

Master's Dissertation/
Trabajo Fin de Máster

21ST CENTURY SKILLS IN CLIL THROUGH PHENOMENON BASED LEARNING AND MULTIPLE INTELLIGENCES THEORY

Student: Lechuga Romo, Lorena

Supervisor: Dr. Víctor Pavón Vázquez

Department: English Philology

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ABSTRACT

This master's final dissertation consists of a didactic proposal focusing on topics learnt during the Bilingual Education and CLIL master's degree course. To complete that aim, a literature review about the topics chosen (Multiple Intelligences Theory (henceforth MI) and Phenomenon Based Learning (henceforth PhBL)) was carried out to research their application in Vocational and Educational Training (henceforth VET) and Content and Language Integrated Learning (henceforth CLIL). MI and PhBL methodologies have been combined before with CLIL but there is no precedent in combining the two theories and applying them to VET. Due to the theories' flexibility and the benefits they provide to students, combining the three of them could be a good point for improving the educational system and adapt it to the 21st century skills needs. The educational system in Spain needs some improving proposals but there is no consensus yet about what is better to apply. CLIL is being implemented in many Autonomous Communities, and other new methodologies are being studied to be applied as well. New legislation development about their application is about to happen.

Straightaway in the text and using that literature review, a CLIL didactic proposal has been developed bearing in mind the information about the methodological approaches and the results from its application in other contexts. The proposal is to be applied into CLIL-VET cycle, whose vehicular languages are English (target language) and Spanish (lingua franca), and contains all the usual points which are included on a common lesson plan, which are the following ones: justification, contextualization, objectives, competences, contents, timing, methodology, materials and resources, transversality, interdisciplinarity, evaluation, step-by-step planning, and reinforcement or extension activities.

As a final part, the conclusions are presented to summarise the job and to propose some improvement which could be applied to it. Moreover, further research lines and limitations are presented as a final reflexive point.

Keywords:

Content and Language Integrated Learning (CLIL), Phenomenon Based Learning (PhBL), Multiple Intelligences (MI), Vocational and Educational training (VET), learning styles, bilingualism

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LIST OF ABBREVIATIONS

BICS: Basic Interpersonal Communication Skills

CALP: Cognitive Academic Language Proficiency

CLIL: Content and Language Integrated Learning

HOTS: Higher Order Thinking Skills

INTEF: Instituto Nacional de Tecnologías Educativas y de Formación del profesorado

LOTS: Lower Order Thinking Skills

MI: Multiple Intelligences

MLs: Multidisciplinary Learning modules

OECD: The Organisation for Economic Co-operation and Development

PhBL: Phenomenal Based Learning

SEN: Special Educational Needs

VET: Vocational and Educational Training

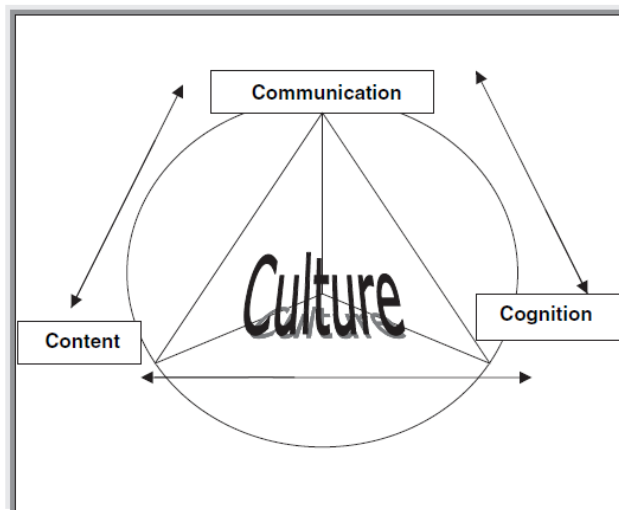
ZPD: Zone of Proximal Development

1. INTRODUCTION

The starting point for the developing a CLIL lesson plan is defining what is CLIL. Marsh and Langé (Marsh & Langé, 2000, p. 2) denominated CLIL as “a dual-focussed education approach in which an additional language is used for the learning and teaching of both content and language”. As highlighted in the course materials, we must take into account that CLIL is a broad term (umbrella) which can be distinguished from other bilingual education methodologies because of the 4C’s framework developed by Do Coyle in 1999 (Coyle, 1999). This framework is made up by content, communication, cognition and culture (see Picture 1), so a CLIL lesson plan must combine those elements to be successful and complete. “It is through progression in the knowledge, skills and understanding of the content, by engagement in associated cognitive processing, interaction in the communicative context, and a deepening awareness and positioning of cultural self and otherness, that learning takes place” (Coyle, 1999, p. 53).

Thus, this framework means that there is not only focus on subject or language learning and using, but learning and thinking processes and, intercultural understanding and globalizing citizenship are considered as fundamental parts of the teaching-learning process. The last ones mean understanding different cultures and beliefs, being tolerant of these differences, respecting others, being able to work individually and in a team, and being responsible citizens in the current context of globalization and competitiveness (Wang, 2012).

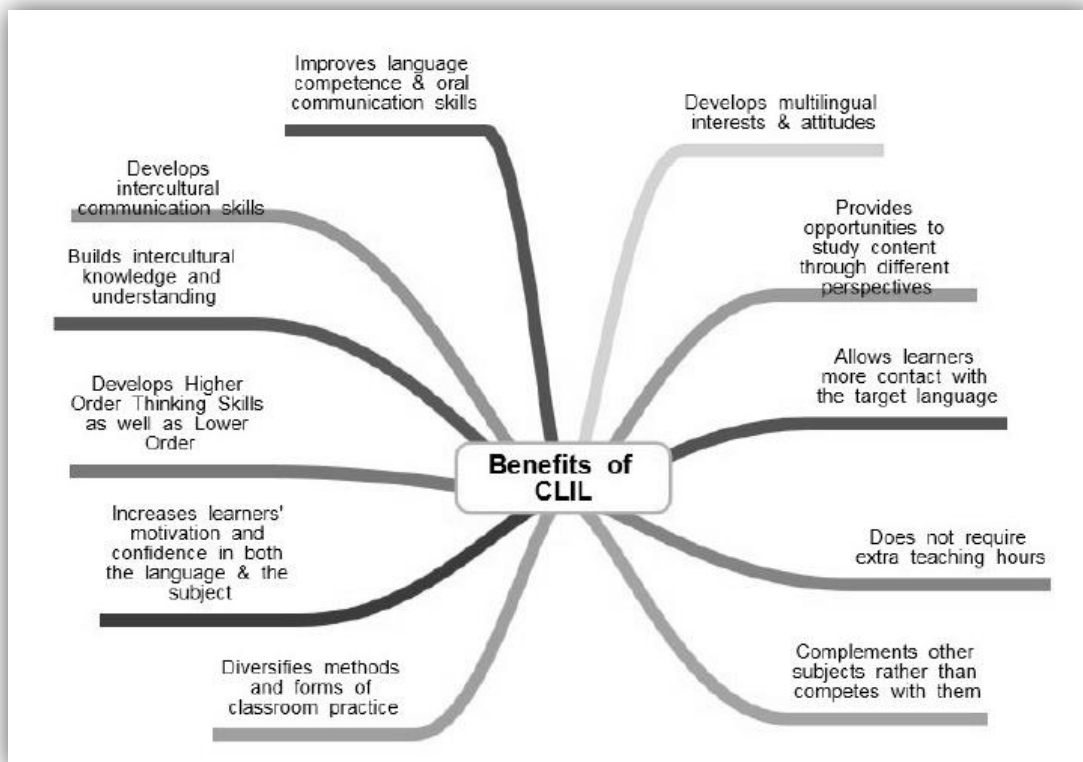
However, “the 4Cs-Framework can only be achieved when all of the four Cs are considered in lesson planning and materials construction” (Meyer, 2013, p. 14). To achieve so, it is necessary to provide the students multimodal input and distribute it across the CLIL lessons, which means producing specific materials which accommodate different learning styles and activate the four language skills (speaking, listening, writing and reading) so there is a sense of meaningful learning environment (Meyer, 2013).



Picture 1. Coyle 4C's framework (Coyle, 2007).

Nevertheless, CLIL is currently achieving substantial force and it is being integrated into curricula all across Europe due to the benefits reported from its application, not only related to language but also content related benefits (see Picture 2). However, there is still a lack of appropriate teaching materials due to the lack of legislation around it, and comprehensive and integrative CLIL methodology has yet to be developed (Meyer, 2013). Many teachers' communities share their materials to help each other but governmental support is still needed. For that reason, and considering the previous studies, this project consists on designing a didactic proposal which mix other innovative methodologies (Multiple Intelligences Theory and Phenomenon Based Learning) to create an effective CLIL programme, explaining the processes, the materials used and the purpose for the activities as well as the evaluation carried out.

As described in the dissertation proposal, I have chosen a didactic proposal focused on applying MI theory and PhBL into VET. The main reasons to do that way are that most of CLIL studies are focused on primary and/or secondary education but VET is hardly mentioned in them, and VET would be the educational level I would like to teach. Specifically, I have focused on health's vocational training courses because it's the field where I would like to work in the future and thus, it's the one that most appeals to me.



Picture 2. Benefits of CLIL. (Attard Montalto, Walter, Theodorou, & Chrysanthou, 2016)

Due to my current working situation, the didactic proposal could not be applied into a real context because I am not employed as a teacher nowadays and I have no experience in a state school. However, a critical approach has been taken into account to highlight the main pitfalls or problems that can occur during the application of the lesson plan in a real classroom.

Finally, the most important thing is that this assignment presents a compilation of the knowledge learnt during the master’s degree and the application of those skills to a self-created lesson plan. Not only are the theories and proposals used important to do so, but knowledge about CLIL characteristics is also necessary to develop such assignment. It is reflected in the structure of the project that, as explained above, is divided in two main sections (literature review and lesson plan proposal), followed by a critical discussion and a conclusion.

2. LITERATURE REVIEW

The theoretical background of the lesson plan presented below is based on two innovative methodological theories: Howard Gardner's Multiple Intelligences theory (Gardner, 1983) and Pasi Silander's Phenomenon-Based Learning and Teaching approach (Silander, 2015, unpaginated document). Both theories could be inserted into CLIL context because they are student-centred methodologies as required for CLIL success and both provide improvement in students' academic and learning results.

The reason to choose these two theories is that, in my opinion, they are the most interesting ones of those studied during the master's degree. Both could be applied to a CLIL project and both could be used together due to their flexibility. Moreover, the lesson plan would be applied on VET which implies differences in teaching and learning. The connexion among VET and labour market highlight the importance of connecting learning to real world so applying those methodologies could help graduates developing the skills required to find a job as soon as possible.

Both theories are really different to each other so the first part of this theoretical background would be a description of the most important characteristics of them and the results obtained in different studies where those methodologies has been applied, and then, the relation among them that can be established in order to create a CLIL-VET lesson plan.

The theoretical background on this dissertation is based on the literature review presented below which characteristics as a research are the following:

- Theoretical: it is representative of a literature review where the topics studied are presented in a conceptual framework. It is essential for developing the lesson plan proposal.
- Secondary: it is based on the information found in books, articles, and electronic publications about the topics selected. The lack of experience in the field favours the secondary research instead of primary research.
- Non-experimental: the lack of a real sample to work with makes it impossible to manipulate the conditions in the studies. The experiments are carried out by the authors of the studies analysed.

- Holistic: the phenomenon is studied as a whole in the research and it cannot be analysed into separate parts.
- Heuristic: the study is based on creating a new theory which must be tested on further studies.
- Qualitative: the study does not apply statistical analysis but the theories are analysed in terms of comparison, the information is summarised and organised, and the results are used to create a new project (lesson plan).
- Interpretative: it is usually linked to qualitative research. The analysis of the data is based on interpretation.
- Cross-sectional: the information for the current study was collected in one point in time but several studies analysed were longitudinal research, so the time of data collection is mixed.

2.1. Phenomenon-Based Learning

Phenomenon-Based Learning and teaching (PhBL) is a constructivist theory where it is considered that “holistic real-world phenomena provide the starting point for learning [...] and starts with observation of a phenomenon from different points of view” (Silander, 2015, unpaginated document). Moreover, Silander determines that a phenomenon has five dimensions: “holisticity, authenticity, contextuality, problem-based inquiry learning and learning process” (Symeonidis & Schwarz, 2016, p. 6).

This means that context plays an important role in the learning process because knowledge is not applied isolated in the real world but there are multiple contents useful at the same time to solve real-life problems and contents which could be used to work out more than one problem. The holistic real-world phenomena is considered by experts in the field as a respectable starting point because it helps initiating learning but considering contents and skills from different subjects as complementary. Phenomenon is considered as a complete entity which is studied in its real context or a simulation of it. Considering all the ideas previously mentioned, a phenomenon could be defined with the following points (Symeonidis & Schwarz, 2016, p. 6):

- An authentic object of observation.

- A systemic framework for the things to be learned (systemic model).
- A metaphorical framework for the things to be learned (analogous model).
- A motivating “base” for attaching the things to be learned.

Phenomenon Based Learning is considered to include elements of Vygotsky’s social-cultural learning, Hakkarainen’s progressive inquiry learning and, Hmelo-Silver, Kilroy and Schmidt’s problem-based learning (Symeonidis & Schwarz, 2016). This complexity in the theory assists 21st-century skills’ learning such as real-world problem solving, information analysis, critical thinking, creativity and innovation, reasoned answers or team work. These skills are considered as vital for our students because nowadays society demands applying them inside and outside the classroom (Aptus, 2019). In other words, students change their passive role in school to an active role where they are situated in the centre of the educational paradigm and their final aim is becoming responsible of their own learning, developing flexible understanding, lifelong learning skills and creative work (Aptus, 2019) (Trilling & Fadel, 2009).

Furthermore, “interdisciplinarity is also considered key from a phenomenological perspective” (Symeonidis & Schwarz, 2016, p. 9) supposing implications for the design and development of the lesson plan as it is explained in the interdisciplinarity section of the lesson plan. As a quick summary, “the phenomenon-based approach to teaching and learning invites us to break the boundaries of traditional subject teaching and move toward interdisciplinary explorations of phenomena” (Symeonidis & Schwarz, 2016, p. 13) by applying contents, objectives and evaluation criteria from several subjects, and ICTs to a common real-world based project.

...“seven transversal competence areas have been developed and considered key in defining the objectives and key content areas of the subjects. These are (1) thinking and learning to learn; (2) cultural competence, interaction and self-expression; (3) taking care of oneself and managing daily life; (4) multiliteracy; (5) information and communications technology (ICT) competence; (6) working life competence and entrepreneurship; and (7) participation, involvement and building of a sustainable future” (Symeonidis & Schwarz, 2016, p. 5).

Developing the transversal competence areas and common contents in projects, requires establishing 3-level collaboration: collaboration among content teachers,

among language teachers and among content and language teachers, to create common projects which are worked out by the influence of all the teachers (Pavon, 2014). Nevertheless, in a common VET course there are no language teachers because the contents are focused on the abilities they need to have developed by the end of the course. Thus, content teachers need to improve their language skills and external collaboration would be needed to balance the lack of language teachers to help students in target language development. Focusing on content teachers collaboration, it is indispensable to create a PhBL approach and apply successful CLIL methodology as their collaboration can “foster a more effective assimilation and consolidation of content” (Pavon, 2014, p. 120) by finding the thematic connections, applying a shared methodology and common assessment techniques (Pavon, 2014).

Furthermore, as a result of the expectations about the theory, Finland government, considered as an innovative and rigorous example in education, is applying this new methodological approach called phenomenon-based learning, and bases their education programmes in different projects where the students research and apply new knowledge. Following this practice, the teachers are guides in the educational project so they help the students to find the information needed in the different sources.

PhBL methodology has been introduced in Finland since 2016 by reshaping their whole national curriculum for basic education, considering learning since then as “a goal-oriented and lifelong process, in which students reflect on their learning, experiences and emotions and assume responsibility for the learning process” (Symeonidis & Schwarz, 2016, p. 11). The continuous changes and development of sciences and knowledge in our globalised world, requires that students and workers update their skills more frequently than it used to be. The active role of students makes them aware about the importance of lifelong learning, and they “become mindful of their own learning and acquire strategies of how to learn, a joyful, creative and reflective activity to ensure a good life” (Symeonidis & Schwarz, 2016, p. 11). The initiative from Finland government can push other countries to do the same and transform their educational systems.

...“Acknowledging that there are rarely educational models that can be exported from one country to another, it is argued that the fusion of CLIL and PhBL

provides a blueprint that can enable educational innovation to flourish in different contexts” (Marsh, 2019, p. 55).

Despite the good results from PhBL, CLIL and PhBL combination is still a new field to be studied because there has just been a 2-year trial period of this alliance in Mexico. The pilot study which took place in Jalisco (Mexico) generated an unconventional learning environment due to the special characteristics of both methodologies and had three main objectives described by the author as the following (Marsh, 2019, p. 61):

1. To raise the self-confidence and motivation of young people to learn and use English.
2. To co-design a prototype of a learning environment that accelerates the learning and acquisition of both content and English.
3. To build teacher competences to use innovative student-driven learning through PhBL-CLIL methods by which to raise teaching and learning standards (of both content and language).

The consequence of the application was the creation of a different climate for learning where the old-school role models had change.

...“involving empowerment of students to take responsibility for processes and outcomes; relevance of the learning experience to the lives of the students; techniques for competence-and confidence building; and even with widely diverse levels of language proficiency, the use of English to source, process and accomplish aspects of tasks” (Marsh, 2019, p. 61).

To sum up, PhBL includes development of skills in creativity, learning, thinking, social communication, problem solving, and fosters academic participation as well as using digital devices and eLearning environments (Symeonidis & Schwarz, 2016), supplying the students with the 21st century skills required by the society to be able to succeed in their careers and adapt themselves to the multiple changes in economy, culture and language exchange, and new technologies development.

2.2. Multiple Intelligences Theory

“Everybody is a genius. But if you judge a fish by its ability to climb a tree, it will live its whole life believing that it is stupid”. – Albert Einstein

Multiple Intelligences theory was developed by Howard Gardner in 1983 (Gardner, 1983) and it was released to the world in the book *Frames of Mind: The Theory of Multiple Intelligences*. The theory by Gardner explained the existence of eight comprehensive “intelligences” which include the broad range of human abilities, in contrast to the previous idea until that point about a general and unitary intelligence. To identify them, Gardner did not create any psychometric instrument, but through synthesis of relevant research across some fields (evolutionary biology, neuroscience, anthropology, psychometrics, and psychological studies of prodigies and savants) he established several criteria for identification of any intelligence (Davis, Christodoulou, Seider, & Gardner, 2011, p. 487):

- It should be seen in relative isolation in prodigies, autistic savants, stroke victims, or other exceptional populations. In other words, certain individuals should demonstrate particularly high or low levels of a particular capacity in contrast to other capacities.
- It should have a distinct neural representation – that is, its neural structure and functioning should be distinguishable from that of other major human faculties.
- It should have a distinct developmental trajectory. That is, different intelligences should develop at different rates and along paths which are distinctive.
- It should have some basis in evolutionary biology. In other words, an intelligence ought to have a previous instantiation in primate or other species and putative survival value.
- It should be susceptible to capture in symbol systems, of the sort used in formal or informal education.
- It should be supported by evidence from psychometric tests of intelligence.

- It should be distinguishable from other intelligences through experimental psychological tasks.
- It should demonstrate a core, information-processing system. That is, there should be identifiable mental processes that handle information related to each intelligence.

The main idea about the multiple intelligences is that every single person owns the eight intelligences but in different grade of development creating his/her unique MI profile as explained later. Independent of the innate abilities, relevant experiences and education can boost any of them. The eight intelligences described in his book are: linguistic intelligence, logical-mathematical intelligence, spatial intelligence, bodily-kinesthetic intelligence, musical intelligence, interpersonal intelligence, intrapersonal intelligence and naturalistic intelligence. People who stand out in each of the intelligences present different abilities (Davis, Christodoulou, Seider, & Gardner, 2011) and need to be taught using different teaching strategies (Armstrong, 2018) as reflected in Table 1.

INTELLIGENCE	ABILITIES	TEACHING STRATEGIES
Linguistic	Analysing information and creating products involving oral and written language such as speeches, books, and memos.	Brainstorming, audio recording, journal writing
Logical-Mathematical	Developing equations and proofs, making calculations, and solving abstract problems.	Calculations and quantifications, classifications and categorizations, science thinking
Spatial	Recognising and manipulating large-scale and fine-grained spatial images.	Visualization, graphic symbols, idea sketching
Musical	Producing, remembering, and making meaning of different patterns of sound	Rhythms, songs, raps, chants, podcast

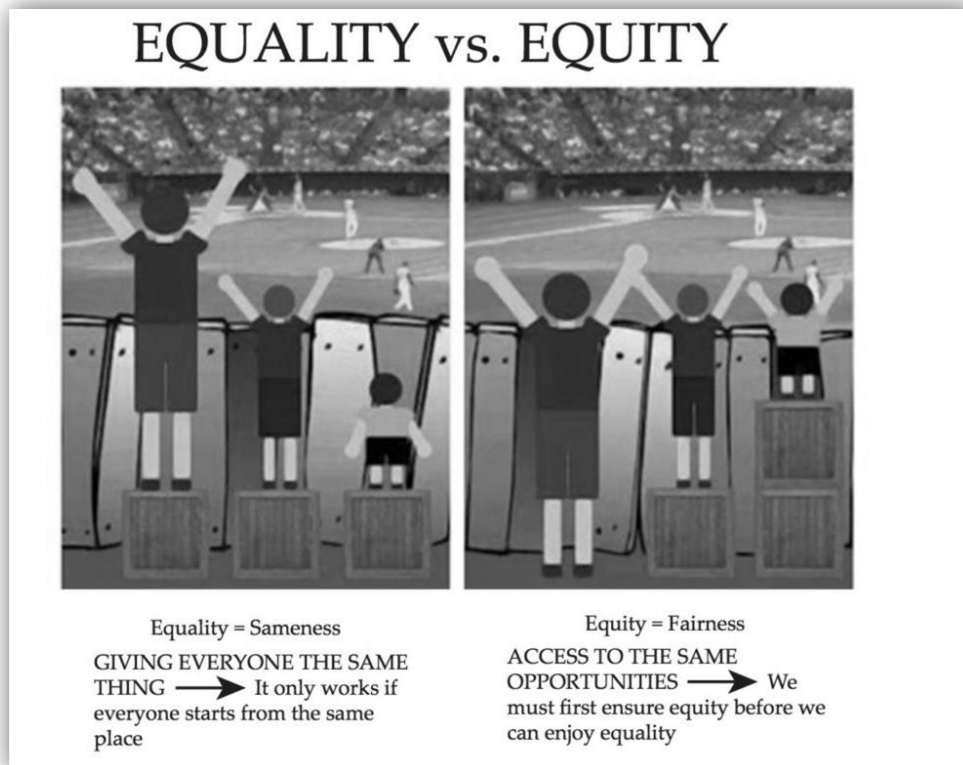
Naturalist	Identifying and distinguishing among different types of plants, animals, and weather formations that are found in the natural world.	Eco-study, nature walks
Bodily-Kinesthetic	Using one's own body to create products or solve problems.	Classroom theatre, body maps, hand-on thinking
Interpersonal	Recognising and understanding other people's moods, desires, motivations, and intentions	Peer sharing, collaborative groups, simulations
Intrapersonal	Recognising and understanding his or her own moods, desires, motivations, and intentions	One-minute reflection periods, choice time, goal-setting sessions

Table 1. Abilities and teaching strategies for MI

As it is said before, the theory considers that most people can develop all their intelligences to a relatively acceptable degree of mastery (Armstrong, 2018). So, students not only develop or stand on one of them, but all of us present different combinations of intelligences which could be developed. The development of them depends on the natural talent for the skills required and the education received by the individuals. Consequently, there are not two individuals with the same MI profile. In order to help students flourish and assess their multiple intelligences, “teachers need to expand their repertoire of techniques, tools and strategies beyond the typical ones used in the classroom (focused on linguistic and logical-mathematical intelligences)” (Armstrong, 2018, p. 52). Furthermore, teachers can fill checklists in by observation of the students in order to identify their MI profile thus personalised help could be provided to each one.

In a CLIL approach it is also important to adapt scaffolding materials as well, providing different ways to understand the input and to develop the output expected. To reach that objective, a multiple-intelligence lesson plan must bear in mind that we need to provide all the students the opportunity to “have their strongest intelligences addressed at least part of the time” (Armstrong, 2018, p. 62) and offer them different types of scaffolding materials to impulse equity instead of equality (see Picture 3). Indeed, the lack of standard guidelines to apply MI in the classroom makes this theory

so flexible that can be applied to the curriculum in a variety of ways, letting teachers adapt their lessons to the students' natural talents and boost those ones that need to be improved (Armstrong, 2018).



Picture 3. Equality vs equity (adapted from Maguire, A. Interaction Institute for Social Change)

Something about the theory which could be considered as an advantage as well as a disadvantage to apply it is that “any particular strategy is likely to be highly successful with one group of students and less successful with other group” (Armstrong, 2018, p. 70), which means that we must study our groups every year and adapt the strategies in the classroom by selecting the most successful ones. To do so, it is important to detect the intelligences that are more present in our students by observation and application of questionnaires and, by teacher’s self-evaluation about the learning process during the course, to detect and change any aspect needed by the students.

To sum up, contrary to the novelty of PhBL theory, MI has been put in use in subsequent years in classrooms all over the world and it has brought innovation and improvement into the classrooms since its release in 1983 (President and Fellows of Harvard College, 2016). “Many hundreds of schools across the globe have incorporated MI principles into their mission, curriculum, and pedagogy; and hundreds of books have

been written (in numerous languages) on the relevance of MI theory to educators and educational institutions” (Davis, Christodoulou, Seider, & Gardner, 2011, p. 486). As an example of its success it could be considered the Zero Project developed in Harvard, which aims to understand and improve education, teaching, thinking and creativity in the arts based on the application of MI theory (President and Fellows of Harvard College, 2016).

2.3. So, why are those methodologies perfect for VET?

VET prepares students to get into the job market so they are the human resources of the future. “Three factors are important for maximizing human resources: building a flexible education system, developing and updating needed skills, and enhancing employability” (Wang, 2012, p. 4). Moreover, students need real-life situations to be enough prepared to deal with unexpected situations and, at the end of their studies they should have developed 21st century skills. Although it is a broad concept, 21st century skills can be summarized as current skills needed to apply knowledge and adapt to the multiple and fast changes which take place in all the fields and, to face global environmental, economic and sociocultural challenges. Many organizations and studies have told about the 21st century skills. The Organisation for Economic Co-operation and Development (OECD) identifies key competencies needed for a successful life and a well-functioning society, and they can be classified in three categories (Wang, 2012, p. 20):

- 1) Using tools interactively to keep up-to-date with technologies, adapt tools to own purposes and conduct active dialogue with the world. The competences needed to do so are the following:
 - a. Use language, symbols, and texts interactively
 - b. Use knowledge and information interactively
 - c. Use technologies interactively
- 2) Interacting in heterogeneous group to deal with diversity in pluralistic societies, be aware of the importance of empathy and social capital. To do so the competences to be developed are:
 - a. Relate well to others

- b. Cooperate, work in teams
 - c. Manage and resolve conflicts
- 3) Acting autonomously in order to realize one's identity and set goals in a complex world, exercise rights and take responsibilities, and understand one's environment and how it functions. The competences related to it are:
- a. Act within the bigger picture
 - b. Form and conduct life plans and personal projects
 - c. Defend and assert rights, interests, limits, and needs

On the one hand, “CLIL and PhBL are learning approaches in their own right. Combined, they can provide lever for positive change with respect to learning, the learning of content, and the learning of languages” (Marsh, 2019, p.63). In other words, PhBL provides students the whole view of the knowledge by applying the skills from several subjects to solve problems and activities. Other aim of this combination may be the development of Language Awareness, which consist on knowing “how language is used to achieve specific goals in communication; metalinguistic awareness of how an additional language reflects back on the first language; how academic genre differs across disciplines; how language is used to exert power and influence” (Marsh, 2019, p. 57).

On the other hand, MI theory creates a climate in the classroom where all the students can have their space and show their capacities, making teachers aware about the importance of providing language input in many different ways to be integrated in students' interests. “As many of these activities encourage group work, they allow students to develop their communication and language skills within a realistic social context, thus engaging their interpersonal intelligence” (Bailey & Krishnan, 2015, p. 96). Both theories have a great influence in school results so combined they can provide a great impulse in language acquisition and can help teachers to prepare students for jobs that do not exist yet by using ICTs.

Moreover, the three methodologies are connected to constructivism which support students to develop lifelong learning skills, which means seeing learning as “relevant

and practical, and not only theoretical, and develop collaborative teamwork skills” (Marsh, 2019, p. 60) with explicit consequences for teaching and learning.

3. LESSON PLAN PROPOSAL

Before designing a CLIL lesson plan, we must bear in mind that CLIL lessons must exhibit a series of characteristics as defined by the British Council in their article about a CLIL lesson framework (British Council, 2019, unpaginated document):

- Integrate language and skills, and receptive and productive skills
- Lessons are often based on reading or listening texts / passages
- The language focus in a lesson does not consider structural grading
- Language is functional and dictated by the context of the subject
- Language is approached lexically rather than grammatically
- Learner styles are taken into account in task types.

Additionally to the characteristics above, a complete lesson plan should fill several sections to be as complete as possible to be a useful document for teachers and students. The sections on this lesson plan proposal are the following: justification, contextualization, objectives, competences, contents, timing, methodology, materials and resources, transversality, interdisciplinarity, evaluation, step-by-step planning, and reinforcement and extension activities.

3.1. Justification

As it is said in the literature review, VET courses prepare students to join up the labour market. Thus, CLIL studies provide them the opportunity to expand their possibilities by learning a second language integrated in the curriculum. This is especially important nowadays due to the internationalization and globalization of industries, technologies and free circulation of people among countries. Moreover, the phenomenon is particularly relevant among European Union countries because of internal agreements. Students can benefit from international scholarship programmes such as Erasmus+ or Apprenticeships Boost which are designed by the European Union

Commission and could be considered as the ideal culmination of language learning because they are based on foreign exchange helping students to apply their language and content knowledge abroad. Besides, as it takes place in a foreign country, students are completely exposed to the culture, can appreciate and embrace the most interesting points they consider useful for their lives and, they can become open-minded, respectful and flexible citizens of the globalised world.

The application of PhBL approach in the lesson plan gives the students the opportunity of learning an applying the contents into real-world based projects. The projects consist on several steps where all the intelligences are implied. As it is said before, both MI and PhBL theories foster students' motivation, flexibility and understanding of the current way of working in a job, where team work is crucial and continuous actualization of knowledge is essential to acquire new techniques and be up-to-date with the innovations in the field. In the lesson plan, the students simulate consultation and use self-collected and public sources data to analyse the prevalence and incidence of illnesses. Real-data analysis would be applied during their career as well as using data to create campaigns and specific advice for their patients.

The application of MI provides students the opportunity of addressing the tasks from different points of view as well as analysing and solving problem with different skills when they are creating a task assignment. The observation of a problem from different aspects is also a characterization of PhBL, which implies a more complex output in the classroom tasks. The students not only focus on solving the tasks, but they work on collaboration among each other and enrich their mates with their own personal experiences and previous knowledge.

Regarding the lesson plan developed in this dissertation, a project about analysing emotions and feelings of the patients during the dentist's consultation and how those feelings could help us to improve advice and motivation given to patients would be developed. This is important because professionals need the patients to be trustworthy and feel confident enough to talk about their problems to help the professional to find causes and solutions for it. Analysing feelings could also improve recovery time for any disease.

3.2. Contextualization

Taking into account the theories explained above, the didactic proposal would be developed into a Health Vocational and Educational Training Course, which is taught in Andalusia. Students are aged 18-20 and they want to continue studying a degree after finishing their current studies of VET. The vast majority want to study the odontology degree at university. The number of students in the classroom is 32 and there is a preponderance of women students, following the tendencies in health VET courses. They are finishing the second year of Dental Assistant cycle. Their expected target language level in relation to CEFR is B2, but most of them present lower English level.

Applying CLIL on VET studies is becoming more and more popular which is reflected in the present situation in Spain. “As of now, there are more and more institutions in Spain using CLIL in vocational training each year, and the figure doesn’t stop growing” (De Reyes Sorroche, 2018, p. 9). This can be observed in Andalusia’s Autonomous Community, where the government have been increasing the number of bilingual centres during the last few years and their objective in the *Strategic plan for language development in Andalusia. Horizon 2020* is getting 1160 bilingual centres all over Andalusia in 2019/2020 course. Those schools include all the educational levels, from pre-school studies to VET (Consejería de Educación, Junta de Andalucía, 2016).

However, CLIL in health VET courses has been recently added to the public schools in Andalusia because of the progressive implementation of CLIL to the different educational levels. In the implantation, primary education was the first one to become bilingual and the last ones are baccalaureate and VET. Indeed, there are very little high schools where it is applied nowadays (there are just 5 centres in Andalusia which offer CLIL in health VET courses in 2019), but the Andalusia’s government idea is increasing the number of them. To do that, it is necessary that teachers who would implement the new methodology have enough preparation to create an appropriate climate for learning and, it is essential that all the stakeholders implied in the process collaborate to create a solid work network where all of them feel comfortable and supported.

3.3. Objectives

By developing this lesson plan, the following content objectives determined by governmental and regional laws (*Real Decreto 769/2014, de 12 de septiembre, por el que se establece el título de Técnico Superior en Higiene Bucodental y se fijan sus enseñanzas mínimas & Orden de 26 de octubre de 2015, por la que se desarrolla el currículo correspondiente al título de Técnico Superior en Higiene Bucodental*) are covered:

- b) Seleccionar procedimientos preventivos y asistenciales de atención bucodental mediante la interpretación de documentos y normativa para prevenir riesgos y optimizar recursos.*
- e) Aplicar procedimientos de exploración y evaluación, interpretando los protocolos para reconocer signos de patología bucodental.*
- f) Reconocer las características anatomofisiológicas y patológicas del usuario, analizando resultados de exploraciones y pruebas para programar y adaptar procedimientos.*
- g) Seleccionar procedimientos de trabajo y protocolos según las necesidades del paciente, para aplicar técnicas preventivas.*
- j) Identificar las características del paciente y aplicar técnicas de apoyo a los tratamientos bucodental para realizar apoyo psicológico al usuario.*
- k) Prever actuaciones y seleccionar procedimientos alternativos al desarrollo de una actividad profesional para resolver imprevistos.*
- n) Aplicar estrategias y técnicas de comunicación, adaptándose a los contenidos que se van a transmitir, a la finalidad y a las características de los receptores, para asegurar la eficacia en los procesos de comunicación.*

These objectives are taught traditionally in the different subjects that make up the VET course. But in this particular lesson all of them would be mixed as the subjects' contents, in order to provide students meaningful learning and increase students' motivation for learning, investigating and continuous actualisation of their knowledge.

Moreover, as a CLIL lesson plan it is also important to determine the language objectives regarding the importance of developing both BICS (Basic Interpersonal Communication Skills) and CALP (Cognitive Academic Language Proficiency) described by Jim Cummins in 1979. “CALP or academic language proficiency develops through social interaction from birth but becomes differentiated from BICS”. (Cummins, 2008, p. 3). Indeed, this lesson’s language objectives are classified as BICS and CALP and, they are subdivided into three types, based on the language triptych (see Picture 4) (Coyle, Hood, & Marsh, 2010):

Language of learning:

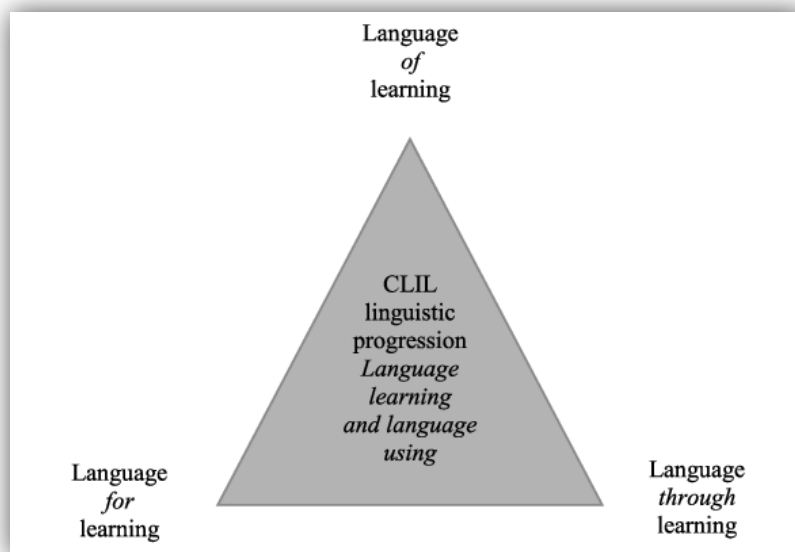
- Oral and dental diseases vocabulary (CALP)
- Mental problems vocabulary (CALP)
- Statistical analysis vocabulary (CALP)
- Vocabulary and structures used in the course materials (BICS)

Language for learning:

- Structures to ask and answer questionnaires to the patients (BICS and CALP)
- Structures to ask and answer questions about doubts and protocols to the teacher (BICS)

Language through learning:

- Structures to express their oral and written conclusions of the study (CALP)
- Structures to express hypotheses with the data obtained (CALP)
- Structures and vocabulary to evaluate themselves and their partners (BICS)



Picture 4. The Language Triptych (Coyle, Hood, & Marsh, 2010)

3.4. Competences

Linked to the objectives, there are some professional, personal and social competences from those in the governmental laws (*Real Decreto 769/2014, de 12 de septiembre, por el que se establece el título de Técnico Superior en Higiene Bucodental y se fijan sus enseñanzas mínimas & Orden de 26 de octubre de 2015, por la que se desarrolla el currículo correspondiente al título de Técnico Superior en Higiene Bucodental*) which are developed during the lesson plan:

- j) *Apoyar psicológicamente a los pacientes/usuarios, para facilitar la realización de los tratamientos bucodentales.*
- ñ) *Comunicarse con sus iguales, superiores, clientes y personas bajo su responsabilidad, utilizando vías eficaces de comunicación, transmitiendo la información o conocimientos adecuados y respetando la autonomía y competencia de las personas que intervienen en el ámbito de su trabajo.*
- t) *Comprender e incorporar a su actividad profesional los principios éticos y legales aplicables a la atención a la salud y al uso eficiente de los recursos disponibles.*

3.5. Contents

There is a series of basic contents which would be explained during the lesson plan. These contents are selected from those compulsory on the legislation to fulfil the requirements expected to the students by the end of the course, and they can be found in the Andalusian legislation for the title (*Orden de 26 de octubre de 2015, por la que se desarrolla el currículo correspondiente al título de Técnico Superior en Higiene Bucodental*). The aim of these contents is the achievement of specific objectives (*resultados de aprendizaje*). These contents are presented below:

Obtención de información referente a la salud bucodental:

- *Salud y enfermedad. Salud pública y comunitaria. Historia natural de la enfermedad y niveles de prevención. Odontología comunitaria.*
- *Determinantes de salud.*
- *Factores de riesgo.*
- *Educación para la salud. Objetivos. Contenidos. Áreas de aplicación.*
- *Técnicas de recogida de información.*
 - *Fuentes de información. Datos epidemiológicos.*
 - *Indicadores de salud y de salud bucodental.*
 - *Técnicas de investigación social. Encuestas. Entrevistas y cuestionarios.*

Organización de acciones de educación y promoción de la salud:

- *Planificación sanitaria. Niveles y etapas de la planificación sanitaria.*
- *Planificación de programas y actividades de promoción y educación para la salud.*
- *Formulación de objetivos.*
- *Metodología. Clasificación de métodos.*
- *Diseño y secuenciación de actividades. Cronograma.*

- *Selección y preparación de recursos.*
- *Aplicaciones informáticas utilizadas en actividades de promoción de la salud.*

Preparación de información sobre salud bucodental:

- *Selección de contenidos para la prevención de las enfermedades bucodentales. Finalidad.*
- *Información que hay que transmitir en actividades de promoción de salud bucodental.*
- *Programas nacionales y autonómicos de educación para la salud.*
- *Programas de educación para la salud en la infancia, adolescencia, adultez y senectud.*
- *Programas de educación para la salud en personas con características específicas.*

Información sobre la salud bucodental a personas y grupos:

- *Técnicas de comunicación y de información. Tipos. Técnicas según la información y el colectivo al que van dirigidas.*
- *Técnicas de motivación.*
- *Modificación del comportamiento en procesos de salud.*

Implementación de actividades de educación y promoción de la salud bucodental:

- *Análisis e interpretación de programas de educación para la salud.*
- *Desarrollo de actividades de educación y promoción de la salud. Adaptación a grupos específicos.*
- *Aplicación de técnicas de grupo.*

Aplicación de técnicas de evaluación en programas de educación para la salud:

— *Definiciones. Objetivos y funciones de la acción evaluativa.*

— *Tipos de evaluación.*

— *Técnicas e instrumentos de evaluación.*

3.6. Timing

The lesson plan is situated in the third term of the second year for the students of oral and dental hygiene course because they need to apply many different contents and skills learnt in previous lesson plans. The total timing for the lesson is 12 hours and is divided into six 2-hour sessions.

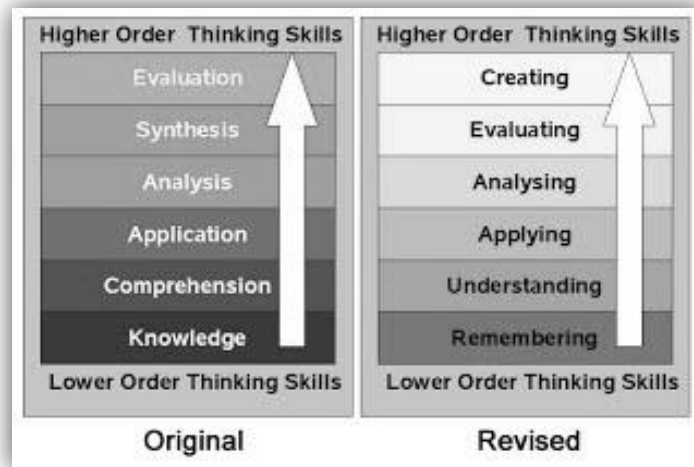
Those sessions are focused on preparing the whole project, which is composed by small categories or mini-projects so all the multiple intelligences could be applied and the students are able to show their knowledge by different skills, not only mathematically or language-based assessment.

3.7. Methodology

The methodological approach applied for the lesson plan is a combination of CLIL, PhBL and MI. The three methodologies are considered as constructivists so they situate the students in the centre of the educational paradigm.

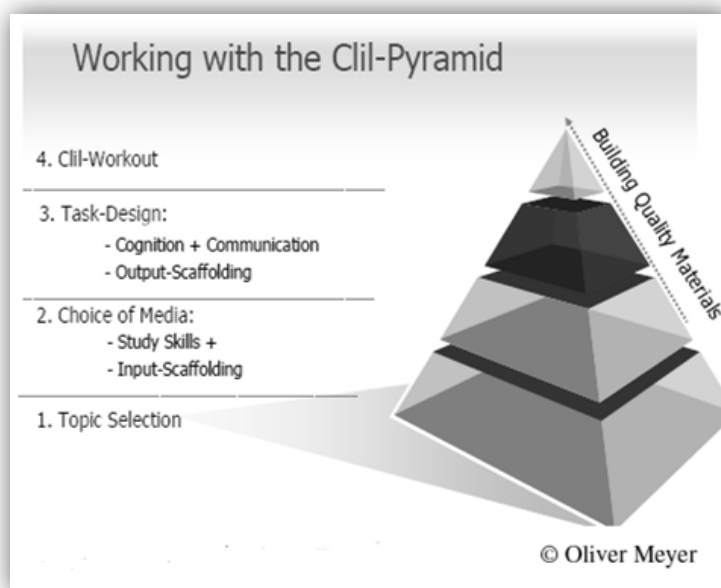
Indeed, the student-centred methodologies pursue effective teaching where pupils feel engaged, challenged, and inundated with various types of thinking, from Lower Order Thinking skills (LOTS) to Higher Order Thinking Skills (HOTS) from Bloom's Taxonomy, without feeling stressed (Meyer, 2013). The educational objectives' taxonomy developed by Benjamin Bloom in the 1950s explains the thinking process and the revision published in 2001 by his former student L. Anderson with D. Krathwohl (see Picture 5) has been studied by Michael Pohl and others showing that "it can be turned into a powerful tool for planning truly differentiated units by combining it with Gardner's concept of multiple intelligences" (Meyer, 2013, p. 13). HOTS require more cognitive effort but it pushes the students to investigate and evaluate the new information provided in the lesson and use it to create, design, compose or plan something new (Attard Montalto, Walter, Theodorou, & Chrysanthou, 2016). Moreover,

development of HOTS is aimed to reduce the mismatches existent between the graduates and the job market requirements fostering direct employment (Wang, 2012).



Picture 5. Bloom's original and revised taxonomy (Churches, 2008)

Regarding the complexity of planning for CLIL, Oliver Meyer in 2013 has design a CLIL pyramid as a strategy in order to help teachers and students to plan effective and high quality CLIL lessons (see Picture 6). For each topic, there could be several lessons or sessions and each one should include: Topic, Media, Language Skills, Task and HOTS. This way everything is clearer for both teachers and students (Meyer, 2013).



Picture 6. The CLIL pyramid (Meyer, 2013).

What concretely is done in this lesson plan is an oral consultation simulated in role-play sessions with the students from the VET course and those voluntary ones from other courses to have a bigger sample of patients. The students' role play consist on: examine several patients, use different methods to study the oral cavity, prepare motivational and medical advice adapted to the problems detected, create statistics about feelings and oral problems, and present the data to their partners. The consultation exam is developed by using peer-work, but they prepare materials for the consulting room, analyse statistical investigation and present data to the rest of the students in groups of 5-6 people. The conversation during the role play, the data collected and the results should be expressed in target language (English) as much as possible, bearing in mind that CLIL methodology does not punish students for using their mother tongue. This is explained with more details in the step-by-step planning.

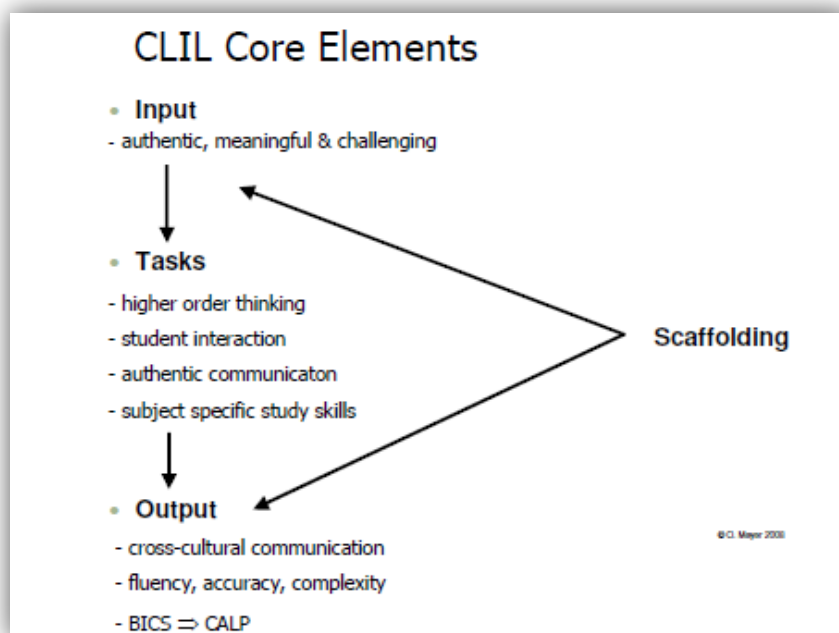
3.8. Materials and resources

An important aspect to consider in CLIL lessons is scaffolding, which should be provided to students in order to understand the tasks (input) and to help them to develop the results (output) as highlighted in Picture 7. This scaffolding is introduced in the Zone of Proximal Development (ZPD), regarding the previous knowledge and what students can currently do, to reach the new knowledge (see Picture 8). To focus on the different intelligences, there are different scaffolding methods regarding BICS and CALP language development such as picture/symbol translation lists of vocabulary for spatial intelligence, lists of useful language structures for linguistic intelligence or pronunciation podcasts for musical intelligence. Moreover, there would be different activities to develop such as role play simulations for body smart ones, statistical analysis for those number/logic smart ones, individual activities for self-smart ones and working groups for people smart ones.

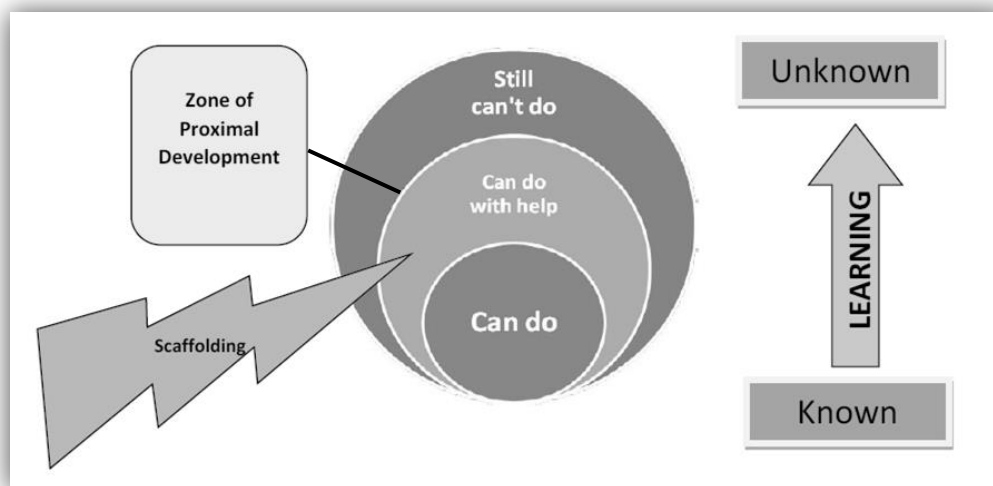
However, scaffolding is not the exclusive element to take into account when programming for CLIL.

...“To unlock the inherent potential of CLIL, a holistic methodology is needed that transcends the traditional dualism between content and language teaching. The shift from knowledge transmission to knowledge creation in multilingual settings requires students to be skilled in not only assimilating and understanding

new knowledge in their first language, but also in using other languages to construct meaning” (Meyer, 2013, p. 17)



Picture 7. CLIL core elements and when to scaffold (Meyer, 2013).



Picture 8. ZPD and scaffolding (Attard Montalto, Walter, Theodorou, & Chrysanthou, 2016)

Regarding teaching space, the lesson plan takes place into two main rooms, the theoretical classroom fully equipped with whiteboard, computers and other classroom staff and, the oral and dental hygiene lab which is fully equipped simulating several dentists' consulting rooms as shown in Picture 9.



Picture 9. Oral and dental hygiene lab.

3.9. Transversality

Additionally to the topics that are compulsory in the law and that are described above, in the lesson plan there are some transversal topics which are taught in other projects by all the teachers and which are linked to moral and ethical values. They are very important because the students are about to be part of the job market, where they are going to relate to other professionals and they need to differentiate themselves by their attitude, energy and involvement in life.

Even though there are not a number of topics established previously, the Andalusian regulations (*Ley 17/2007, de 10 de diciembre, de Educación de Andalucía*) explain the need of developing activities and contents which are complementary to the ones compulsory by law. Those topics are integrated in the lesson plan from one or more than one subject. The transversal topics which are applied to the students of this VET course are:

- Health education. As part of the health system, dental assistants should be aware about the toxic habits of their patients and give them advice in case it is needed. Moreover, specific advice about oral and dental care is supposed to be part of their job responsibilities. In the lesson plan, health education is reflected in the role play and in the materials they should prepare for consultation.

- Coeducation. The government regulations pursue real equality for men and women in our society, so the students develop their personality to face and solve inequality treat in the job market or sexual discrimination in order to get an appointment to the dentist. In the lesson plan, coeducation is reflected in the equal treatment they should apply to the patients and mates.
- Critical approach about ICT and new technologies usage. ICTs are really useful nowadays and we need to use them for many purposes. For that reason, it is really important to be able to screen the useful information from the fake news, information without scientific validity and old-fashioned information. In the lesson plan, correct ICT use is reflected in the research they carry out, where the teacher helps them to select the useful and trustworthy sources.

3.10. Interdisciplinarity

The characteristics from PhBL creates an interdisciplinary lesson plan where all the subjects are interconnected and the contents from them are all developed together, as it happens in a real-life situation. “Interdisciplinarity involves studying phenomena in their social, cultural, historical and physical contexts. [...] We cannot directly explore a phenomenon in its entirety, but we need to focus on the concrete articulations in the real world” (Symeonidis & Schwarz, 2016, p. 9).

Almost all the subjects are implied in the lesson plan except those which are related to job search and undertaking. The subjects implied and the reason for so are:

- *Recepción y logística en la clínica dental*. As they need to prepare the oral and dental hygiene lab with the materials needed for the exploration.
- *Estudio de la cavidad oral, Exploración de la cavidad oral* and *Intervención bucodental*. As they simulate consultation in the role play and the three subjects provide the students all the basic aspects to detect any pathology and apply treatments.
- *Epidemiología en salud oral*. As they collect and analyse data about oral and mental information of the patients.

- *Educación para la salud oral.* As they provide personal advice to the patients in the consultation.
- *Conservadora, periodoncia, cirugía e implantes and Prótesis y ortodoncia.* Because they will study if the patients need to be applied any specific intervention.
- *Primeros auxilios.* As they manipulate dangerous substances and the patients can suffer accidents related to asphyxia or ingestion.
- *Fisiopatología general.* As they know the physiology and the pathologies to detect them in the patients' mouth to apply any treatment.

The PhBL lesson plan supposes creating projects conformed by several subjects or, in other words multidisciplinary learning modules (MLs).

...“MLs aim to engage students in exploring holistically authentic phenomena, which are interpreted as real-world themes and as such cannot be contained in only one subject. The purpose of MLs is to functionally approach and expand students' world of experience, strengthening their motivation and making learning meaningful to them. Education providers are, therefore, required to ensure that each student participates in at least one ML per year.” (Symeonidis & Schwarz, 2016, p. 5)

3.11. Evaluation

To evaluate the students in CLIL we must measure the achievement of 4C (content, cognition, communication and culture) which means assessing them during the activities developed. Moreover, Multiple Intelligences and cooperation must be considered as well due to the methodologies applied. Furthermore, evaluation is not a static point as it used to be in older methodologies but it is a dynamic process which reflects all the students' effort during all the sessions and lesson plans.

3.11.1. Evaluation criteria

To evaluate the students, in the legislation are defined *resultados de aprendizaje* (specific objectives for the subjects in VET) and evaluation criteria for each objective

related to the subject contents. The specific objectives are presented underlined and their evaluation criteria below each one:

1. Identifica actitudes y estados emocionales en pacientes, aplicando principios básicos de psicología general.

Evaluation criteria:

- a) *Se han descrito actitudes y estados emocionales ligados a la atención bucodental.*
- b) *Se han descrito técnicas comunicativas en el proceso de información.*
- c) *Se ha seleccionado la técnica comunicativa en función de las actitudes y estados emocionales detectados.*
- d) *Se ha descrito el perfil psicológico de los niños y preadolescentes.*
- e) *Se han descrito las características psicológicas de los adultos.*
- f) *Se ha descrito el perfil psicológico de las personas de edad avanzada.*
- g) *Se han seleccionado las actuaciones de apoyo psicológico y de atención a la persona con discapacidad.*
- h) *Se ha valorado el interés y la preocupación por atender las necesidades de los usuarios.*

2. Aplica técnicas de apoyo psicológico y de autocontrol al accidentado y acompañantes, describiendo y aplicando las estrategias de comunicación adecuadas.

Evaluation criteria:

- a) *Se han descrito las estrategias básicas de comunicación con el accidentado y sus acompañantes*
- b) *Se han detectado las necesidades psicológicas del accidentado.*
- c) *Se han aplicado técnicas básicas de soporte psicológico para mejorar el estado emocional del accidentado.*

d) Se ha valorado la importancia de infundir confianza y optimismo al accidentado durante toda la actuación.

e) Se han identificado los factores que predisponen la ansiedad en las situaciones de accidente, emergencia y duelo.

f) Se han especificado las técnicas que deben ser empleadas para controlar una situación de duelo, ansiedad y angustia o agresividad.

g) Se ha valorado la importancia de auto controlarse ante situaciones de estrés

h) Se han especificado las técnicas que deben ser empleadas para superar psicológicamente el fracaso en la prestación del auxilio

3. *Realiza actividades de educación sanitaria y de promoción de la salud bucodental, relacionándolas con los ámbitos de aplicación.*

Evaluation criteria:

a) Se ha obtenido información sobre el nivel de salud bucodental para la realización de actividades de promoción de la salud.

b) Se han identificado los niveles de salud bucodental de individuos y de grupos interpretando los resultados obtenidos en estudios epidemiológicos.

c) Se han programado actividades de educación y promoción de la salud bucodental según situaciones y personas.

d) Se han manejado recursos para transmitir información y desarrollar acciones de educación y promoción de la salud.

e) Se han utilizado técnicas de información y motivación adecuadas.

f) Se ha adaptado la actividad a las personas implicadas.

4. *Obtiene información referente a salud bucodental para caracterizar grupos y personas, seleccionando técnicas específicas.*

Evaluation criteria:

a) Se han diferenciado los niveles de prevención, sus objetivos y acciones.

- b) Se han relacionado los tipos de determinantes de salud con los factores que afectan a la salud bucodental de las personas y grupos.*
 - c) Se han enumerado los factores que favorecen el nivel de salud bucodental y los factores de riesgo.*
 - d) Se han consultado fuentes para obtener información sobre los grupos diana.*
 - e) Se han utilizado técnicas para recoger información sobre salud bucodental y enfermedad de personas y colectivos.*
 - f) Se ha seleccionado información relacionada con el grupo definido.*
 - g) Se ha organizado la información en función de objetivos.*
 - h) Se ha utilizado la terminología básica relacionada con la salud pública, la promoción y la educación para la salud.*
5. Organiza acciones de educación y promoción de la salud, programando actividades para diferentes situaciones y personas.

Evaluation criteria:

- a) Se han establecido prioridades de intervención según las características de cada grupo.*
- b) Se han definido los objetivos que hay que lograr en distintos programas de intervención sanitaria.*
- c) Se han enumerado las actividades del programa en función de los objetivos.*
- d) Se han diseñado actividades adaptándolas a las personas y colectivos receptores de la acción.*
- e) Se han secuenciado las actividades y se han asignado tiempos de realización.*
- f) Se han identificado los recursos necesarios para el desarrollo de las actividades.*
- g) Se han elaborado materiales de trabajo en función de las personas y los grupos participantes.*

6. Prepara información sobre salud bucodental, seleccionando los contenidos en función del grupo diana.

Evaluation criteria:

- a) *Se han interpretado las finalidades previstas en los objetivos.*
- b) *Se han identificado las características del grupo diana.*
- c) *Se han analizado las características de la información que se va a transmitir.*
- d) *Se han identificado las dificultades de los conocimientos que se van a transmitir.*
- e) *Se ha seleccionado la información en función de la edad y de las características del grupo receptor.*
- f) *Se han adaptado los contenidos a personas o grupos con características y patologías específicas.*
- g) *Se han organizado los contenidos que hay que transmitir en las actividades de promoción de la salud prevención de enfermedades bucodentales.*
- h) *Se ha consultado bibliografía para actualizar la información relacionada con la prevención de las enfermedades bucodentales.*
- i) *Se ha manifestado iniciativa en la búsqueda y estudio de nueva información.*

7. Informa sobre salud bucodental a personas y grupos, analizando técnicas adaptadas a sus características y motivación.

Evaluation criteria:

- a) *Se han identificado las técnicas de comunicación, sus fases y requisitos.*
- b) *Se han determinado las características de las personas que van a recibir la información.*
- c) *Se ha informado de forma clara, correcta y adaptada en diferentes situaciones.*
- d) *Se han caracterizado las técnicas de motivación, sus fases y requisitos.*

e) *Se han identificado los valores más motivadores para las personas y los grupos implicados.*

f) *Se han aplicado técnicas de motivación y refuerzo en distintas situaciones.*

g) *Se han aplicado técnicas para comprobar el nivel de comprensión de las personas o grupos receptores.*

h) *Se han identificado las técnicas y los fundamentos más básicos de modificación de comportamiento en el ámbito de la promoción de la salud bucodental.*

i) *Se ha mostrado respeto por personas con planteamientos y forma de vida diferentes.*

8. *Implementa actividades de educación y promoción de salud bucodental, seleccionándolas en función de las características de los grupos.*

Evaluation criteria:

a) *Se han interpretado los objetivos de distintas campañas de promoción de la salud y la metodología.*

b) *Se han respetado las fases de aplicación de programas de educación sanitaria.*

c) *Se han utilizado distintos recursos, como materiales impresos, audiovisuales o aplicaciones informáticas, entre otros.*

d) *Se han adaptado los recursos a las características de las personas y grupos receptores.*

e) *Se han desarrollado actividades de promoción de la salud.*

f) *Se han aplicado técnicas de animación y dinámica de grupos para conseguir la implicación y la colaboración de la población.*

g) *Se han respetado los tiempos marcados en la planificación realizada.*

h) *Se han resuelto adecuadamente situaciones no previstas.*

i) Se ha manifestado interés por el trabajo en equipo.

9. *Aplica técnicas de evaluación de programas de educación para la salud, relacionando los objetivos con los resultados obtenidos.*

Evaluation criteria:

a) Se han identificado instrumentos para la evaluación de actividades.

b) Se han formulado criterios para evaluar la consecución de los objetivos programados en la intervención sanitaria.

c) Se han diferenciado los distintos instrumentos que hay que aplicar en función del objetivo de la acción evaluativa.

d) Se han preparado instrumentos para la evaluación de actividades de educación para la salud.

e) Se han utilizado instrumentos para evaluar las actividades desarrolladas en el programa.

f) Se han establecido medidas correctoras y de refuerzo para casos en los que no se consiguen los objetivos previstos.

g) Se han respetado los criterios establecidos en los protocolos de actuación.

The language evaluation criteria are based on the language objectives described in the corresponding section and it is focused on three language competences as in the rubric below (Table 2).

CRITERIA	0	1	2
VOCABULARY USE	No specific vocabulary use	Basic specific vocabulary use	Wide range of specific vocabulary use
LANGUAGE ACCURACY	Frequent mistakes speaking and/or writing	Some mistakes speaking and/or writing	Very little mistakes speaking and/or writing

FLUENCY AND INTERACTION	Avoid classroom interaction	Interact in the classroom but the language is not as fluent as expected	Interacts in the classroom with the expected level of fluency
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Table 2. Language evaluation criteria

3.11.2. Assessing types

As it is said before, assessment in CLIL is not a static process where the students are evaluated in a final exam, but we consider important four types of assessment: diagnostic, initial, formative and summative assessment. As diagnostic assessment takes places at the beginning of the course, the other three types are the ones considered in the lesson plan.

- Initial assessment. Takes place in the first session of every lesson plan and provides the necessary information to prepare the scaffolding materials. Those materials are prepared in order to adapt to the different intelligences and previous knowledge.
- Formative assessment. The teacher controls the students' evolution during all the sessions, focusing on the target language use, the collaboration among all the members of the groups and the daily progress of the tasks. The best tool to do so is observation and self-elaborated rubrics.
- Summative assessment. It is presented in several ways. The final assignment is judged by the schoolmates using rubrics prepared by the teacher. Moreover, the students complete self-evaluation forms to reflect on their intervention on the different activities.

3.11.3. MI Assessment

Contrary to the traditional assessment, when MI assessment is applied, there are some characteristics which are important to be highlighted (Davis, Christodoulou, Seider, & Gardner, 2011, p. 498):

- Samples the gamut of intelligences and domains.

- Identifies relative and absolute strengths.
- Gives immediate feedback to students; is meaningful for students; uses materials with which children are familiar.
- Produces scores on a range of tasks, across several domains for each intelligence.
- Has ecological validity; presents problems in the context of problem solving; is instructive for teachers.

So, it requires the application of new teaching and evaluation strategies based on the potential skills students present and those ones which must have developed during the lesson plan. It must be reflected on the assessment tools.

3.11.4. Assessment tools

As it is said before, the application of MI theory and student centred methodologies requires changing the typical assessment tools used in the classroom such as exams, tests, etc. Instead of using the classical assessment tools, evaluation rubrics for teachers evaluating students and peer-evaluation as well as target evaluation for self-evaluation are used in the current lesson plan (see appendices).

It means focusing on the whole process instead of a singular point in the time or in a particular skill. Every criterion in the rubrics presents assorted marks so different grades of achievement can be determined. Moreover, peer and self-evaluation tools make students aware about the importance of being fair, the difficulty of assessing other people and the importance of their own experience and reflections to improve the process. It also highlights the importance of collaboration among students as it happens in a real-life working space.

3.12. Step-by-step planning

During the six sessions, presented as summary tables, which are used to develop the lesson plan, different activities are presented in relation to the timing, grouping, HOT Skills, language skills, objectives and materials needed to be developed. The activities are developed to cover the contents, objectives and evaluation described above.

1 st session (2 hours)					
Activity	Methodology			Objectives	Materials
	Grouping	HOT skills	Language skills		
A1. <u>Introduction activity</u> . Explanation about the project and the activities that would be developed during the following sessions	Whole-class group	-	Listening Speaking	-Introduce the topic. -Set the groups for the following sessions. -Solve initial doubts	-No additional materials needed
A2. <u>Development activity</u> . Brainstorming about the influence of oral diseases and mental disorders	Whole-class group	Analysing	Listening Speaking Reading	-Previous knowledge detection to create appropriate scaffolding regarding preceding information and multiple intelligences	-Whiteboard -Whiteboard marker
A3. <u>Development activity</u> . Creation/research of oral and dental hygiene advice materials	5-6 people groups	Creating	Reading Writing Speaking Listening	-Prepare materials for the following sessions. -Correct use of information sources -Teamwork -Use of “supermemory” music technique to help the students remember the information	-Computers -List of image-vocabulary translation (scaffolding) -List of useful structures (scaffolding) -Musical background

2 nd -3 rd sessions (4 hours)					
Activity	Methodology			Objectives	Materials
	Grouping	HOT skills	Language skills		
A1. <u>Development activity.</u> Consultation simulation (role-play) with their mates and volunteers from other courses	In pairs	Analysing Applying Creating	Speaking Listening Writing	-Data compilation in medical interview about feelings and emotions, antecedents in oral and mental diseases -Oral examination and data compilation about oral health -Restorative techniques application to the oral issues detected -Oral and dental hygiene advice adapted to the needs of each patient	-Oral and dental hygiene lab and materials (mouth mirror, saliva ejector, etc) -Medical histories -Questionnaires -Oral and dental hygiene advice materials (leaflets, short videos, images...)

4 th -5 th sessions (4 hours)					
Activity	Methodology			Objectives	Materials
	Grouping	HOT skills	Language skills		
A1. <u>Development activity</u> . Statistical analysis of data collected during sessions 2 and 3.	5-6 people groups	Analysing	Reading Writing Speaking Listening	-Data analysis and organisation -Establishment of relations between the data obtained in the explorations and in the questionnaires	-Computers -Statistical analysis programme
A2. <u>Development activity</u> . Oral and dental health's campaigns production using different materials	5-6 people groups	Creating	Reading Writing Speaking Listening	-Create new materials to use in oral consultation (reports, podcasts, collages, manipulatives)	-Computers -Cameras -Audio recorders -Craft materials
A3. <u>Extension activity</u> : Internet research about mental and oral problems in the Spanish population	Individual	Analysing Evaluating	Reading Writing	-Compare the results obtained in the oral explorations in the classroom to the current health studies results about oral health. -Determine if the data collected in the classroom and in the national studies are representative or not and why.	-Computers
A4. <u>Reinforcement activity</u> . Common pathologies and restorative techniques	Individual	-	Reading Writing	-Reinforce the most difficult concepts -Provide useful tips to use and learn the	-Worksheets -Computers

review worksheet				information -Solve doubts	
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6 th session (2 hours)					
Activity	Methodology			Objectives	Materials
	Grouping	HOT skills	Language skills		
A1. <u>Summary activity</u> . Workshop about their works where the students present their assignments to their mates	5-6 people	Analysing Evaluating	Listening Speaking Reading Writing	-Explain their work to their mates -Ask and answer questions about their works -Peer-evaluation.	-Posters and other samples of their work -Assessment rubrics
A2. <u>Summary activity</u> . Reflection and self-evaluation form to determine their participation in the tasks and the concepts learnt.	Individual	Evaluating	Reading Writing	-Evaluate the project and their role in the teamwork. Create proposals to improve it -Being conscious about what they have learnt	-Assessment sheets

3.13. Reinforcement and extension activities

Reinforcement and extension activities are aimed to adapt to the Special Educational Needs (SEN) of students in the classroom. They are delimited by two main regulations in Spain (*Ley Orgánica 8/2013, de 9 de diciembre, para la mejora de la calidad educativa* and *Decreto 147/2002, de 14 de mayo, por el que se establece la ordenación de la atención educativa a los alumnos y alumnas con necesidades educativas especiales asociadas a sus capacidades personales*). They adjust the classwork to engage the students to continue motivated and to fill the gaps which are detected from the basic contents and objectives. In this dissertation, they are presented integrated in the lesson plan above.

It is important to highlight that in VET there are individual and not significant curricular adaptations which means that contents by law could not be removed from the curriculum to fit the students' needs. The adaptations are based on reinforcement and extension activities which are done simultaneously to each other. Moreover, other special needs detected in during the course are studied and solved by personalisation, integration and normalisation, which reflect the flexibility in the lesson plan.

Regarding the special skills from the students, different approaches related to the Multiple Intelligences are applied during the activities and in the scaffolding materials.

4. DISCUSSION

Even though this dissertation has a lesson plan proposal as a practical aspect, it is a theoretical work which needs to be applied to the classroom to detect pitfalls and to create a list of improving proposals depending on the context (country, number of students, previous educational level, language skills, etc).

Despite the lack of a real classroom to be applied, I consider that due to the characteristics of CLIL methodology, it could be combined with other innovative methodologies as in the proposal above because of the pioneering character of CLIL. I mean, CLIL is a constructivist methodology which situates the student in the centre of the educational paradigm and it has become a revolutionary technique to improve languages learning. Any other constructivist methodology could help CLIL to create a

propitious educational climate and increase the success in the results which are currently achieved with CLIL.

The main pitfalls of designing and applying that didactic proposal is that it would require a lot of time and effort from all the stakeholders, specially teachers involved because it would require collaboration among all of them and applying new techniques, materials and organization in their classroom and lesson plans. But the results from other schools and countries show that all the changes and difficulties are worthy increasing students' motivation when they understand the interrelationships among disciplines. On the other hand, it is important to consider that "any particular strategy is likely to be highly successful with one group of students and less successful with other group" (Armstrong, 2018, p. 70). So, as any lesson plan it should be flexible and adaptable to the context requiring the real application in the classroom to provide teachers the real results for the lesson plans and the aspects to improve or change on them.

As I said before, the lack of personal experience in the field apart from my Secondary Education master's degree practicum makes a huge difference in the lesson plan proposal because the data employed is not real at all. Any personal experience in the field could have helped me to present more accurate details about the students in the classroom, the possible results and even more, about the possible problems which can appear during the applications of those methodologies.

Regarding that the combination of the three methodologies has not been used before in a study, further research lines could prove the effectiveness of the combination by applying it in different contexts and educational levels. The peculiarities of each educational level can make the approach suitable for one of them but inappropriate for others. Moreover, PhBL is recently been applied to the field of CLIL so the information used in the present study is limited as well.

Regarding MI, I would like to highlight that depending on the topic in the lesson plan the activities for the different intelligences are more difficult or easy to be developed. For example, naturalistic intelligence is difficult to be included in a classroom which is not about science because of the lack of space or time to move the group of students to a nature place. But in the end, the important point is developing activities for all the intelligences during the 2 courses which consist on the VET title.

Finally, “although both CLIL and PhBL require certain prerequisite conditions to put them into action, each allows a wide degree of freedom according to context and purpose. Both are relatively resource-light, but demanding in relation to organizational practices. To implement CLIL and PhBL a school needs to provide systemic support and recognition, and assessment procedures need adjustment” (Marsh, 2019, p. 57). The same happens to MI theory.

To sum up, the application of the three innovative methodologies (CLIL, MI and PhBL) should be done gradually in a classroom or in a school because their development suppose many changes in the way the decisions are made and the job is organised. Moreover, training programmes for teachers to be enough prepared to apply those methodologies are necessary, needing government support as for the other key issues. Thus, being realistic, the ideal point of applying the three of them could take the school 5-6 academic courses at least.

5. CONCLUSIONS

Educational system is changing worldwide due to the new studies which prove how effective learning takes place and it is changing the “bulimic learning” focussed on studying for the exam and forgetting it a few hours or days later. Moreover, the change is also motivated because “the new world of work is demanding ever higher levels of expert thinking and complex communicating. [...] The 21st century global economy is also requiring higher levels of imagination, creativity, and innovation to continually invent new and better services and products for the global marketplace” (Trilling & Fadel, 2009, p. 49). Many authors are contributing with theories and approaches to improve the current educational system but there is not consensus yet about which theory is the best to apply. It is considered that education systems need to be “more flexible and responsive to [...] maximize human resources, equip people with updated skills, and prepare youth for the world of work” (Wang, 2012, p. 11).

CLIL approach is gaining support every time new studies reflect the benefits, not only in language skills improvement but also in content skills development. Other constructivist theories such as PhBL and MI are complementary to CLIL, focusing on current and future students’ necessities. “The abilities to access information,

communicate across languages, and utilise and create new technologies are critical to productivity” (Wang, 2012, p. 17).

Pilot studies followed by bigger studies are aimed to demonstrate the success of applying the methodologies in different communities and contexts. Once the efficacy is proved, to apply the methodologies in the whole country, it is essential that teachers know the methodology in depth and they must possess the materials needed to apply such methodology in the classroom. Moreover, regarding the 21st century skills, Widan Wang (Wang, 2012), explains that teachers are expected to be preparing the capable generation for the future by changing their professionalism. They are expected to (Wang, 2012, p. 39):

- promote deep cognitive learning;
- learn to teach in ways that they themselves were not taught;
- commit to continuous professional learning;
- work and learn in collegial teams;
- treat parents as partners in learning;
- develop and draw on collective intelligence;
- build a capacity for change and risk;
- and foster trust in processes

To teach them about the methodology, in service and pre-service teacher’s courses should be offered to those members of the teaching team involved in the change (INTEF in Spain could be the organisation to do so). Regarding the teachers, it is true that preparing the lessons and the materials required for that methodology is really time-consuming. So compensatory proposals could be implemented such as flexible schedules to help them sharing, discussing and organising the lesson plans, or free exchange programmes for teachers as an interesting point to push them to improve their language and culture skills by the immersion in the context.

Moreover, informative conferences for parents, students and all the stakeholders affected by the change should be organised as well because any change in the educational paradigm is usually criticised due to the neophobic climate which appears when there is a lack of information. As it is said above, parents can be seen as partners because their collaboration is crucial for the programs' success.

Furthermore, governmental policies to adapt the curriculum constitute the base to develop integrated and intercultural curriculum designs and they are basic to provide the teachers with the materials needed to implement the changes in the classroom. The European Union is currently investing in VET and the provide funds to those innovative methodologies which are aimed to reduce the unemployment in the country and facilitate the free movement of workers inside Europe.

In conclusion, the society needs are changing so the educational system is forced to do so. Graduates are expected to be qualified for a job but at the same time they need to be able to adapt to the fast changes happening in the world to success in their careers. Constructivist methodologies as the ones applied in the proposal can prepare the students for the challenges they would find after finishing their studies.

...”In a rapidly changing world where a country’s development and competitiveness is dependent on a skilled workforce, education plays a critical role. The three pillars of flexibility, skills, and employability are important for maximizing human resources for development. To be effective, education systems must shift from traditional rigid, regulation-oriented organizations to more open, flexible, learner-centred systems that deliver skills and capacity development opportunities to individuals at all stages of their lives, equipping them with skills for the world of today and tomorrow. These systems must also effectively prepare learners to make the transition from school to work” (Wang, 2012, p. 47).

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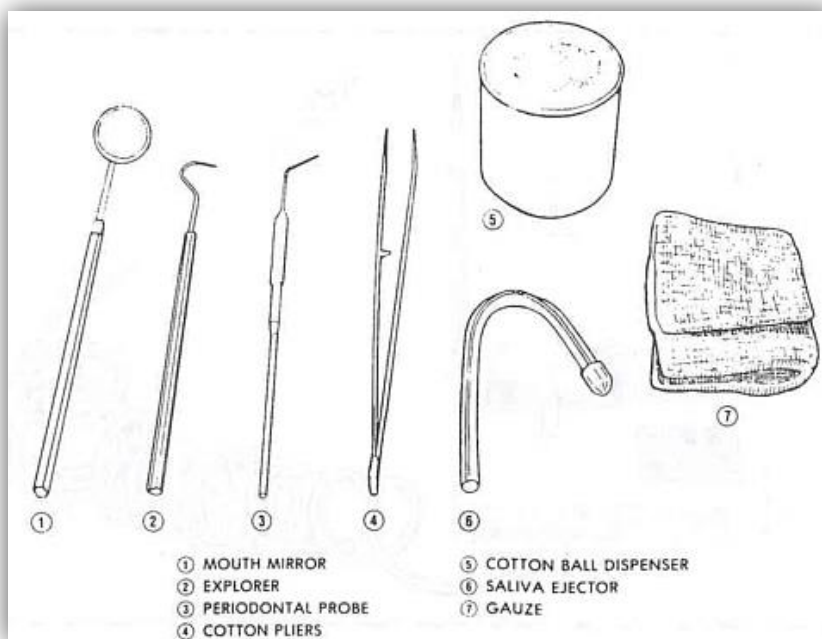
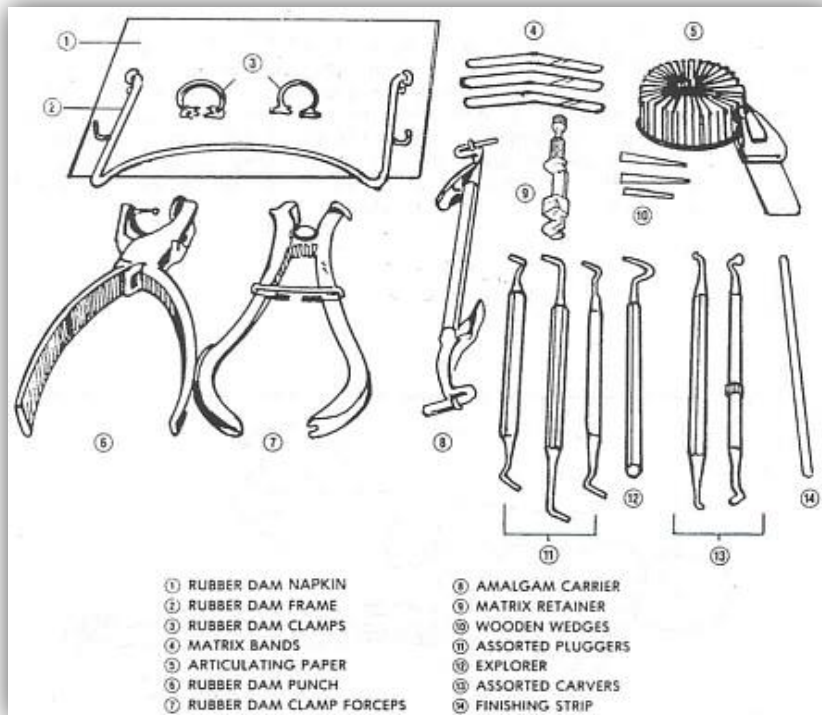
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APPENDICES

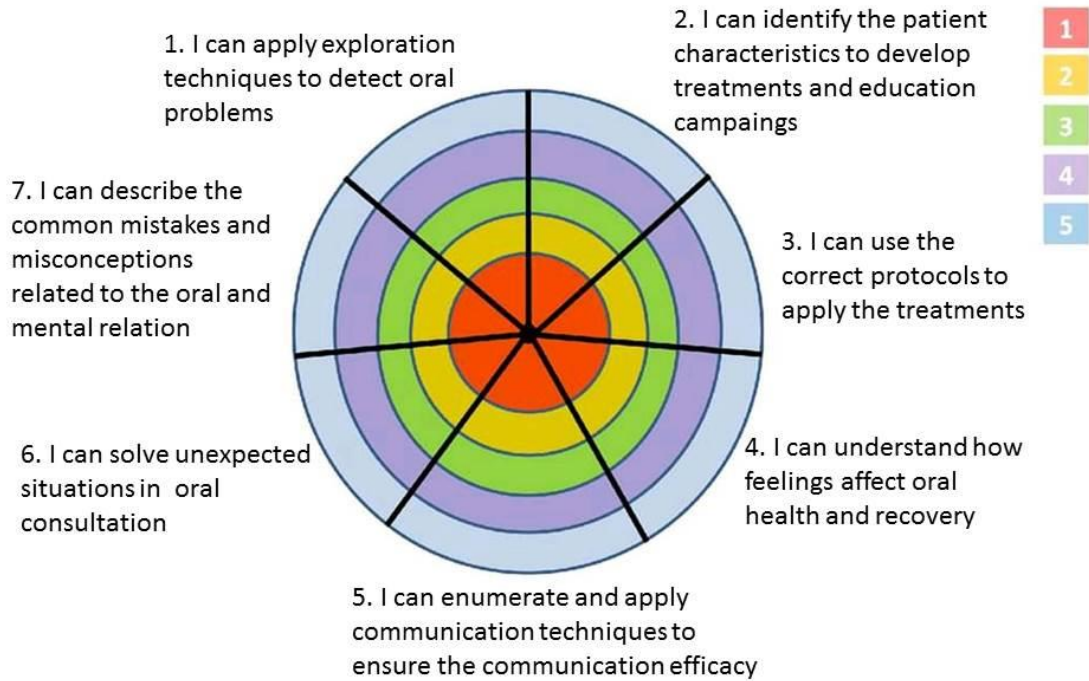
APPENDIX 1. EXAMPLE OF “PICTURE SMART” SCAFFOLDING SHEETS



(Source: www.waybuilder.net)

APPENDIX 2. SELF-EVALUATION SHEET (TARGET EVALUATION)

On a scale of 1 to 5 - where 1 is "I know perfectly" and 5 is "I am not sure" - please rate the following assessment criteria of our project "oral consultation"



APPENDIX 3. TEAM WORK EVALUATION RUBRIC

Criteria	4 – Excellent	3 – Good	2 - Satisfactory	1 - Not Satisfactory
Participation	Student consistently performs well as a group member, showing initiative and organising task completion	Student often performs well as a group member, showing initiative and organising task completion	Student performs well as a group member at times, showing initiative and organising task completion	Student acknowledges membership of the group but does little to help achieve group success
Support to other group members	Student always uses his/her previous knowledge and abilities to help other group members	Student often uses his/her previous knowledge and abilities to help other group members	Student sometimes uses his/her previous knowledge and abilities to help other group members	Student does not use his/her previous knowledge and abilities to help other group members
Responsibility	Student is always compromised with his/her mates and his/her part of the teamwork	Student is often compromised with his/her mates and his/her part of the teamwork	Student is sometimes compromised with his/her mates and his/her part of the teamwork	Student is not compromised at all with his/her mates and his/her part of the teamwork
Group conflicts resolution	Student always expresses and gives reasons for his/her point of view and listens to his/her partners to reach a satisfactory consensus for all the members	Student often expresses and gives reasons for his/her point of view and listens to his/her partners to reach a satisfactory consensus for all the members	Student sometimes expresses and gives reasons for his/her point of view and listens to his/her partners to reach a satisfactory consensus for all the members	Student does not express or give reasons for his/her point of view and listens to his/her partners to reach a satisfactory consensus for all the members

APPENDIX 4. ORAL PRESENTATION PEER-EVALUATION RUBRIC

Criteria	5-Excellent	4- Good	3- Satisfactory	2 – Basic	1 - Not Satisfactory
Tone of voice. Good use of tone of voice to maintain audience attention					
Use of language. Wide range of correct and adequate topic vocabulary and structures for the level					
Content organisation. Contents are explained in the correct order to be understood					
ICTs use. Wide variety of ICTs used to make the presentation more enjoyable					
Time organisation. All the point are treated with the time needed depending on their importance					