved languages really contribute to students' holistic vision of History, as underlined by a teacher of a

team, and, vice versa, are improved in their translanguaging. Moreover, considering that in Italy History, as seen, takes part to FL provision, not only language-driven, 'progress along the knowledge path in different subject domains involves increasingly mastering disciplinary literacies. Progression in this sense will require a growing capacity to language or articulate understanding as it emerges, which in turn requires learners to know how to draw on a developing and increasingly appropriate linguistic repertoire' (Meyer et al., 2015, p. 43).

As for single teachers, also teams should have a progression in their implementations. Indeed, as seen, there is the difficulty to really commonly plan and evaluate by competence the unique path of each student, although the involved classrooms perceived a great novelty in transversal topics taught through task-based by teams in different FLs and ICTs. This link between FLs and ICTs, enhanced by the presence of FL teachers, allows the participation of History teachers with an initial level of B1 CEFR in her/his target language.

So, the design of their implementations is always tripartite and quite similar in many aspects to the previous, but according to the Pluriliteracies model of ECML (see [p 34](#)), and reported in Table 32:

Design of implementation 2 (teaching team)

| Dimensions | |
|-------------------|--|
| Knowledge | <p><u>Content</u>: choice of a cross-cutting topic, pluri-culturally relevant in more than a country, so open to plurilingual resources and their critical comparison of <i>multimodal representations of knowledge</i> (see p. 35)</p> <p><u>Cognition</u>: according to Bloom’s taxonomy, progressive demands in students’ tasks to achieve HOTS. Students’ building of plurilingual, cross-curricular, manifold, transmedia products fosters this achievement</p> <p><u>Communication</u>: language awareness through Linguistic Passports; environment of interactive tasks with plurilingual materials for groupworks, preferably BYOD or multifunction room at school, starting from social-networks, and multimodal, plurilingual inputs, with wide translanguaging for different activities in different FLs (and MT). Subject-specific discourse should be the <i>traits d’union</i> of the interdisciplinary module</p> <p><u>Culture</u>: starting from linguistic and cultural awareness, cultural reflexion and actualisation of History Content, aimed at achieving multiculturalism and European citizenship, related to different languages, through intradisciplinary and interdisciplinary transfer (see p. 34)</p> |
| Action | <ul style="list-style-type: none"> • Choice of the main characteristics of one or more student-centred pedagogies, according to stakeholders’ characteristics and contexts, to link with linguistic approaches (it could be suggested to inexperienced teachers as first the Communicative one, with notional-functional method, the more chosen in the action-research). Every involved teacher can vary, so as to solicit students’ adaptability. • Activities in FL: prevision of inputs and related students’ output, in the consideration of the four skills to acquire (Writing, Reading, Listening and Speaking); map of academic key words in the several involved languages for the CLIL topic (content-obligatory language, so language of learning) students have to acquire and use in tasks (some of them should appear in multilingual brainstorming), linking them to various historical common terms (content-compatible language, i.e. language for learning), expecting the individual presentations of students, written or oral, according to their deeper understanding of concepts (content-enriching language, so language through learning). At least language of and for learning should be bilingual or plurilingual, so as to demonstrate personal meaning-making of all students of content through FLs. |

- Activities in MT: although they are not necessary, particularly whether students are not strong in the target languages, it might be opportune their inclusion. So, since quite often in groupworks the communication among students for building their final products happens in MT, planning exactly when they can do it, together with them, can be a correct mediation, taking into account a progressive reduction of it. Another activity in MT concerns the discussion of evaluation and self-assessment parameters, to negotiate as the previous, as well as some brief feedback. In the tables of translanguaging, MT should be included.
- Design of tables of translanguaging and acceptance of codeswitching, so as to foster manifold tasks and final presentations.
- Competency-based should guide the design of tasks, as well as learning by doing.
- The design of tasks should take into account the EdTech Quintet, as a pedagogical and digital progression, arriving at least at the third step (DST), but starting absolutely by Social (first step). If it is decided to use the *Padagogy Wheel*, tools are to vary.
- Cooperative learning, especially in the form of Jigsaw or Small-Group Teaching, should be adopted in assigning precise roles and works to each student within groups, so as to facilitate scaffolding and inclusivity. Groups must be preferably all the same, from the beginning and in all activity.
- Flipped Classroom is highly suggested, so as to foster personalised learning and cognitive-demanding groupworks at school, at the same time reducing their times.
- Digital Storytelling should guide students' transmedia tasks, by means of engaging, creative and demanding plurilingual activities, and can assume different forms, from dramas, to interviews with historical characters (in which role-playing prevails), to movies or presentations, but in particular to WebQuests (for non-linguistic subject teacher in particular), arriving to AR and Game-based, for more digital competent teachers, or as an arriving point, at least in a subject.

Evaluation

- Parameters of evaluation have to be previously agreed by the team, so as to foster together the same skills to consider for students in the CLIL coordinated intervention.
- Rubrics of evaluation help teachers to highlight students' learning paths, their cognitive and collaborative progression, as knowledge too, this also verifiable through Gamification's online tools. They have to be the same for all teachers, so as to verify together students' growth. About students' self-assessment, it is opportune an initial agreement between teachers and students on parameters, but they should be different in the diverse subjects, because of different kinds of knowledge and different activities.
- A list of strengths and weaknesses can be adopted by teachers after the implementation to self-detect pros and cons their role and choices, to discuss with the team. If students are allowed to contribute, it fosters participative environments of teaching and learning.
- Gamification through online tools might be included to assess the acquisition of academic vocabulary and knowledge of topics.

Note: In order to report the data with clarity, it has not been opportune to completely follow APA 7th.

The lesson plan reported in the Table [31](#) is to consider valid in each involved subject of teams, but it should be done commonly and communicated at the beginning of the module, so as to vary tasks, but in a common perspective. Indeed, not always students recognise the *trait d'union* of the intervention (see Table [29](#), Difficulties).

4. Models of CLIL and ICTs for History

In order to visually answer to the GO 4 of this thesis, i.e. building some models to suggest of Techno-CLIL in History-subject context, as emerged by the theoretical and empirical parts of the present research, there are reported underneath our two models. They are massively based on models B3 and B5 of Coyle et al. (2010, pp. 19-20), but modified according to the evidences from the action-research, and

further specified through a common lesson plan and two general designs of implementations, one per model.

Genre CLIL model (see p. [367](#)), as in Graphic 4, is addressed to teachers, both, mainly, of History and FL as well in the final triennium of Licei, in particular Linguistici, who implement alone CLIL through ICTs in History, so as to answer to the SO 5 of this research:

Graphic 4

Genre CLIL model.

Genre CLIL Model

- ✓ It is taught by a History teacher alone, but an external support of FL colleagues can happen, or by a FL one. They take into account the design of implementation 1 and adopt a specific lesson plan, as well as a grid of peculiar point to put into practice, especially if inexperienced.
- ✓ Students are involved in knowledge of content and languages together in authentic task-based environments, through multimodal inputs and massive use of ICTs, which allow the contemporary adoption, by teachers, of methodologies as Flipped Classroom, DST, Gamification, Cooperative/Participative Learning, and, by students, of the multi-faceted, multicultural, transmedia, and at least bilingual (MT, or ancient language, and FL) final product per group, for the development of soft skills and genre (History) knowledge of content and academic bilingual language
- ✓ Evaluation is formative and competence-based, complementary to the standardised system at the end

Note: Own source.

If teams are concerned, *Teaching Team Model* in Graphic 5 might guide them, answering to our SO 6:

Graphic 5.

Teaching Team Model

Teaching Team Model

- ✓ A team of a History teachers, other content teachers, and 2 or more FL colleagues choose a topic in History to focus on, culturally connoted in diverse countries and FLs. They take into account the design of implementation 2 and adopt a specific lesson plan, as well as a grid of peculiar point to put into practice, especially if inexperienced.
- ✓ Students' holistic vision of History is fostered by authentic plurilingual and multicultural task-based environments, through multimodal inputs and massive use of ICTs, which allow the contemporary adoption of methodologies as Flipped Classroom, DST, Gamification, Cooperative/Participative Learning, and their cross-cutting, transmedia, plurilingual final product per group, for the development of soft skills and pluriliteracies.
- ✓ Evaluation is mainly competence-based, and only at the end each teacher evaluates final products, according to the standardised system (History teachers, so, do not evaluate FLs).

Note: Own source.

Both these models, which include the lesson plan and their design of implementation, are practical guides for CLIL teachers' implementation for History, but rooted in the CLIL literature. They can be considered an open path to try to change the mainstream schooling through the student-centered methodologies implied in CLIL, together with

plurilingualism and ICTs, which are nowadays the new communication all over the world, never more to be overlooked in education.

GENERAL CONCLUSIONS AND SUGGESTIONS FOR FURTHER RESEARCHES

This research has been conducted, according to its objectives, as three-fold, in order to:

- 1) find out the appealing of CLIL and ICTs together for non-linguistic subject teachers, who are called to be often the main characters of its implementation, but who do not see how could be advantaged in their teaching by it, if presented exclusively, or also firstly, as a way for the achievement of multilingualism of students (theoretical part 1);
- 2) determine key points in current CLIL teacher training to take into account, so as to found them in the transliteracy and holistic required vision of knowledge and CLIL practice (theoretical part 2);
- 3) design some concrete models, taking into account the literature and the results of a critical participatory action-research, for teachers in the context of History, as transversal subject in the final triennium and the most widespread discipline in Europe implemented through CLIL, to support their practice, giving them a concrete and guided opportunity to adopt this open and significant environment of teaching and learning (theoretical part 3 and empirical part).

All these points led to their conclusions, reported at the end of each part as results of different analysis. Each of them gives some new contributions to the CLIL research, and in particular:

- 1) The new definition of CLIL as “an open and significant environment for education” (see [p 56](#)) is focused on the wide pedagogical opportunities of learning it allows for all students,

well attested in the literature (e.g., Dalton-Puffer, 2008; Kiely, 2011; Marsh, 2002, 2012; Pérez, 2018a), and enhanced by the use of ICTs (e.g., Kalinichenko et al., 2019; Marsh, 2012; Meyer et al., 2015; Oxbrow, 2018). This definition includes the empowerment of FLs acquisition for students, as well as their European citizenship, original aims of CLIL (see [p 10](#)), but putting as first their cognitive growth in a participative environment of teaching and learning, at the basis of their development of the skills of XXI century (p. [45](#)). Only with this educational aim, centred on the enhanced results for students in all the disciplines, and on students' cognitive and communicative development, CLIL can involve non-linguistic subject teachers, and/or teams, and make them accept to work harder, changing their roles in teaching in a new meaningful environment, despite of its complexity, but thanks to its being engaging for all the stakeholders (see [p 56](#)).

- 2) In order to achieve the above results in the scholastic communities, CLIL teacher training should start at University from pre-service teachers, guided, as our suggestion, by Pedagogy and FLs Departments together (e.g., see [p 120](#)), and absolutely based on cooperative learning by doing, with ICTs' large adoption. It should, so, concerns firstly pedagogies, linguistic approaches and methodologies, felt now as lacking, other than the same transversal and transmedia activities, input- and task-based, that they will have to manage in their future classrooms (see [Table 9](#)). Both for them and for in-service teachers, some suggestions appear to be crucial in the literature, and confirmed by the action-researches: teams (e.g., see [p 93](#)), mobilities (e.g., see [p. 105](#)), and tutoring in the initial phases of implementations (see [p 288](#)). As a matter of fact, they are crucial for students too, yet scaffolding all phases of CLIL.

Indeed, the role of scaffolder, always underlined as difficult by teachers, can be acquired at University, thanks to a new conception of their pedagogical role for the acquisition of holistic and multi-faceted knowledge for students, and to the skill of learning to learn, which is the core of the same scaffolding (see Table 8). In-service teachers, although with more troubles due to their long-established different ways of teaching, quite often teacher-centered, might take advantage of the same aspects, in particular whether their digital competence allows online collaborative update, and teaching teams foster several knowledge and competences in the environment of Technological CLIL, in order to aim at the development of the required students' skills.

- 3) The subject of History, with its transversal and multicultural topics (see p. 47), and included in the curriculum of different disciplines, among which, in Italy, FLs in the final triennium (see p. 220), is one of the more frequently implemented through CLIL in Europe (Eurydice, 2017). Teaching teams, preferably, or *hybrid teachers*, initially (see p. 319), who choose it, in the belief of its importance for students, should be guided in these paths through models of CLIL implementation, fine-tuned to History, here suggested taking into account the evidences of critical participatory action-researches, so thanks to the opinions and judgements of the stakeholders. Both these models, "Genre" and "Teaching Team", are supported by a common lesson plan (p. 381) and distinct Designs of Implementation (1 and 2), based on the literature and on the results of our empirical research, in order to guide CLIL teachers step by step, especially if inexperienced, with concrete tools, some suggested from the literature (as SAMR, the DigCompEdu, or the Padagogy Wheel), some adapted from existent materials (as the lesson plan at p.

[239](#)), or created ex-novo (as the grid of observation and orientation, p. [254](#)), also in structures offered by the literature (as the Designs of Implementation [1](#) and [2](#)). It is to underline that further researches are called to fully validate these tools, in particular in different contexts than Licei Linguistici.

As a matter of fact, in all those parts, and related conclusions, it has been highlighted always the same need, which is, on the one hand, the reason underlying this research, whilst, on the other, the trait d'union of its parts: spreading CLIL and ICTs together to change the mainstream schooling. Indeed, this is the right motivation for their adoption, as it "provides a space for language learners that is not geared specifically and exclusively to foreign language learning but at the same time is predefined and pre-structured in significant ways by being instructional and taking place within the L1 matrix culture" (Dalton-Puffer, 2011, p. 196). All the researchers of this field, although often focusing too much on FL learning as aim, have stressed the best results of CLIL in students' motivation and active participation (e.g., Coyle, 2013; Di Martino & Di Sabato, 2012; Lancaster, 2016; Marsh, 2012; Oxbrow, 2018; Pérez, 2012), which is also one of our results, and which derives from its innovation in education. This consists of student-centered approaches, based on modern pedagogies and methodologies, which point the importance of meaning-making for students through collaborative tasks, cognitive demanding, and for which communicative functions are crucial, especially when enriched by ICTs (e.g., see p. [204](#)). Together with the adoption of transversal cultural themes, they foster in students the development of soft and transliteracy skills, needed by European citizens of the XXI century (Coyle, 2015; Marsh, 2012; Meyer & Coyle, 2017). And the technological CLIL is a way to achieve all these demands, being rooted in European Directives aimed to this epochal change (e.g., European Commission, 1995; European Commission report, 2014; Note, 2019),

too much delayed in many European countries. Probably, it is due to the fact that it is a top-down policy, too often left to the enthusiasm of not many teachers, who hold the right requirements of FL level for their country.

Conversely, according to the above statement of Dalton-Puffer, CLIL offers a significant instructional environment as first advantage, rooted in MT culture, so absolutely open to a *progression*, already seen as key word (see p. [373](#)), of changes through it:

- of approaches, that, for in-service teachers should evolve from teacher-centered to student-centered, and that cannot be done in a lesson, but which should be fostered by experts through training and tutoring;
- of relationships: between teachers and students, who have to tend to participatory teaching and learning, in the mutual consideration of being all researchers, to acquire the best results at school in terms of professional development, for teachers, and skills for the future, for students; among students, to arrive to a stigmergic collaboration of prosumers in their always deeper meaning-making of historical-cultural events, through the needed plurilingual communication of the citizens of nowadays; and finally among teachers, who have to go on across the way of multidisciplinary collaborative teams, which, through common reflexive life-long learning, keep them more updated, fostering the required holistic knowledge of the XXI century;
- consequently, of knowledge to learn, with the step-by-step better acquisition of FL, both for students and for teachers, stimulated by engaging teaching and learning, and of content, which is to see not fragmented in disciplines, but as a multi-faceted whole. It is not to confirm that “when CLIL is led by content teachers, linguistic demands may be under threat”

(Coyle et al., 2010, p. 44)' (Ángeles, 2016), yet to admit the need of a progressive acquirement of FLs;

- last, but absolutely not least, of evaluation, which should be the best motivation for students to go on in their personal path of learning and development of skills, moving from its focus of oral and/or written performances to competence-based and formative manner.

This great challenge is concretely perceived as soon as the scholastic community is trained and initially guided *in situ* to implement CLIL and ICTs together, in subjects as History, which offers transdisciplinary themes, culturally related to the present, open to rich online plurilingual resources and to validated practice through educational integrated methodologies. This is a point to be carefully considered in CLIL teacher training and underlined by some teachers of the action-research: tutoring initial CLIL implementations of in-service teachers is motivating (Ó Ceallaigh et al., 2018), because they are supported in the complexity of them, which involves the change of their same teaching as first, objectively not easy. As a matter of fact, only scarcely it has been done, but the opportunity of European mobilities, in particular thanks to Erasmus+, can be appropriately suggested (see p. [112](#)). It is also to say that, to a certain extent, starting from the development of adequate digital competence with in-service teachers might reduce this need of support for CLIL implementations, as the results of the empirical part suggest.

Hence, as the second review of literature has underlined, it is highly important that pre-service teachers are trained not only in CLIL theory on single disciplines, separated each other, because they should represent the new generation in teaching, finally with a cutting-edge training, but by means of new teaching and learning at University as first (see p. [115](#)): it cannot be required a deep change by a category

like teachers, responsible in turn of the education of young generation, which is trained to get used to teach factually in the mainstream manner, according to examples of lecturers, and despite of any novelty studied in theory.

As a matter of fact, in this sense, CLIL and ICTs together are starting to affect the same teaching at University in Europe, and positive results have been obtained in many countries, like Spain (Garcia-Esteban et al., 2019; Rizzo & Carbajosa, 2014), Greece (Fokides & Zampouli, 2017), and Russia (Kalinichenko et al., 2019; Khalyapina et al., 2017; Rubtcova & Kaisarova, 2016), yet at initial phase, for which the only focus is now plurilingualism of professors, not their educational practice, according to the initial aim of CLIL for the lower grades of education. This is why it might be crucial, as for lecturers as for teachers, that this change starts from Pedagogy Departments, which link the research of pedagogies and educational technologies: in this way, they can become promoters of transdisciplinary and practical training, if the change of perspective on teaching and learning, fostered by the same teachers of the action-researches of this thesis, becomes real and engaging at University too, not only theoretically. It is surely a field to further investigate, which brings us to the crucial role of ICTs in CLIL environments, giving them not only added value, but increasing the opportunity of authenticity of them and their same variety. They result to be engaging for teachers and even more for students, Digital Natives (Prensky, 2001), because of their multiplicity and diversity, so suitable by different stakeholders, with diverse digital competence and communicative approaches. Various researches and some teacher trainings focused on CLIL and ICTs into practice (e.g., Cinganotto et al., 2017; De Santo & De Meo, 2016; Garcia-Esteban et al., 2019), as well as on single integrated methodologies during CLIL implementations (Colibaba et al., 2018; Ebenberger, 2017; Fokides & Zampouli, 2017; González Davies, 2016; Jauregi & Melchor, 2017;

Marsh, 2012; Meyer, 2010; Milla & Casas, 2018; Papaioannou, 2016). But it is really to change the perspective: if CLIL and ICTs involve rather easily students, it is because they, together, hugely allow wide diversification of learning. Consequently, firstly each student has to start from their pre-knowledge and pre-management of materials and tool, presumably on social networks, then they should be guided to different agreed transmedia materials and tools, in a request of cognitive elaboration of them always more demanding. This is the reason why the advantage of diverse integrated methodologies together for CLIL implementations, such as Flipped Classroom, Digital Storytelling and Gamification, adopted by some teachers in the action-researches, is undoubtedly in increasing the opportunity to match the needs of different ways of learning and the diversity of all students, so as to engage them. This experience of teachers and students during the action-research has given good results and promoted, in particular with teaching teams, some initial changes in schooling, as more active participation of students, holistic learning and deeper knowledge of content and academic language in several FLs. Nonetheless, this is to research further, involving more methodologies than those validated within CLIL (e.g., EAS, Episodi di Apprendimento Situato), and linking them to precise moments of the lessons (for instance, is GBL, as immersive methodology, more opportune at the beginning of a module, or can it be an evaluative moment? Can it be added to some parts of a WebQuest?).

As a matter of fact, the educational use of ICTs, nowadays in particular, shows the potential of involving students farther than the barriers of the walls of schools, in ubiquitous and engaging long times of learning, taking advantage of the scholastic time for them to be scaffolded and guided in social meaning-making and building of its products. This is where CLIL and ICTs converge in educational aims, and History is the field of convergent multidisciplinary efforts, which should be the first

reason of their adoption together, in the awareness of the complexity of this change, but also in the hope of its progressive achievement at all educational level.

Consequently, precise modules for the implementation of History in CLIL environments, as here designed, are a concrete way to reach, on the one hand, better results and engagement of students, and, on the other, a deep change of schooling through teachers' choice of tailored pedagogies and strategies with a language focus (see pp. [148-155](#)), guided by self-assessment of students, together with their formative and competency-based evaluation (see p. [53](#)). Indeed, as said in the theoretical part 1 (see p. [55](#)), according to the European directives (see pp. [41-42](#)), there are to evaluate the quality of students' knowledge and their progress to HOTS, which lead to transliteracy skills in meaning making of transversal content. But, first of all, it is to foster the skill of learning to learn (e.g., see pp. [55](#) and [121](#)), both for students and for teachers, So, whereas students can acquire this cardinal skill in CLIL activities, interactively task-based, in groups and by means of integrated methodologies, teachers can follow the way of the Teaching Team model (p. 404), in which different content and FL teachers collaborate with cross-cutting topics, sharing their different competences and knowledge each other, and especially contributing to the unique, but multi-faceted through rubrics, students' evaluation (according to the results of the theoretical part [1](#)). In practice, it has been seen that it is not easy to find teachers who accept to enter in a team, although the theory (see, for instance, p. [106](#)), as well the results of the action researches (see pp. [315-320](#)), evidence further collaboration as one as the most important suggestions for CLIL implementations. This is why, according to the results of the theoretical part [2](#), teacher training should be cooperative, starting from online training and mobilities for in-service teachers, so as to better foster their digital competence, their sharing of practices, and their linguistic

competence, but aiming to the foundation of Master Degrees for CLIL (see p. [112](#)), in particular Techno-CLIL, open to future content and FL teachers, through which forming a new vision of teaching and learning at school, participative because rooted in the power of modern communication and communicative strategies (e.g., see, for instance, pp. [29-32](#)). It is the only way to transcend the barriers between digital natives and immigrants (Prensky, 2001. See also pp. [174-176](#)) within a reasonable time and with no unproductive generational clashes at school on different ways of learning.

Conscious that there is a process to activate so as to achieve these goals, another model has been designed, the Genre model (p. [403](#)), for which trained teachers in the fundamentals of CLIL, alone but with a collaboration with other teachers, can start their implementations from putting into practice Techno-CLIL by means of integrated new methodologies. These *hybrid* teachers (Ball et al., 2015. See also pp. [335-339](#)) can be considerate in an initial training, which is important to change their role in the classroom (see pp. [48-50](#)), to create a participatory environment of teaching and learning with students (e.g., p. [180](#)), based on multimodal-input approach (and the CLIL Pyramid is definitely helps to start planning in this way. See p. [34](#)), so with great advantage of student-centered and task-based CLIL strategies. As a matter of fact, a complete change of schooling through Techno-CLIL might be seen when Team Teaching model is preferred to Genre one, and evaluation in particular becomes shared and agreed amid teachers. At the moment, it is opportune to start with spreading the potential of the significant CLIL environments, according to its definition (see the results of the theoretical part [1](#)), and confirmed by the action-researches; with filling the gaps in training teachers and fostering new ways to do it, more collaborative and transversal, focusing especially on digital and linguistic competences (according to the results of the theoretical part [2](#)), other than on student-centered pedagogies and

new methodologies (see the results of the theoretical part [3](#)). So, having precise designs of implementation, with a flexible but likewise precise lesson plan, for the subject of History, recognised as at the core of different subjects and aimed at achieving HOTS (see pp. [51-52](#)), as this research has generated, can be seen as a concrete contribute to the educational scholastic community.

DISSEMINATION FACTS

The present research, as said since in the general Introduction, was aimed at participating to the European attention, now International as well, to CLIL and new technologies together, focused on the subject of History, in order to contribute to it.

Precisely, it has been started the dissemination of the results of the theoretical parts 1 and 2, conducted through systematic literature reviews, through the papers below:

Porcedda, M. E., & González-Martínez, J. (2020). ¿Por qué AICLE? Un análisis de la literatura desde la perspectiva de los docentes de materias no lingüísticas. *Universitas Tarraconensis. Revista de Ciències de l'Educació*, 1(1), 37. <https://doi.org/10.17345/ute.2020.1>

Accepted and under edition in *Enseñanza & Teaching*:

Porcedda, M. E., & González-Martínez, J. (2020). Teacher Training in Content and Language Integrated Learning: lacks and suggestions from a systematic literature review.

In order to give the more widespread diffusion of the tool of the "Grid of observation and orientation" (p. [254](#)), it has been presented to the 12th International Conference in Florence, ***Innovation in Language Learning***, whose proceedings, indexed in the *Conference Proceedings Citation Index* by Thomson Reuters (ISI-Clarivate) and in Google Scholar, included the paper:

Porcedda, M. E., & González-Martínez, J. (2019). Learning from Mistakes and Detecting Specific Training Needs: A CLIL Grid. In Pixel

(Ed.), *Innovation in Language Learning - 12th International Conference* (pp. 41–45). Filodiritto.

Since the importance to spread also the other contributes that this research can offer, but aware of the lack of enough time to do it during the doctorate, it is going to prepare:

- a paper concerning a clarification about the opportunity of merging pedagogies, offered by the environment of CLIL, vs. the so-called 'CLIL pedagogy' (see "A CLIL pedagogy or pedagogies for CLIL?", p. [141](#));
- a paper to suggest the adoption of SAMR, EdTech Quintet and TPACK for CLIL planning (see "Relevance of the above models for this research", p. [184](#));
- a paper to present the two models of Techno-CLIL designed for the subject of History (see "Models of CLIL and ICTs for History", p. [390](#));
- finally, a monography of the entire research.

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