Effects of CLIL on the students' motivation and learning of English as a foreign language

Treball de Final de Màster Universitari en Formació del Professorat d'Educció Secundària Obligatòria i Batxillerat, Formació Professional i Ensenyaments d'Idiomes (especialitat en llengua anglesa)

Author: Laura Riera Ventura

Tutors: Llorenç Comajoan Colomé & Anna M. Vallbona González

Academic year: 2020-2021

Sant Gregori, May 2021

Abstract

Foreign language learning and proficiency has been widely regarded as being of great importance for students to become competent citizens in a multilingual society. However, several factors might influence this process of language learning, and motivation and exposure are among the most important. CLIL was introduced as a way of increasing exposure and providing students with real contexts to use the language. In this context, this paper aimed to analyse the students' attitudes towards the use of CLIL in their biology lessons, as well as studying how this methodology was carried out and how it affected their perceived learning outcomes. In order to gather evidence, a case study was carried out through interviews and passive observation, which provided qualitative data. The results confirmed that CLIL increased the students' motivation towards the learning of English and that their confidence with the language increased.

Keywords: biology, CLIL, content and language, EFL, language acquisition, motivation, secondary education

Resum

Per tal que els estudiants puguin esdevenir ciutadans competents en una societat multilingüe, es considera que l'aprenentatge i domini d'una llengua estrangera són de vital importància. De totes maneres, hi ha diferents factors que poden influir en aquest aprenentatge, i la motivació i exposició són uns dels més importants. La metodologia AICLE va ser introduïda com a mètode per augmentar aquesta exposició i per oferir als alumnes contextos reals per utilitzar l'idioma. En aquesta línia, l'objectiu d'aquest article ha estat analitzar les actituds de l'alumnat pel que fa a l'ús d'AICLE durant les classes de biologia, així com estudiar com aquesta metodologia es du a terme i com afecta els seus resultats d'aprenentatge. Per recollir evidències, s'ha dut a terme un estudi de cas a través d'entrevistes i una observació passiva, que han proporcionat dades qualitatives. Els resultats han confirmat que l'ús d'AICLE augmenta la motivació de l'alumnat pel que fa a l'aprenentatge de l'anglès, i que la seva confiança amb l'ús de l'idioma ha incrementat.

Paraules clau: adquisició del llenguatge, AICLE biologia, EFL, llengua i contingut, motivació, educació secundària

1. INTRODUCTION

Motivation is a determinant factor when it comes to successful language learning. However, as an umbrella term that covers a variety of meanings and variables, it does not have the same impact on everybody, and it is unlikely that all learners are equally motivated to learn everything and all subject matters (Dörnyei, 2008). For this reason, unmotivated students that do not get involved in their process of learning have a hard time developing proper FL skills, as motivation is a key factor in the successful process of language learning (Anjomshoa and Sadighi, 2015).

Given its importance in the language learning process, motivation has been an object of deep analysis and research. Many theoretical approaches have tried to detect what factors influence FL learners when it comes to motivation. Gardner and Lambert (1972) introduced the concepts of integrativeness and instrumentality in their Theory of Motivation. Later, in 1985, Gardner arrived with the Integrative Motive, a broader concept, and in the same year, Ryan and Deci presented the difference between intrinsic and extrinsic motivation in their Self-Determination Theory.

Content and Language Integrated Learning (from now on CLIL) is a methodology that integrates both content and language, and as its name implies, learners are provided with a real opportunity to use the language for real communicative purposes, which may be considered an optimal way of enhancing their motivation. In relation to this, Marsh (2000, p. 6) presents a very interesting dichotomy:

> Consider learning football without the opportunity to kick a ball yourself. To learn how to master a musical instrument, or a football, requires that we gain both knowledge and skill simultaneously. In other words, we learn effectively by experiencing both learning about the instrument, and having hands-on practice at using the instrument, at the same time. That is as true of music and football as of language.

CLIL has been implemented in European mainstream education since the 1990s, and there has been plenty of research since then. However, this research itself has issued some concerns regarding its effectiveness in different aspects. Some studies (discussed in the theoretical framework) analyse its success factors and learning outcomes, which suppose an important guideline to teachers and centres implementing this methodology.

Given the importance of motivation in the language learning process, teachers need to find a way to implement all the theoretical knowledge in their classrooms. Mendoza and Cantero (2003) defend that teaching a language is not only about teaching its linguistic and literary contents and that students' cognitive processes and motivation are equally or even more important. In language learning, one of the main objectives is to train speakers to use the language, and by using CLIL methodology the learning process will be focused on the communication aspects in a variety of fields, as CLIL can be implemented thorough different subjects at school.

This study focuses on the use of CLIL in a 3rd year secondary education biology class (from now on, 3rd of ESO students). By introducing this methodology, students are able to experience and perceive the versatility of the English language, as it can be used in many different subjects, in this case, in Biology classes. This change in their perception of the use of the language may improve how they feel about both English and Biology. The study main objectives were the following:

- First of all, it examined what kind of motivation students had towards the learning of English as a foreign language.
- Secondly, it analysed which strategies regarding CLIL methodology were applied in a 3rd year secondary education biology class.
- Finally, it examined whether and how the application of CLIL methodology in a 3rd of ESO biology class had an impact on the students' motivation and learning of both English and biology.

2. THEORETICAL FRAMEWORK

2.1. Contextualising the CLIL approach

In recent years, European countries have felt an increasing need for preparing school-leavers with sufficient language proficiency in order to keep up with the internationalisation that our countries are experiencing. Because of this, the importance of learning one or as many other foreign languages as possible has been stressed.

For this reason, the European Commission (2004) developed an action plan called *Promoting language learning and linguistic diversity[1]*, with three main objectives:

- Ensuring that EU citizens can speak two languages as well as their mother tongue.
- Ameliorating the quality of language teaching.
- Building a more language-friendly environment in Europe.

This plan suggests a number of practices and methodologies, in which exposure to the language and interaction based on real situations is fundamental. Here is where the Content and Language Integrated Learning (CLIL) approach comes into action. Marsh (2009) defines it as an educational approach where some content learning (such as a topic on global climate, for example, or an entire subject) is taught in an additional language.

This dual-focused approach is of key importance for the success of CLIL: content and language should be given the same importance and, in order to ensure that educational goals are not compromised, the '4Cs framework' should always be present. Coyle (1999, p. 53) suggests that "learning takes place through a 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" (see Figure 1 below). In addition, a CLIL lesson should also take into account the importance of Bloom's Taxonomy (Bloom, Engelhart, Furst, Hill & Krathwohl, 1956), a framework that categorises educational goals into six major categories (knowledge, comprehension, application, analysis, synthesis, and evaluation), which should be put into practice.

---

[1] The action plan can be found in the following link: https://op.europa.eu/en/publication-detail/-/publication/b3225824-b016-42fa-83f6-43d9fd2ac96d
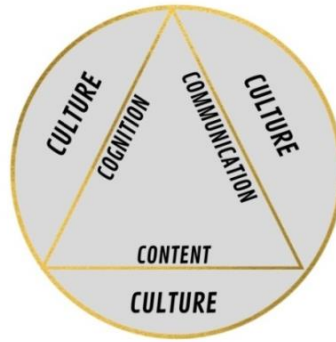
Figure 1. A representation of Coyle's 4Cs framework

Even though the concept of CLIL came forth in the 1990s (Pérez-Cañado, 2012), it still raises some concerns on whether it is an effective method. CLIL has become an established teaching approach and it has rooted itself in mainstream education, but there are warnings that the research following this rapid expanse shows some methodological weaknesses (Lasagabaster, 2019). Nonetheless, predecessors of CLIL education show that L2 instruction integrated with content matter is more effective than L2 instruction on its own, as using a foreign language through a real context maximises the potential learning (Pérez-Vidal et al. 2018). Below you will find a summary of the most important success factors as stated by authors such as de Graaff et al. (2007), Ioannou-Georgiou (2012), or Juan-Garau & Pérez Vidal (2010).

It is important to have a systematic policy that coordinates the implementation of CLIL. This will provide support, teacher training, and materials, a tool of key importance that needs to be adapted to the needs of students and the context at the moment. The quality of teacher education is another very important aspect: teachers should be proficient in both the L1 and the L2, but also need to excel in language teaching and in their own subject. As for the languages, CLIL promotes bilingualism, so both the L1 and the L2 should be included in the learning process, with an increase in the use of the L2 over time. Even though CLIL has been described as a dual-focused approach, there needs to be a clarification on whether what is being implemented is hard, soft or mid CLIL (see Figure 2 below). Hard (or strong) CLIL happens when the teaching and learning act is focused primarily on the subject content, therefore, it is known as content-driven CLIL. The literature also talks about soft (or weak) CLIL when the teaching and learning are focused mainly on the language; in this case, it is known as language-driven CLIL, and the content is taught with linguistic objectives. And finally, mild (or comfortable) CLIL is an approach where learning and teaching have dual-focused aims, and it becomes a combination of both language and content (Ball, 2016).
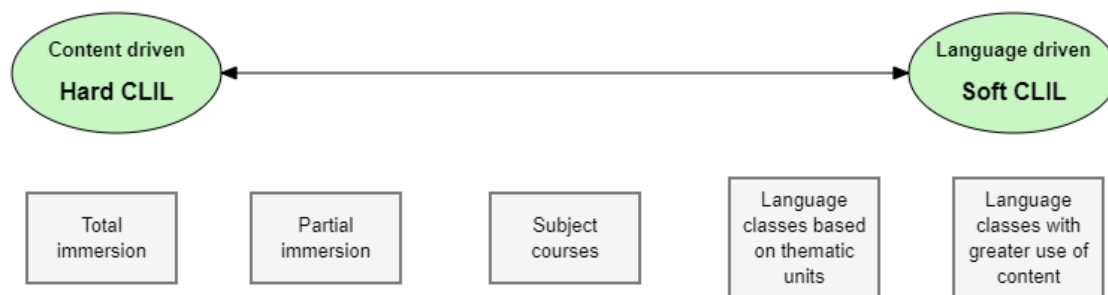
Figure 2. A representation of Hard and Soft CLIL

Coordination between all agents involved is basic, and CLIL needs everyone's support in order to succeed. That means that children, parents and the entire school need to be committed to the project, and support it to ensure its positive completion. There also needs to be possibilities of continuation of CLIL, as learners need a minimum exposure to the foreign language in order to obtain benefits from the program.

In addition to this, Meyer (2010) suggests a number of planning and teaching strategies to achieve a quality CLIL approach: classroom materials should be meaningful and challenging in order to provide learners with a rich input. The use of scaffolding, that is, supporting the students to work just beyond the level they can achieve on their own, is stressed to make sure that learners successfully assimilate all this new input, and interaction using the target language strongly facilitates language acquisition, so that should be implemented too. Adding an intercultural dimension favours language acquisition, as students that learn about and cooperate with other countries are more open towards the learning of a FL. Teachers need to make sure that they are exploiting the learners' thinking skills: questions and tasks need to encourage critical thinking, and students must express their thoughts and findings appropriately. Finally, knowledge needs to become deeply rooted in the students' long-term memory. Active knowledge is important so that they become competent learners and know how to implement their previous knowledge.

There has been a growing number of research studies that have examined the learning outcomes of CLIL. It can be stated that CLIL programmes are more successful in developing foreign language competence, most likely because it is always used in addition to traditional foreign language lessons, so there is increased exposure to the L2. A study carried out in Catalan schools by Lorenzo & Piquer (2013) showed that CLIL students developed cross-curricular skills and enhanced their communicative competence in English, even though there was still room for improvement. In addition, Dalton-Puffer (2008) and Ruiz de Zarobe (2011)

claimed that research shows clear effects of CLIL on FL acquisition: positive results can be seen on global communicative competence, receptive skills, speaking and writing fluency, morphology, vocabulary, creativity, and motivation. CLIL instruction has also made FL learning more accessible for all types of learners. In spite of this, its insufficient focus on form has left factors such as pronunciation, accuracy, and focus on nontechnical and informal language unaffected. A study carried out by Pérez-Vidal (2007, p. 50), showed that CLIL lessons "show significant concern for meaning, but not for form" and that "there seems to be a need for introducing FoF approaches to complement current practices in CLIL teaching". Finally, when it comes to content, this research shows that CLIL and non-CLIL learners show the same amount of content knowledge.

In conclusion, even though this methodology is still considered an innovative technique, it has a lot of potential and a solid theoretical framework that supports it.

2.2. Motivation in second-language learning

Motivation, which comes from the word "motive", means to have a reason to do something, to achieve a goal, for example. Motivated students do well in the EFL classroom, as there is a strong positive relationship between the ideal self (the person one would ideally be) and the effort and consequent results (Dörnyei and Chan, 2013), which leaves language skills on a second level when it comes to achieving language proficiency. Of course, those skills are important too, but a student who is motivated enough to learn a foreign language will manage to acquire minimal functional knowledge no matter their linguistic talent (Dörnyei, 2008). For this reason, EFL teachers should try to convey these motives to their students.

In the 1960s Canada implemented an immersion program where children from English-speaking families could learn school subjects in French together with the French-speaking children, something that would give them equal opportunities (Hanesová, 2015). When talking about motivation, a fundamental pillar of this Canadian approach was that the learners' attitude towards the L2 and its speakers can influence the learning of said L2, either in a positive or a negative way. Gardner and Lambert's (1972) Theory of Motivation proposes a distinction regarding the objectives when learning an L2. Integrative Orientation refers to the positive predisposition towards an L2, its community, and its culture, with even a will to be part of it; in this case, a student would want to learn a language so that he can communicate with confidence with a speaking community. In contrast, Instrumental Orientation refers to the pragmatic or functional reasons of an individual to learn an L2. In

education, instrumental motivation would be the learner's interest in learning a language for getting good qualifications and enhancing career prospects.

However, Gardner (1985) went beyond this duality and developed his Integrative Motive, a broader concept that integrates three different components: integration, attitudes towards the learning situation, and motivation. Figure 3 shows a representation of the Integrative Motive.
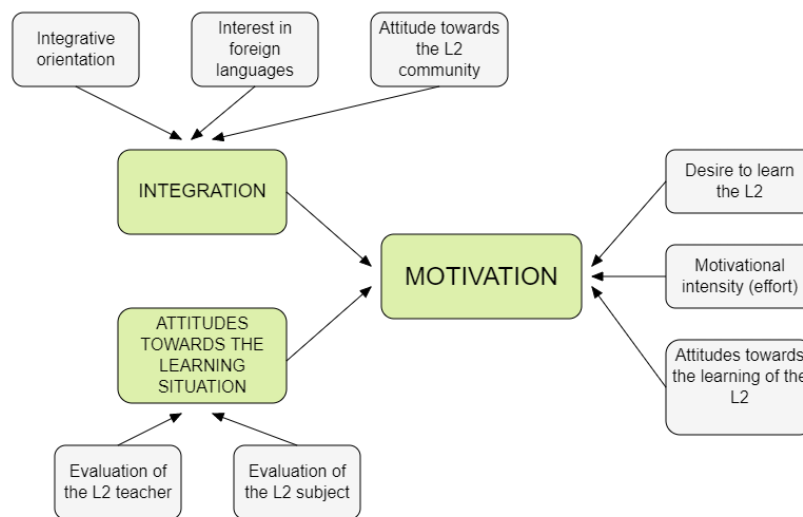

Figure 3. A representation of Gardner's Integrative Motive

Motivation, however, is usually described as an umbrella term that conveys many different meanings, which is why, over the years, there have been many different theories. Ryan and Deci (2000) claimed that motivation is not a unitary phenomenon, as people have different levels and different orientations of motivation. In their Self-Determination Theory or SDT, Ryan & Deci (1985) distinguished between *intrinsic* and *extrinsic* motivation.

Intrinsic motivation is defined as the doing of an activity for its internal and inherent rewards. In other words, the individual will engage in an activity because it is naturally satisfying to them. Human beings are inquisitive and curious creatures, so they have a natural predisposition to learn and explore. In spite of this, some authors have established a difference between intrinsic motivation in terms of the task being interesting in itself, and intrinsic motivation in terms of activities that provide the satisfaction of innate psychological needs. Respectively, these differences are supported by the Theory of Operant Conditioning (Skinner, 1953) and the Theory of Learning (Hull, 1943).

When it comes to extrinsic motivation, which happens when an activity is done for its instrumental value, there can be a great variation in the degree to which it is autonomous. For

example, a student could be studying for an exam to avoid a punishment, or he could be doing it because he thinks that it will be useful for his future career. In both cases, he will be studying because this action holds an instrumental value, but the motivation is still extrinsic. What changes is the autonomy of the decision (external control vs. feeling of choice).
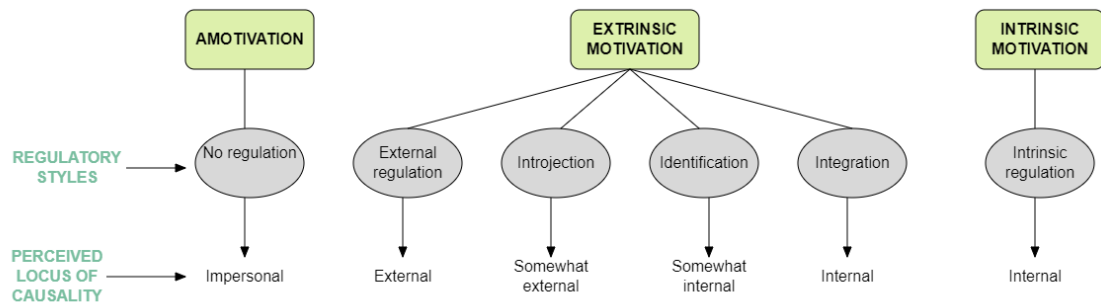

Figure 4. A representation of Ryan and Deci's Organismic Integration Theory

As a sub theory to their SDT, Ryan and Deci developed the Organismic Integration Theory (1985) (see Figure 4 above) to explain how extrinsic motivation falls into many different levels of internalisation and autonomy, getting to a point where it almost morphs into intrinsic motivation. In Figure 3, motivation is arranged from left to right in relation to the degree to which the motivation for one's conduct arises from one's self.

Of course, besides keeping in mind all existing theories regarding motivation, other things can influence a learner's attitude towards an L2. Foreign language anxiety (Horwitz, 2001), is closely related to the learners' negative emotional reactions towards the learning of a foreign language.

In sum, it is also important to keep in mind that students have different ways of learning, whether they are related to their learning style (for instance, preferring an auditory, visual, or kinaesthetic way of learning) or to their personal learning strategies. The teacher should take into account learners' characteristics in order to create a motivating learning environment that supports their acquisition of the L2.

2.3. CLIL as a motivation tool

According to Ryan and Deci (2000, p. 60), in the school context, "intrinsic motivation becomes weaker with each advancing grade", so teachers need to look for and use new methodologies and techniques to try to reverse that. CLIL is an educational approach in which the FL is used as a tool in the learning of a non-language subject. It is known that this

approach poses a challenge to students to take a high-quality learning approach (as it will involve collaboration, critical thinking, and problem-solving), and provides them with real contexts in which to use the FL, something that, according to Coyle (2008), might increase their motivation as it shows a real need to learn the language.

A study by Juan-Garau & Pérez Vidal (2010) reports on what appears to motivate students to learn foreign languages. When looking at the factors that make CLIL successful, it can be seen that most coincide with the ones related to students' motivation: integrating languages in academic programmes, linking languages to real-life situations and needs, providing new learning environments, establishing contacts beyond the curriculum and cultural contacts, receiving institutional support, and focusing too on the teachers' motivation and skills.

It is important to pay extra attention to the fact that, as stated by many authors, CLIL provides extra motivation in both learners and teachers. Darn (2006), puts it the following way:

> Natural use of language can boost a learner's motivation towards learning languages. In CLIL, language is a means not an end, and when learners are interested in a topic they will be motivated to acquire language to communicate. Language is learnt more successfully when the learner has the opportunity to gain subject knowledge at the same time.[2]

This natural use sometimes even moves language to the background of the students' minds, so learners that are more reticent or feel a bit anxious when facing a foreign language will be learning and using it as a tool, and not seeing it as the final objective. By using the FL as a tool necessary to acquire new content on the subject, the language becomes less foreign and closer to the user.

In the Spanish context, Lasagabaster has conducted a series of studies to research the relationship between English learning and motivation in CLIL and EFL students. Research from Lasagabaster and Sierra (2009) showed that CLIL programmes had a positive influence on attitudes towards language learning and that, compared to EFL students, CLIL groups had more positive attitudes towards English. The participants of this study were 287 secondary education students from four different schools in the Basque Country, thus, students that used at least three languages (Basque, Spanish and English) in the curriculum. A second paper from Lasagabaster (2011) showed that, even though both EFL and CLIL students were highly

---

[2] Source: http://stevedarn.com/clil-a-european-overview/

motivated, those in CLIL programmes appeared to be more eager. It was concluded that there was a strong association between the CLIL approach and motivation.

Finally, another more recent study carried out in seven Sevillian public schools (both at primary and secondary education) by Navarro and García (2018) showed that CLIL learners outperformed non-CLIL learners, especially regarding their productive skills, as the CLIL approach is oral-based and very communicative. These differences increased in students at secondary level. It was concluded that motivation is "an unequivocally important factor for the learning of a second language, and it plays a more important role in CLIL than in non-CLIL settings" (Navarro & García, 2018, p. 87).

It seems to be clear that CLIL has an active role in increasing students' motivation towards the learning of an FL, but more research needs to be carried out. Many variables may influence this motivation, such as age, the learner's self-related beliefs, anxiety, etc., so further research is needed to understand which and how different motivational factors affect student's language attainment in CLIL environments.

2.4. Research questions and hypotheses

Having considered the purpose of the study and the theoretical framework supporting it, the research questions posed for this study were the following:

1) Do students receive the application of CLIL methodology in a positive way?
2) Does the application of CLIL affect in any way the students' perception of the acquisition of the FL (English) and the content (biology)?

The study hypothesised that students receive positively the implementation of CLIL and that there was a positive correlation between this methodology and their motivation, whether it is intrinsic or extrinsic. As for the potential consequences CLIL has on the student's perception of learning, marks from this current academic year were expected to have slightly improved compared to those of the previous scholar year, especially in the FL. As for the content subject, results were predicted to be similar.

3. METHODOLOGY

3.1. General methodology and participants

The nature of the present study is qualitative as it aims to understand the reasons why CLIL plays an important role in the learning of a foreign language, the effect it has on the students' motivation, and how it affects their perceptions of learning, both regarding the new language and the content subject. It collects and analyses non-numerical data to understand the students' opinions and experiences. The research was based on a round of interviews with the students and several classroom observations, even though the marks of the students were also compared to those of the previous year.

This research is a case study, as it is focused on one example of a specific high school, in this case, a small group of students from a 3rd of ESO group (2020-2021 school year). Based on the theory previously presented, observation of some Biology lessons was carried out to see the way in which CLIL methodology was applied in the class as well as an analysis about how students reacted to it and how it affected their motivation when it comes to learning English. Since it is a case study based on a small number of students, the results are not intended to be extrapolated, even though they might be comparable in an analogous context.

The public high school where the case study took place is a small centre founded in the 2014-2015 school year, and it is characterized for applying innovative methodologies. It is embedded within an upper-middle-class village, Sant Gregori, located only 5km from Girona (Catalonia). The centre provides its services to about 250 students of a similar economic profile, and it only offers compulsory secondary education (1st to 4th of ESO). The number of newcomers in this high school is very reduced, so there is not a great cultural diversity, and you can mostly only hear Catalan in the classrooms and playground.

The centre believes in the importance of mastering more than one language so that students will be skilled in the communicative competence. English is mandatory, and students also have the opportunity of learning a second foreign language (French or German). In order to achieve this target, the centre has a project called Living the Language (Institut Vall de Llémena, 2021), which includes the application of CLIL, interdisciplinary projects, and international exchanges, intending to show students the importance of using the FL outside the language classroom.

The group analysed was formed by 14 mixed-ability students. They were all boys and girls coursing 3rd of ESO (14-15 years old). All students were included in the observation, but only seven were interviewed. To avoid a bias by asking for volunteers, as the teacher suggested only the most diligent and interested in the subject would volunteer, she proposed a number of students with different backgrounds, interests and capacities. As a group, however, they had a good language aptitude and had no problem keeping up with the rhythm of the lesson, and the group cohesion was outstanding.

In order to preserve the anonymity of the students, numbers were used to identify them. They all studied Biology two hours per week, and English at least three hours a week, even though some of them attended extra English lessons outside school. Other public schools in the province had a similar learning environment, so the language and context exposure was similar in other learning contexts.

3.2. Data collection tools

In order to gather evidence from the participants, two instruments of research were designed: an interview, carried out with seven different students, and an observation grid, for the classroom observation. This observation was performed with the whole group (14 students), and not only the ones interviewed. Finally, there also was a comparison between this year and last year's final marks regarding English and Biology (again, from the whole group).

Observation grid (see Appendix 1): an observation grid was designed to determine mainly the second variable of the study: the application of CLIL strategies in the classroom. It was divided into two parts, one regarding the application of CLIL by the teacher, and a second one analysing the motivation of the students in the classroom. As for the first part, the data items observed were developed following the guidelines of de Graaff et al. (2007). First of all, there was a focus on how the teacher facilitated exposure to input at a challenging level, how she promoted form-focused processing and output production, and how she exhibited active teaching behaviour. The use of language (both English and Catalan) was also analysed, as well as the focus on content, using both the 4C's framework and Bloom's taxonomy. Now moving onto the second part, regarding the students' motivation, the data items to be monitored were developed following a study carried out by Chang (2014). In this case, motivation was analysed from a group point of view, as the interview was already designed to examine each particular case. Group cohesion, the general environment, competitiveness and participation were evaluated. Although the teacher was aware of this observation, students

were not informed that they were being analysed, as the aim was to influence as little as possible their behaviour.

Interview (see Appendix 2): the questions prepared for the interview aimed to determine the other two variables: the students' motivation type, and the effect that the application of CLIL had on this motivation and their learning outcomes. In order to analyse the results of this interview, an analysis grid was prepared. Before being implemented, the interview was piloted with three students from a different group in the same grade. This was done so as to guarantee that questions were clear and understandable by all students.

The questions prepared for this interview were divided into four sub-groups. One of the first objectives was to determine whether the students' motivation to study English was of an intrinsic or extrinsic nature. Then, moving onto the use of CLIL, two things were analysed: their personal perception of its implementation in the classroom (whether it was positive or negative), and the relation students felt it had to their attention, participation and influence on their knowledge of the language and the content. Finally, they were asked to give their opinion and suggest any changes they would implement. For all questions, students were encouraged to speak freely in order to obtain as much information as possible, but some backup questions had also been prepared in case they were needed. All interviews were carried out in Catalan, as it was the language all students felt more comfortable with.

Comparison of marks: finally, the students' English and Biology marks from the year were compared to those from the previous year, with the objective of seeing if there had been any major changes. However, with the current marking system, it was difficult to detect minor variations. Qualifications in Catalonia are now based on the competency assessment, so instead of a numeric mark (from 0 to 10, where 5 is the passing mark), there are four possible qualifications: non-achievement, satisfactory achievement, remarkable achievement, and excellent achievement.

3.3. Data collection

The data collection process had to be carried out during February, as, unexpectedly for me, a new trainee teacher was starting in March and she had agreed with the school to carry out a non-CLIL didactic intervention with this group of students. Therefore the observation period was shorter.

In addition, the observation was intended for six different sessions, but the school had planned two last-minute field trips so only four lessons were observed. The main objective was to observe the class as an outsider so it was a non-participative observation. Having previously prepared an observation grid was of great help, as it helped neatly classify all the information. This grid was prepared in order to identify what strategies regarding CLIL were applied in the classroom, and how students reacted to them, as well as their disposition towards this methodology.

Secondly, the interviews were prepared to understand the students' perceptions of the application of CLIL, and whether they thought it had a positive or a negative effect on them. The teacher suggested not asking for volunteers, as she believed the profile of students would not be very varied, and instead suggested a number of students with different academic profiles. Students were interviewed in person or through Zoom, and all interviews were recorded so that they were carried out like normal conversations. Students were able to speak freely for as long as they needed to, and their answers were later transcribed and transferred to an analysis grid. Participants were always informed about the purpose of the interview, and they were assured that answers, as well as the recordings, would only be used for research purposes.

Finally, for the comparison of marks, the grades from the second term were used, as well as those from the previous year (2019-20). Ideally, the final grades from this scholar year (2020-21) would have been used, but the timing did not allow waiting until June for this. In any case, focus was only given to the subjects of English and Biology, as the objective of comparing marks was to analyse whether the students' knowledge regarding language (English) and content (Biology) had improved, deteriorated, or remained the same.

The school was informed of the nature of this study, and the coordination of the centre decided that students did not need to sign any permission for this research. At the start of the school year, all students had signed the general rights of personal information for academic purposes for the school, so no extra paperwork was needed for this study.

3.4. Data analysis

In order to analyse the data, the main procedure for both the interview and the observation was to identify a tendency for each of the individuals and then see if there were any group trends.

The observation grid was designed to determine which strategies regarding CLIL were used in the classroom, according to those presented by de Graaff et al. (2007). Both the content and the language use were analysed, as well as strategies like the ones mentioned in the theoretical framework. Using this grid, the most and least frequently used techniques were identified, and there was also an analysis as to how students reacted to these strategies. The main objective here was to find out which of these techniques were used and whether they helped or not to reach the objective of the lesson: help students reach the expected competences related to Biology while having an opportunity to practice their use of English.

The comparison of results was divided between English and Biology, and a percentage of students that had improved, deteriorated, or had not changed their marks, was used to illustrate each of the subjects. As mentioned before, with the new grading system it was complicated to see minor changes, but a representation of the classroom's evolution was still portrayed. These marks were also used for the results of the interview, as the seven interviewees were divided into two groups: high performance and average performance. The studied group, as claimed by their teachers, was very good academically, so there was not enough representation to create a low-performance group.

Finally, for the interviews, after making this division between high and average performance, the procedure was to identify the principal attitudes of each group, regarding their motivation type and the perception of the use of CLIL in the classroom, as well as how they felt it impacted their results and motivation. In order to do so, interview answers were classified in an analysis grid, which helped with the recognition of these trends.

When presenting the results, the method was to introduce the general perception along with evidence taken from the observation and interviews.

4. RESULTS

The results of the interviews and the classroom observation are presented in this section. The comparison of the students' marks will be shown below in Figures 7 and 8.

For the interview, students were divided into two groups, depending on their performance (high or average). **In the high-performance group,** all students showed an extrinsic type of motivation regarding the learning of English, claiming it was necessary to travel and have a well-paying job: *It's an important language in the working world and also to travel*. Again, 100% of the students showed a positive attitude towards the use of CLIL in the Biology class, something which can be seen in their answers: interviewee number 4 said, *I like doing Biology in English, the content is new anyway, so the language does not really matter. We have more opportunities this way*. Regarding their degree of attention in class, 75% (3) of students indicated it had increased, as *doing it in English makes us pay more attention to follow what the teacher is saying*. On the contrary, there was not a consensus concerning the degree of participation: half of the students said that using CLIL was not challenging, but the other half claimed that they participated much more because *we have more doubts so we need to ask questions often*. Concerning these doubts and difficulties, 50% (2) of the interviewees explained that they were caused by the use of a foreign language, while 25% thought that the source was the content, even if it had been taught in their L1; student number 2 said: *I think I find it difficult because everything is new, but it would be the same in Catalan*. All students considered their English had improved, and all of them mentioned vocabulary (see Figure 5 below) as what they had worked on the most: *We're using a lot of new vocabulary, and we can learn it in two languages at the same time*. On the subject of Biology, 75% of the participants felt that the use of CLIL did not influence their learning of the content. When asked about suggestions for the classroom, 50% of the students wanted more practical lessons, *I would like the teacher to let us use the whiteboard more*. Finally, again half of the students claimed they would like to use CLIL in other subjects, but the rest felt satisfied with the current distribution of their lessons.
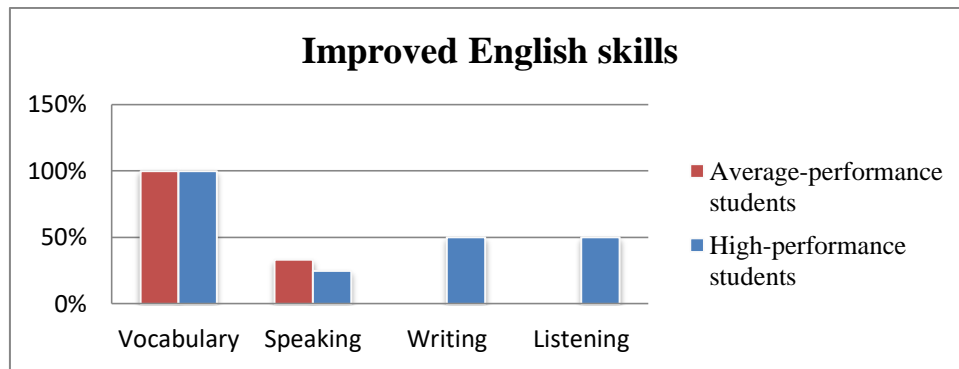
Figure 5. Improvements in the students' English skills.

In the **average-performance group**, however, 66% (2) of students showed an intrinsic type of motivation, as they claimed to *enjoy learning English*. In this case, however, not all participants were satisfied with the use of CLIL, as one of them explained they preferred doing Biology in their L1 as *I prefer it because I understand it better*. Regarding the degree of attention in class, 66% of students explained that it had stayed the same and that it was something that depended on each student. As for the participation, most interviewees claimed to be less participative because of their fear of speaking English in public, *my English is not very good, so I'm a bit shy*. Regarding the difficulties, most students explained that they were caused by the content per se. As with the previous group, all students considered they had a better level of English, and especially a better range of vocabulary (see Figure 5). Regarding the subject of Biology, again most students felt that the use of CLIL did not affect in any way their learning: *We end up learning the same, just in another language*. All participants coincided that the number of subjects in which CLIL was used was satisfactory; interviewee number 7 said, *We have a good balance now, too many subjects in English would be too difficult maybe*.

The results from the <u>classroom observation</u> showed which techniques were most and least used, and these were classified on a scale from 5 to 1 (see Figure 6). The teacher facilitated *exposure to input* at a minimally challenging level by selecting and adapting texts in advance so that the language level of the text and the content were just beyond those expected by the students. Those texts were used to present the new content to the students. She also stimulated *meaning-focussed processing* in all lessons by making sure that students properly understood new concepts; on many occasions, she used sentences such as *Do you understand that?* or *Which of the two descriptions do you think fits best?*, which are at the same time examples of *scaffolding*.
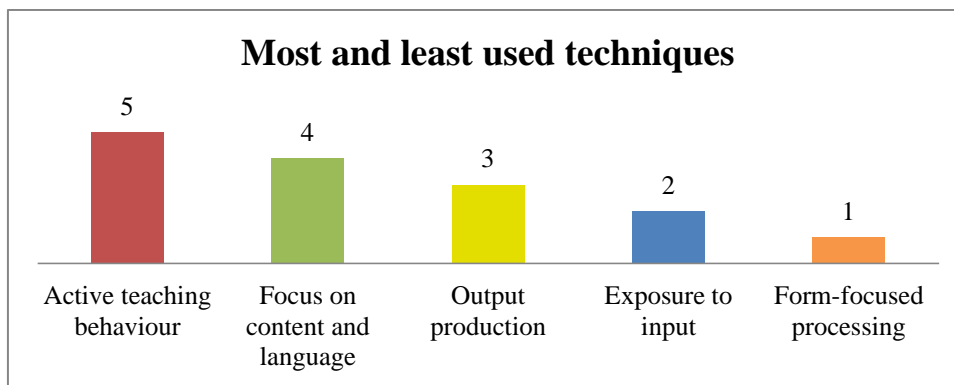
Most and least used techniques

Figure 6. Most and least used CLIL techniques in the classroom

Contrastingly, the teacher did not facilitate *form-focused processing*. English was used as a means of communication, but mistakes when using the language were not corrected, except for those related to vocabulary. In that case, the teacher used *recasts* to correct the mistake implicitly, as seen in the following example: *What types of vessels were there? / Arteries, *vens, and capillaries. / That's it, arteries, veins and capillaries.*"

The teacher promoted *output production* in all lessons by stimulating the use of the target language (*It's okay if you make mistakes, but try to use English*) at all times. Lessons were very interactive so students could speak, and tasks were done in groups to encourage communication in a comfortable environment. Nonetheless, this was all oral, and there was a noticeable lack of written production. The teacher presented an *active teaching behaviour*, and she always gave clear instructions, described tasks accurately, and made sure that input was comprehensible. In that case, when explanations were more complex, she asked a student to translate for the rest of the class, and asked simple questions along the way, another example of *scaffolding*.

At all moments there was a clear balance regarding the *focus on content and language*. The teacher only switched to the L1 to clear specific doubts or to repeat more complicated tasks or explanations. Students, however, tended to use their mother tongue more frequently, usually to speak between them. When answering the teacher's questions, they mostly used English. The *4C's framework* was not completely implemented, as there was not a focus on culture, even though communication, content, and cognition were present. As for the use of *Bloom's Taxonomy*, during the observed lessons, no use could be appreciated of the upper-level cognitive skills (evaluating and creating), so the build-up only reached the fourth step of the pyramid. When doing the dissection of a lamb's kidney, for example, they first were asked to recall and explain concepts related to the kidney (remembering and understanding), and they

had to use this information to interpret what they were seeing in the organ and examine its different parts (applying an analysing).

Through the use of these techniques, the teacher's objectives were attained. Students showed good results when being evaluated, and they all seemed interested and willing to participate. There was strong group cohesion and great interaction between the teacher and the students.
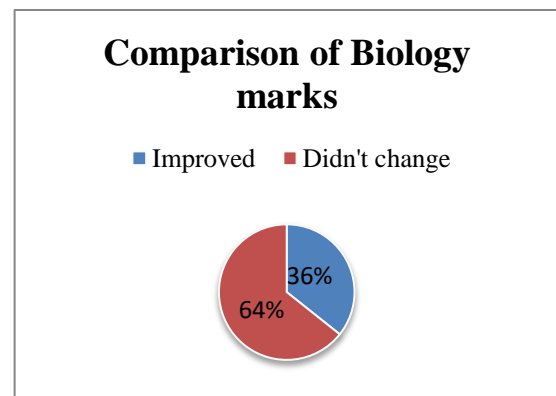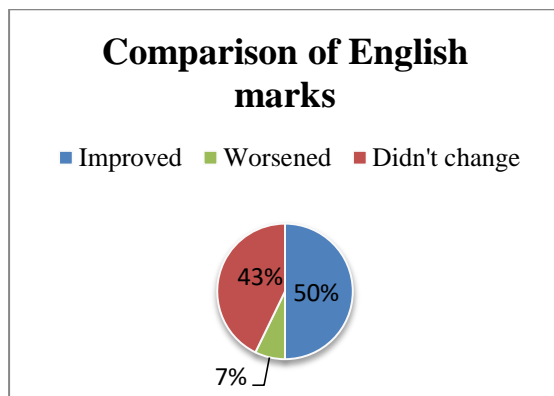
Figures 7 & 8. Comparison of results.

The students' marks from 2019-20 school year, and those from 2020-21, mostly did not change, and a great percentage improved, both in English and Biology (50 % and 36 % respectively). It should be noted that this improvement is more notorious in English, but it cannot be proved that it has been caused only because of the use of CLIL, as there has not been a control group to compare it with when carrying out the study.

5. DISCUSSION

Going back to the research questions and objectives of the current paper, the results obtained lead us to believe that students do receive the application of CLIL in a positive way regardless of their average performance.

All students showed rather high degrees of motivation, even if there was a noticeable difference between those belonging to the high-performance and the average-performance groups, which improved their perception of their FL skills. For this reason, teachers should always try to find ways to motivate their students. In addition, with regard to the types of motivation found in students, high-achievers mostly showed an extrinsic type of motivation, even if, as suggested by Ryan and Deci's Organismic Integration Theory (1985), this kind of motivation falls into a wide spectrum with different levels of internalisation and autonomy. In the other group of students, most of them expressed an intrinsic motivation. In any case, the type of motivation that prevailed was of an instrumental kind, as students mostly showed interest in learning the language because they could see its pragmatic advantages, like finding a good job or obtaining high marks (Gardner & Lambert, 1972).

These positive results can be linked to the idea that natural use of language can increase the learners' motivation to study it (Juan-Garau & Pérez Vidal, 2010), and with the use of CLIL in biology lessons students were able to experience a real application of the language outside the English lesson per se. By doing biology in English, they could establish contacts with the language outside the curriculum, and see its benefits in a near future.

From a group point of view, students showed all the characteristics of a motivated class (Chang, 2014): there was good interaction between the students and the teacher, and there was a positive learning attitude, with an important degree of participation by the students.

Now moving onto the second research question, results from the interviews and the comparison of marks showed a difference between high and average-performance students. Participants from the first group mostly agreed that using CLIL helped them be more motivated towards the subject, but most students from the average-performance group agreed that CLIL had no influence on their motivation. However, regarding their perceived learning they mostly coincided that CLIL did not have an effect on their Biology knowledge.

In relation to this, one of the most important limitations of this study was not being able to compare these results with a group of students that did not benefit from CLIL lessons, as it

would have shown whether the use of CLIL represented a big difference in terms of motivation and learning results. Instead, the study had to be designed with only one group of participants, and the results were based on their subjective opinion and their marks. Along the same line, it would have been ideal to be able to interview the English and biology teachers from the 2019-20 and 2020-21 school years to include their perceptions about the academic evolution of their students into the analysis, but both teachers from the previous school year were no longer working in the centre.

Concerning the statement that content and language should be given the same importance in a CLIL lesson (Marsh, 2009), the observation showed a good balance on this dual-focused approach, and the teaching of the content did not seem to be compromised by the use of a foreign language. In fact, it could be stated that, in accordance with Ball's (2016) categorization of CLIL types, hard CLIL was implemented in the classroom, as it was content-driven. Another indicator to determine whether this dual-focused approach is respected or not is the 4Cs framework (Coyle, 1999). As mentioned in the results, this framework was not respected completely, as there was a slight lack of cultural awareness, but the other factors (cognition, communication, and content) were kept in mind.

However, the outcome was not equally positive regarding the different strategies that authors like Meyer (2010) or de Graaff et al. (2007) suggest that a positive CLIL approach should include: the techniques that stood out the most were an active teaching behaviour and an encouragement of output production, but there was a lack of exposure to original written input and especially a lack of focus on form. In this case, the observation agreed with a study carried out by Pérez-Vidal (2007) which claimed that most CLIL practices showed a worrying lack of focus-on-form approaches and that lessons showed concern only for meaning.

As for the learning outcomes, and more specifically those related to language competence, results were found in accordance with those from previous studies carried out by Dalton-Puffer (2008), Ruiz de Zarobe (2011) and Lorenzo & Piquer (2013), even if, in this case, what was taken into account were the students' own feelings towards their development. All students showed positive perceptions of outcomes with their development of foreign language competence, as they were receiving an increased exposure to the language. In this case, however, participants were not specifically aware of an improvement with their communicative competence or receptive skills, but with their vocabulary: students felt they

were acquiring new specific words related to the field, as well as other expressions and vocabulary used in everyday talking.

Of course, these improvements showed in the participants' motivation, as they mostly felt more confident speaking and using English. However, with regard to the content learning, the study did not show conclusive results as to whether there had been an improvement, as most students' marks did not differ much from those of the previous school year, and participants from both groups showed an agreement when stating that they felt that CLIL had not affected their Biology knowledge neither in a positive nor a negative way. Again, these results did not differ from those of the study carried out by Pérez-Vidal (2007).

6. CONCLUSIONS

The present study has aimed to examine how the application of CLIL in a Biology lesson can have an effect on the motivation and perception of learners' acquisition of both the foreign language, in this case, English, and the content related to the subject of Biology. On a more subjective note, it has also wanted to identify how students react to the application of this methodology and to see whether they have a positive or negative attitude towards the use of CLIL.

CLIL was introduced with the objective of creating a multilingual school project that would offer students the opportunity of starting to learn and use languages in different contexts, which had to be as close to reality as possible. This methodology perfectly adapts to the European politics regarding language education, which aim to prepare students for a multilingual future. It is important to note that in Catalonia, where this study was carried out, there is also a need to reach higher linguistic levels, and using CLIL is an opportunity to increase the students' contact with the language, as well as rising the motivation towards the learning of a foreign language.

This research revealed that students have a positive predisposition towards the use of CLIL in high school and this seemed to improve the learning process in their mixed-ability groups. The results drawn from the interviews showed that all learners presented some sort of motivation towards the learning of English, mostly of an extrinsic type. Students were aware of the fact that mastering a foreign language would provide them with opportunities, so they saw the benefits that could result from an increase in their contact with the English language.

Of course, this extra exposure needs to be carried out properly in order to guarantee its success, and that was the main objective of the passive observation: this monitoring showed that, even if not all techniques usually linked to CLIL were used, most were, and this showed an improvement in the students' perception of the acquisition of the language. However, content learning did not seem to be affected in neither a positive nor a negative way.

By offering the students a context where they can practice English without it being the main focus of attention, CLIL creates a more comfortable environment with higher levels of positive disposition that help overcome language barriers and consequently achieve a greater fluency. When they speak English in a biology lesson, they do not seem to be thinking of

using the correct verbal tense or grammatical construction (even if they do), as they feel that what is more important is getting a message across.

On a final note, conclusions from this study confirm and strengthen the points of view of most authors that have discussed and analysed similar contexts: motivation plays an important role in language and content acquisition, and using CLIL proves students that English can be used outside the classroom too. At the same time, this methodology provides them with extra time to practice the language without affecting their learning of other content subjects.

7. LIMITATIONS OF THE STUDY

For the results to be more accurate, the study should have been carried out for a longer period of time and with a greater number of students, including a control group. This would have allowed a comparison between participants that learn through CLIL and those who do not, which would have shown whether any improvements were caused by the extra exposure to the language.

The duration of the observations was cut short by a new trainee teacher arriving, as she did not use CLIL for her lessons and instead used Catalan as the teaching language. With such a short observation period, it was difficult to assert whether *scaffolding* or *Bloom's taxonomy* were really applied or not, as it could be that the activities done during the time of the observation did not ask for these methods. A longer period of time would have allowed a more detailed analysis regarding the use of these techniques.

Finally, it should be highlighted again that this was a case study with a very small sample of participants, so results cannot in any way be extrapolated to a different context.

8. BIBLIOGRAPHY

Anjomshoa, L., & Sadighi, F. (2015). The importance of motivation in second language acquisition. *International Journal on Studies in English Language and Literature, 3*(2), 126-137.

Ball, P. (2016). Using language(s) to develop subject competencies in CLIL-based practice. *Pulso. Revista de Educación, 39*, 15-34.

Bloom, B., Engelhart, M., Furst, E., Hill, W., & Krathwohl, D. (1956). *Taxonomy of educational objectives: The classification of educational goals. Handbook 1. Cognitive domain.* Longmans, Green Co.

Chang, L. Y. (2014). Characteristics of motivated L2 class groups: From language teachers' and students' perspectives. *English Language Teaching, 7*(7), 159-167. Canadian Center of Science and Education. http://dx.doi.org/10.5539/elt.v7n7p159

Coyle, D. (1999). Supporting students in content and language integrated contexts: planning for effective classrooms. In J. Masih (Ed.), *Learning Through a Foreign Language: Models, Methods and Outcomes* (pp. 46-69).

Coyle, D. (2008). *Content and language integrated learning. Motivating learners and teachers.* University Nottingham. https://blocs.xtec.cat/clilpractiques1/files/2008/11/slrcoyle.pdf

Dalton-Puffer, C. (2008). Outcomes and processes in content and language integrated learning (CLIL): current research from Europe. In W. Delanoy and L. Volkmann (eds.), *Future Perspectives for English Language Teaching* (pp. 139-157). Carl Winter Universitätsverlag.

Darn, S. (2006). *CLIL: a European overview*. eCademy. http://stevedarn.com/clil-a-european-overview/

De Graaff, R., Koopman, G. J., Anikina, Y., & Westhoff, G. (2007). An observation tool for effective L2 pedagogy in content and language integrated learning (CLIL). *The International Journal of Bilingual Education and Bilingualism, 10*, 603-624.

Dörnyei, Z. (2008). *Estratègies de motivació a l'aula de llengües*. Editorial UOC.

Dörnyei, Z., & Chan, L. (2013) Motivation and vision: An analysis of future L2 self-images, sensory styles, and imagery capacity across two target languages. *Language Learning: A Journal of Research in Language Studies, 63*(3), 437-462.

European Commission (2004). *Promoting language learning and linguistic diversity: An action plan 2004-06*. Office for Official Publications of the European Communities. https://op.europa.eu/en/publication-detail/-/publication/b3225824-b016-42fa-83f6-43d9fd2ac96d

Gardner, R. C. (1985). *Social psychology and second language learning: The role of attitudes and motivation*. Edward Arnold Publishers.

Gardner, R. C., & Lambert, W. E. (1972). *Attitudes and motivation in second-language learning*. Newbury House Publisher.

Hanesová, D. (2015). History of CLIL. In *CLIL in Foreign Language Education*. Constantine the Philosopher University in Nitra.

Horwitz, E. (2001). Language anxiety and achievement. *Annual Review of Applied Linguistics, 21*, 112-126.

Hull, C. L. (1943). *Principles of behavior: an introduction to behavior theory*. Appleton-Century-Crofts.

Institut Vall de Llémena. (2021). *Viure la llengua: Ús de l'anglès i una segona llengua estrangera més enllà de l'aula*. https://agora.xtec.cat/inslavall/projectes/viure-la-llengua/

Ioannou-Georgiou, S. (2012). Reviewing the puzzle of CLIL. *ELT Journal, 66*(4), 495-504. Oxford Academic. https://academic.oup.com/eltj/article-abstract/66/4/495/385653?redirectedFrom=fulltext

Juan-Garau, M., & Pérez Vidal, C. (2010). To CLIL or not to CLIL? From bilingualism to multilingualism in Catalan/Spanish communities in Spain. In D. Lasagabaster & Y. Ruiz de Zarobe (Eds.), *CLIL in Spain: Implementation, Results and Teacher Training* (pp. 115-138). Cambridge Scholars Publishing.

Lasagabaster, D., & Sierra, J. M. (2009). Language attitudes in CLIL and traditional EFL classes. *International CLIL Research Journal, 1*(2), 4-17.

Lasagabaster, D. (2011). English achievement and student motivation in CLIL and EFL settings. *Innovation in Language Learning and Teaching, 5*(1), 3-18.

Lasagabaster, D. (2019). Motivation in content and language integrated learning (CLIL) research. In M. Lamb, K. Csizér, A. Henry, & S. Ryan (Eds.), *The Palgrave Handbook of Motivation for Language Learning* (pp. 347-366). Palgrave.

Lorenzo, M. N., & Piquer, I. (2013). Report and evaluation of the development of CLIL programmes in Catalonia. *Temps d'Educació*, 45, 143-180. Universitat de Barcelona. http://www.publicacions.ub.edu/revistes/tempsdeducacio45/default.asp? articulo=941&modo=resumen

Madrid, D., & García Sánchez, E. (2001). Content-based second language teaching, in E. García Sánchez (Ed.), *Present and Future Trends in TEFL* (pp. 101-134). Universidad de Almería.

Marsh, D. (2000). *Using languages to learn and learning to use language.* University of Jyväskylä. http://archive.ecml.at/mtp2/clilmatrix/pdf/1uk.pdf

Marsh, D. (2009). CLIL: an interview with Professor David Marsh. *IH Journal, 26.* http://ihjournal.com/content-and-language-integrated-learning

Mendoza, A. & Cantero, F. J. (2003). *Didáctica de la lengua y de la literatura: aspectos epistemológicos*. Pearson/Prentice Hall.

Meyer, O. (2010). Towards quality-CLIL: successful planning and teaching strategies. *Pulso. Revista de Educación, 33*, 11-29.

Navarro, M., & García, E. (2018). Are CLIL students more motivated? An analysis of affective factors and their relation to language attainment. *Porta Linguarium: Revista Internacional de Didáctica de las Lenguas Extranjeras, 29*, 71-90.

Pérez-Cañado, M. L. (2012). CLIL research in Europe: past, present and future. *International Journal of Bilingual Education and Bilingualism, 15*(3), 315-341.

Pérez-Vidal, C. (2007). The need for focus on form (FoF) in content and language integrated approaches: an explanatory study. *Revista española de lingüística aplicada, 1*, 39-54.

Pérez-Vidal, C., López-Serrano, S., Ament, J., & Thomas-Wilhelm, D. (2018). Context effects in second language acquisition: formal instruction, study abroad and immersion classrooms. In C. Pérez-Vidal, S. López-Serrano, J. Ament, and D. Thomas-Wilhelm (Eds.), *Learning Context Effects: Study Abroad, Formal Instruction and International Immersion Classrooms*. EuroSLA Studies.

Ruiz de Zarobe, Y. (2011). Which language competencies benefit from CLIL? An insight into applied linguistics research. In Y. Ruiz de Zarobe, J. M. Sierra, and F. Gallardo del Puerto (Eds.), *Content and Foreign Language Integrated Learning. Contributions to Multilingualism in European Contexts* (pp. 129-153). Peter Lang Publishing.

Ryan, R. M., & Deci, E. L. (1985). *Intrinsic motivation and self-determination in human behavior*. Springer US.

Ryan, R. M., & Deci, E. L. (2000). Intrinsic and extrinsic motivations: Classic definitions and new directions. *Contemporary Educational Psychology, 25*, 54-67.

Skinner, B. F. (1953). *Science and human behavior*. Macmillan.

9. APPENDICES

9.1. Appendix 1. Observation grid

Date		Subject covered	
Application of CLIL			
Data	**Yes/No**	**Observations and/or examples**	
Focus on language = content. Is there an integration of content and language?			
Teacher facilitates exposure to input at a challenging level			
Adapting texts to the level of learners			
Providing Scaffolding on the content			
Facilitating meaning-focused processing			
Teacher facilitates form-focused processing			
Giving examples			
Using recasts			
Clarifying requests in the L2			
Teacher facilitates output production			
Using different interacting formats			
Encouraging different forms of oral and written output production			
Suggesting feasible tasks and allowing enough time for completion			
Encouraging learners to speak only English			
Teacher exhibits active teaching behaviour			
Giving clear and accurate instructions			
Describing tasks accurately			
Making input comprehensible			
Language			
Times teacher switches to			

Catalan and why		
Students' answer in the language of the teacher		
Students change the language that the teacher is speaking		
Content		
Data	**Yes/No**	**Observations and/or examples**
Is there a use of the **4C**'s?		
Communication (written and oral)		
Content (biology)		
Cognition (thinking)		
Culture (range of cultural contexts)		
Is **Blooms taxonomy** applied?		
Knowledge		
Comprehension		
Application		
Analysis		
Synthesis		
Evaluation		
Motivation of the students		
Data	**Yes/No**	**Observations**
Is there strong group cohesion?		
Is there a relaxing environment?		
Do students show interest in the content taught?		
Are they competitive?		
Do they seem afraid of making mistakes?		
Are they willing to participate?		
Is there a good interaction between teacher and students?		

9.2. Appendix 2. Interview

TIPUS DE MOTIVACIÓ

1. **Per quins motius estudies anglès?** (si fa falta, es pot ajudar a l'entrevistat amb algunes guies com *Els teus pares t'obliguen? Creus que és important per al teu futur acadèmic/laboral? Ho fas per viatjar?*)

2. **Durant el curs, heu fet classes de Biologia en què la professora us introduïa contingut en anglès, en recordes algun exemple?**

3. **Et va agradar més o menys en comparació amb una classe de Biologia completament en català? Per què?**

PERCEPCIÓ DE L'ALUMNE SOBRE LA RELACIÓ AICLE-MOTIVACIÓ (Visió del Jo)

4. **Creus que va ajudar-te a estar més motivat/atent/proactiu amb l'assignatura?**

5. **Creus que les sessions AICLE són més o menys interactives i participatives que les altres? Si pots, ofereix un exemple per il·lustrar la teva resposta.**

6. **Vas trobar alguna dificultat destacable a l'hora d'entendre el contingut de la classe? Si és així, podries donar un exemple concret?**

7. **Aquesta dificultat de comprensió, creus que va ser a causa de l'idioma o del contingut?**

8. **Creus que el fet d'haver tractat aquest contingut en anglès és beneficiós per a tu? Per què?**

9. **Penses que afegir aquests continguts en anglès a la classe de Biologia t'ha ajudat a millorar el teu nivell d'anglès? Com?** (si fa falta, es pot ajudar a l'entrevistat amb algunes guies com *Creus que el teu nivell d'anglès està millorant més ràpidament? Quins aspectes de l'anglès estàs millorant més [gramàtica, expressió oral, vocabulari…]?*)

10. **I els teus coneixements en Biologia? Creus que el fet que et presentin el contingut en anglès ha afectat positivament o negativa el teu aprenentatge?**

PREGUNTES DE TANCAMENT – OPINIÓ DE L'ALUMNE

11. **Si et deixessin escollir entre fer les classes de Biologia només en català o seguir amb el mètode AICLE, què preferiries?**

12. **Imagina per un moment que tu ets el professor/a de Biologia i que et demanen que apliquis la metodologia AICLE. Canviaries alguna cosa respecte a com ho fa el teu professor actual?**

13. **T'agradaria tenir més assignatures AICLE o prefereixes seguir fent com fins ara?**

14. **T'agradaria afegir o comentar alguna cosa més? Això és tot doncs, moltes gràcies pel teu temps.**