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NEW TECHNOLOGIES IN EDUCATION: THE USE OF ICTs IN CLIL IN PRIMARY SCHOOLS IN ZARAGOZA

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ABSTRACT: The use of ICTs in CLIL has been an effective technique in order to teach the contents and language of the second language, but little research has been done on the perceptions that both teachers and students have about CLIL and how ICTs function in the classroom. The present work describes how CLIL has been working in primary schools in Zaragoza since its implementation and how teachers use ICTs to teach the contents and language of the bilingual subject to students. Then, an analysis on the perceptions of both teachers and students about ICTs has been carried out in order to determine how effective the use of ICTs to learn a second language by means of CLIL has been up to now.

Keywords: *CLIL, ICTs, bilingual school, Zaragoza.*

NUEVAS TECNOLOGÍAS EN EDUCACION: EL USO DE LAS TIC EN LA METODOLOGÍA AICLE EN COLEGIOS DE EDUCACIÓN PRIMARIA EN ZARAGOZA

RESUMEN: El uso de las TIC en la metodología AICLE ha sido una técnica efectiva para enseñar los contenidos y el idioma de la segunda lengua en cuestión, pero han sido pocas las investigaciones que se han llevado a cabo para discernir cuáles son las percepciones que tanto profesores como alumnos tienen sobre AICLE y sobre cómo las TIC funcionan en el aula. El presente trabajo describe cómo la metodología AICLE funciona desde su implantación en colegios de educación primaria en Zaragoza y cómo usan los profesores las TIC para enseñar los contenidos y el idioma de la asignatura bilingüe a los estudiantes. Después, el trabajo analiza las percepciones que tanto profesores como alumnos tienen sobre las TIC para descubrir el grado de efectividad que éstas han tenido hasta ahora para el aprendizaje del segundo idioma a través de esta metodología.

Palabras clave: *AICLE, TIC, colegio bilingüe, Zaragoza.*

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1. INTRODUCTION

This project deals with the use of new technologies to teach English in primary education in Aragón. More specifically, the project throws light on how ICTs are used in CLIL (Content and Language Integrated Learning) subjects in primary education in Zaragoza. It reports the results of a small research on the use of ITCs in CLIL classes and the attitude both teachers and students have towards them. For that purpose, the research was carried out in 2 primary bilingual schools in Zaragoza and the data were collected through interviews to the teachers and a survey to students. The results reveal how both teachers and students work with ICTs and what they think about them.

The implementation of CLIL in Aragón is very recent. It was on February 14th 2013 when the “*Programa integral de bilingüismo en lenguas extranjeras en Aragón*” (PIBLEA) was regulated. Schools supported with public funds in the *Comunidad Autónoma de Aragón* could apply for the authorization for instructing bilingual education through the law of February 15th 2013.

Since the implementation of CLIL in Zaragoza is so recent, there is very little research on how CLIL functions and how teachers use it. Furthermore, there is little information on how ICTs may contribute to CLIL in Aragón, so it is difficult to know the resources that are being used in CLIL in primary schools in Zaragoza and how ICTs are applied to CLIL lessons.

2. BACKGROUND

2.1. A definition of CLIL

According to Nikula et al. (2013) CLIL is defined as an educational approach to teaching content subjects in which the medium of instruction is the foreign language. The aim of CLIL is to enhance the learning of the second or foreign languages and the school subjects in the same environment/context by means of teaching a subject in a second or foreign language. CLIL is one of the methods used nowadays for bilingual education in primary schools. According to Budvytyte-Gudiene and Toleikien (2008) there are three different types of bilingual education:

- a) Immersion: education is oriented to teaching a regional language or a country's other language. This other language is usually another official language from the country.
- b) Submersion: cultural and linguistic integration of migrants. In this type of education, migrants are taught in the majority group's language in order to develop skills in the language that is foreign to them but is necessary for their life outside the school environment (Admiral et al. 2006).
- c) The third type of bilingual education, to which CLIL belongs, is that where a particular relationship between language, subject and student is reflected. Here, a foreign language is taught to the majority of a country.

CLIL can be implemented in different ways: it may be used for the instruction or may be used for teaching a unit on a specific topic (Pavesi et al. 2001) One of the main reasons why CLIL has been implemented to promote bilingualism in primary and secondary schools is because, as Coyle, Hood and Marsh (2010) state, students involved in CLIL classroom practice develop their potential in order to acquire skills and knowledge by means of a process of inquiry (research) and innovation, that is, they use resources for problem-solving and complex processes.

2.1. Aim of CLIL

The purpose of CLIL is both to develop foreign or second language skills and to acquire non-linguistic knowledge through the use of L2 (Vlachos, 2009). In addition to learning how to use the second language in an accurate and appropriate way (Marsh, 2002), students use the second language to discern new information, to enlarge non-linguistic knowledge and to elaborate content.

CLIL aims to make the students “think” in diverse languages, in this case the mother tongue and the second language, in order to develop their conceptualization and their mental processes (Marsh, 2008). By this, CLIL helps students to improve their second language competences and, regarding the non-language areas, CLIL helps children to develop their knowledge and skills on those areas (Pavesi et al. 2001). Pavesi et al. (2001) mentions the following advantages of CLIL:

- Students raise their motivation through the contact with more authentic and interesting contents
- Students build their independence and augment both their self-esteem and self-confidence by interacting and co-operating with their colleagues.
- CLIL enhances the students’ language proficiency because of the large number of hours they spend in contact with the second language.
- CLIL promotes several creative thinking processes through the integration of language and content and the involvement of the student in academic and cognitive activities.

Furthermore, as Marsh et al. (2001) (as cited in Vlachos, 2009) state, CLIL helps students to learn to use the target language in diverse contexts. They study a variety of scientific fields, develop and expand the language they speak in the classroom, learn different terminology that appears in the school subjects they have learnt and cultivate

the academic skills that are essential for processing scientific texts and to express themselves in written language.

2.1.3 Principles of CLIL

According to Richards and Rodgers (2014), CLIL has been built around the following principles:

- A second language is more successfully learned when people, instead of using the language as an end, use the language as a mean to understand content
- CLIL programs develop a bilingual citizenry and support individual development
- In order to activate the cognitive and interactional processes for the learning of a second language it is necessary to focus on the expression and comprehension of meaningful content, which is believed to stimulate a variety of cognitive skills that are fundamental to the learning and development of the second language.

CLIL is closely related to a number of assumptions on the nature of language and on how language is learnt, summarized by Richards and Rodgers (2014) as follows:

1. Lexis is essential in integrating both content and language.
2. Grammar is a source for communicating content.
3. Language is discourse and text-based.
4. Skills should be integrated when teaching a language..
5. Comprehension is necessary for second language to occur.
6. In order to understand the content, the negotiation of meaning is essential.
7. Corrective feedback facilitates the learning of the second language.
8. Dialogic talk facilitates the leaning of both language and content.
9. Scaffolded learning plays an important role in CLIL.

Coyle et al. (2010:42) state that CLIL helps learners to achieve individual, social, intercultural and educational goals for learning a language. In order to achieve these goals, CLIL should meet the following criteria:

- Content matter is about personalized learning, that is, the learner creates his/her own knowledge and understanding.
- Content is linked to thinking and learning processes. The learner has to be enabled to create his/her own content interpretation which should be evaluated for its linguistic requirements.
- The language that is going to be learned should be accessible and transparent. It has to be connected to learning through that language, to the learning context, to reconstructing the content and to related cognitive processes.
- Interaction is fundamental in the learning context.
- Intercultural awareness is basic to CLIL because of the complexity of the relationships between cultures and languages.
- In order to be effectively realized, CLIL must take account of contextual variables (such as the curriculum's overall goals).

2.2. CLIL in primary schools

CLIL can be implemented in many different ways depending on factors like the level of the learners, that is, the instruction would be very different for primary students or University students. According to Pavesi et al. (2001), second language instruction can also vary depending on the teacher, the language context and the school itself. Second language instruction in primary schools can be done in two different ways: it can be restricted to “language showers” which would last 10 minutes per day or it can widen to cover the 50% of all lessons (Pavesi et al. 2001).

In the case of the first example of curriculum (10-20 minutes of CLIL instruction a day), CLIL develops both an interest on the second language while the student acquires

basic phrases and words and listening and speaking skills. In the case of the second example of curriculum (which covers 50% of the lessons), students will acquire proficiency in both listening and - in a minor degree – in speaking. In primary schools, as a general rule, oral skills are the priority (Pavesi et al. 2001).

In order to organize classroom activities in primary school, Pavesi et al. (2001) state that the acquisition of the second language for young students pursues the same pattern as the acquisition of the mother tongue. Thus, the teacher should consider the fact that the student will first only listen and respond to the language so the oral production cannot be forced. The teacher should involve the learners in responding and listening activities and it is recommended to change of pace in activities since the concentration and attention of a young student is short and they distract themselves very easily.

Some techniques in the teaching of CLIL for primary school children have been stated by Scott and Beadle (2014) and they include:

- The use of songs to create an interest and curiosity in words for the learners: this is a child-centered type of learning that puts an emphasis on the children's pleasure at their success and frees them from stress.
- Performing plays
- Creation of a notice-board, birthday calendar, garden, list of classroom chores, staying overnight in the school, etc.
- Establishing rituals such as announcement of dates, conversation circles, experiencing seasons or the celebration of birthdays.
- The learning of new words that have been experienced through the senses.
- Learning to write and read (for instance, writing on posters, on letters, phonemic signs...)
- Use of a specialist language with movement and music (for example, with the calculations using both music and movement)

Coyle et al. (2010: 18 - 22) (as cited in Richards and Rodgers, 2014) give three different examples of CLIL courses that can be implemented in primary schools:

1. An introduction to key concepts: Confidence-building. In this type of CLIL course, the teacher uses a networking system and CLIL-designed materials in order to approach the module. As an example, an activity would be a theme-based module about climate change which involves class-based communication with another country's students and which requires 15 hours of learning time.
2. Learner autonomy and development of key concepts. Here, language and subject teachers work simultaneously.
3. Long-term CLIL program's preparation. In this example of CLIL course, both language and subject teachers work all together and follow an integrated curriculum.

2.2.1. CLIL in Spain

During the last few years, CLIL in Spanish AICLE [*Aprendizaje Integrado de Contenidos y Lengua Extranjera*] has experienced a fast development in Spain. In order to understand the reason for this interest in CLIL in Spain during the last decade, it is important to know all the legal frameworks that have guided the Spanish education system in recent years: First, the Spanish Constitution of 1978, then the Organic Act on the Right to Education (LODE, 1978) and finally the Organic Law of Education 2/2006, 3rd May (Ley Orgánica de Educación LOE 2006) (Lasagabaster and Ruiz de Zarobe, 2010). However, the greatest educational system's reform that Spain has undergone took place in 1990 with the *Ley Orgánica General del Sistema Educativo* also known in Spain as LOGSE (Muñoz and Navés, 2009). This law brought about several changes in education. According to Muñoz and Navés (2009), the main changes concern the instruction of the first foreign language which had to start at the age of 8, the increase of

the total number of hours of instruction, the introduction in primary school of an optional second foreign language and the emphasis on an approach of a languages-across-the-curriculum which involves both the foreign and the native or first languages.

Although these laws were implemented at national level, it is important to take into account that Spain comprises 19 autonomous regions. Thus there are as many models of CLIL implementation as regions. Lasagabaster and Ruiz de Zarobe (2010) divide these models into two types:

- Monolingual communities: Spanish is the official language. Classes are undertaken both in Spanish and in one or two foreign languages (where CLIL comes into force)
- Bilingual communities: Spanish and another co-official regional language are the official languages. Here, classes are taught both in co-official languages and in one or more foreign languages where CLIL is implemented.

As it has been said, each Spanish region has a different model of CLIL program. Lasagabaster and Ruiz de Zarobe (2010) summarize some instances of the different models of CLIL in Spain:

- The bilingual communities of Catalonia, the Basque, the Valencian community and Galicia foster multilingualism, although each of them follows different models and approaches.
- In the case of Madrid or the Balearic Islands, they have implemented *the Bilingual and Bicultural project*.
- In Andalusia we can find *the Plan de Fomento del Plurilingüismo*.
- In La Rioja the regional ministry has established Bilingual Sections and the policy line of *Proyectos de Innovación Lingüística en Centros*.

- In Extremadura, the Educational Authority is promoting Bilingual Sections Projects (*Proyectos de Sección Bilingüe*) with the aim of establishing CLIL experiences in both Primary and Secondary Schools.

Thus, taking into account the examples above, CLIL models in Spain can be divided according to three different scenarios (Frigols Martín):

- 1) **Promote bilingualism in a monolingual community** (*Plan de Fomento del Plurilingüismo*): the languages involved are English, Italian, Portuguese, French and German. Here, the learning of the first foreign language starts in infant school and the second foreign language is introduced in 5th grade (Muñoz and Navés, 2009). An instance of this type of scenario in Spanish primary schools is **the Andalusian model** explained by Frigols Martín as follows:

- i. In primary school the number of hours of CLIL corresponds to a total of 3.5 hours of bilingual subjects per week.
- ii. The balance between content and language is quite equal but a little biased towards content.
- iii. Regarding the subjects, primary schools offer at least two subjects: one of them must be Science and the other one is chosen depending on the teacher's availability (the most common ones are Mathematics, Physical Education, Art and Crafts and Music).
- iv. The students start with an A1 level and end with an A2 or B1 level.
- v. There are approximately nine thousand primary school students participating in the Bilingual Project in Andalusia.
- vi. The main reasons for implementing CLIL at primary level are to increase the learner motivation and his/her self-confidence towards learning English, to build intercultural understanding and knowledge and to facilitate pupils' admission into international certification.

vii. Regarding the materials used, most teachers have to create their own materials. They include lot of visual support, ICT applications and games.

2) **Foster multilingualism in a bilingual community.** Its aim is to enhance multilingualism in a bilingual community while at the same time promotes the use and learning of the minority language (Muñoz and Navés, 2009). **The Valencian model** explained by Frigols Martín may be an excellent example to this type of scenario:

- i. The numbers of hours of CLIL here correspond to 1.5 hours per week in the first and second cycle and 1 hour per week in the third cycle.
- ii. The balance between language and content vary depending on the cycle. Thus, in the first cycle the emphasis is on language, in the second cycle the balance is fairly equal and in the third cycle the balance is a little biased towards content.
- iii. Any subject in the curriculum except Science, which should be taught in Valencian, can be offered as CLIL.
- iv. The level of CLIL students in terms English language learning is higher than non CLIL students.
- v. There are 290 primary schools in Valencia offering CLIL education through the official programme.
- vi. The reasons why CLIL has been implemented here is to improve English language competence, to prepare students for future studies and work, to build the learner self-confidence towards English and increase his/her motivation, enhance students' school profile and to give an added value to learning content.

vii. Teachers develop their own materials with the advice and support of teacher trainers from the Teacher Training Centres. They include lot of visual support and computer-based tasks.

3) **Improve competence in English by means of the “Bilingual and Bicultural Project” (MEC/British Council Programme).** Its origin can be traced back to 1996 with the implementation of a Spanish/British integrated curriculum which aims to raise children language levels of English following an official bicultural and bilingual curriculum (Muñoz and Navés, 2009). For instance, Madrid is an excellent example given by Frigols Martín which embraces all the characteristics of this kind of scenario:

- i. The number of hours of CLIL is carried out through 5 sessions of 45 minutes each per week.
- ii. In primary school the emphasis is mostly on language.
- iii. The subjects taught via CLIL can be Science, Arts and Crafts, Music, Physical Education or Mathematics.
- iv. The level of English for students start in an A1 and ends in an A2.
- v. There are 147 primary schools teaching CLIL in Madrid.
- vi. The reasons why CLIL has been implemented here is to improve English language competence, to prepare students for future studies and work, to build the learner self-confidence towards English and increase his/her motivation, enhance students’ school profile and to give an added value to learning content.
- vii. The materials are preferred to be teaching units created and prepared by teachers. Furthermore, they use an on-line network and available materials resources created by the British Council.

2.2.2. CLIL en Aragón

CLIL is a completely new approach in Aragón. That is the reason why there is not much information or research about it. With the regulation of PIBLEA (*Programa integral de bilingüismo en lenguas extranjeras en Aragón*) in February 2013, the teaching and acquisition of foreign languages in Aragón started a new period. Before the law was approved, there were only 87 bilingual schools in Aragon but in the present school year of 2014-2015 the number of bilingual schools has increased to 233 authorized centers: 154 of them are public, 77 are state-subsidized and 2 of them are private. Therefore, every school without exception can participate in the calls that are published every year. All these schools have bilingual education in foreign languages such as in German, French or English. The bilingual education covers all levels: Senior Kindergarten, primary school, secondary school, A level and vocational training (Aragón Bilingüe, 2015).

Regarding PIBLEA, those schools that are supported with public funds should be included in the program (BOA, 2013). All of them incorporate in the educational project the teaching of non-linguistic areas, subjects or modules in a foreign language (English, French or German) in Senior Kindergarten, primary school and secondary school.

Teaching in these bilingual schools is based on a curricular and pedagogical model that contains the principles of CLIL/AICLE and the Common European Frame Reference developed by the European Council (BOA, 2013). Regarding the materials used in these schools, they should be based on the following principles:

- The promotion of strategies to promote the learning of foreign language contents
- The design of communicative learning tasks in order to help students to master both oral and written skills
- The use of the European Language Portfolio
- The integration of communicative activities in every language instructed in the school.

- A relationship between the different languages and unification of the linguistic terminology.

Teachers should introduce the second language trying to bring the students closer to the language. They should include methodological proposals in order to develop the comprehension and production of oral skills in students relating the linguistic contents and the rest of areas of the course (BOA, 2013)

2.3. The use of ICTs in CLIL

As it has been shown in the previous scenarios above, most teachers in primary schools that are teaching CLIL create their own materials including a huge amount of visual support. They frequently use ICTs due to the fact that they are useful when teaching a lesson to show and to make students better understand what they are learning. According to Vlachos (2009), ICTs have several benefits for CLIL teaching:

- ICTs enhance levels of motivation in students
- Students participate more actively in classrooms and find it easier to express themselves.
- ICTs give opportunities for an authentic language use, an increased learner participation, an increased language output and input, students socialization and collaboration, use the target language in significant situations, work across the curriculum and develop intercultural awareness and language.

ICTs can be used in several ways in CLIL (Vlachos, 2009), e.g. blended learning, multimedia activities in the web, WebQuests and project work computer mediated communication via the Internet.

- **Blended learning** is defined as a combination of online and face-to-face teaching methods (Singh and Reed, 2001). Here, educational technologies are

tools that students use to explore and master new knowledge. Blended learning in a CLIL environment may provide the support and guidance students need and may offer the potential to prompt critical thinking in order to let new knowledge be assimilated (Vlachos, 2009)

- In the case of **multimedia activities in the web**, Vlachos (2009) explains that students use online resources in order to work on different non-linguistic subjects without using exclusively their course books. A good example of an online resource could be the “BBC schools learning resources for home and school” in which students can find materials presented in a fascinating way through multimedia and different activities on a variety of subjects rated according to difficulty and subject. However, this type of online resources are created for native speakers of English so students might find it difficult to complete certain activities. Thus, it is advisable for teachers to use blended learning in order to get the students prepared in linguistic terms before processing the activities on a particular site (Vlachos, 2009).
- **WebQuests and project work.** Students can work individually or in groups to gather information about a topic from online sources and create a product. e.g. power point presentations, posters, etc. This type of methodology should be organized in different stages in order to facilitate content and language learning.
- **Computer Mediated Communication via the internet and online collaborative projects** Computer Mediated Communication (CMC) via the internet has its focus on platforms of communication used for the collaboration of CLIL students. It includes both synchronous (MSN, MOOs, etc) and asynchronous technologies (Email, forums, etc). The students work with the platforms in order to communicate and create projects with other international or national students so that they develop intercultural awareness and expand their knowledge of different school subjects. The advantages that CMC offers to

CLIL students are a context for authentic communication; it enhances autonomous learning and promotes the same opportunities for participation in the learning method. Last but not least, CMC via the Internet enables teachers to create an environment of online discussions instead of a simply curriculum work.

Apart from the ICTs mentioned above, the most important ones used in primary education are blogs and the Internet.

The use of the Internet in CLIL methodology is useful as a source of materials and resources (such as texts, videos and audios), as a source of tools for the creation of activities, as a space for the publication of materials and students' essays and as a medium of communication through the use of blogs and forums (Pérez Torres, 2009). Activities on the Web are useful, as Pérez Torres (2009) states, in environments in which the student works autonomously, investigates and reaches his/her own conclusions, finds particular information and interacts with other students. The use of the Web as a source of information does not only benefit students but it also benefits teachers as they can plan their subject using materials and resources from the Internet and the Web. Pérez Torres (2009) summarizes the purposes for which materials from the Internet can be included in a subject:

- To introduce and/or learn about a specific topic.
- To carry out individual or collaborative projects, e.g. WebQuests
- To investigate or resolve a problem
- To compare different theories or information.
- To go in depth or reinforce information already taught in the classroom.

Moreover, García Laborda (2011) mentions that the Internet offers a wide variety of materials that motivate and help students while learning the content of the subject. For example, the use of wikis and games on the Internet are crucial for vocabulary learning

and increasing students' motivation. The Web can be also useful since writing e-mails and using mobile phones are a good way to connect with other students around the world (e-pals) and promote collective and cooperative learning among them. In order to develop cooperative writing among students, the use of blogs, Google Docs and wikis may create in students an interest in improving writing techniques and they may favour virtual social interaction and collaboration with other students (García Laborda, 2011). In addition to this, Pérez Torres (2009) states that the use of e-mail, blogs, forums, etc can be useful in order to contact other students or experts related to the given topic, write and explore about the topic students are dealing with in blogs and forums and finally present their doubts, acquired knowledge and discoveries about the topic in them.

3. METHOD

In Aragón, the number of English bilingual schools has been increasing during the last decade. Recently, CLIL has been implemented as a method to instruct the subjects in English in primary schools and, as a consequence, there is little research on the resources that are being used for CLIL in the primary classroom. As ICTs may be highly useful in the instruction of English subjects with the methodology of CLIL, it is important to know which of them are used at the moment in primary schools and how to use them in the classroom.

The research was carried out in two bilingual schools in Zaragoza: CEIP María Moliner Bilingual School and CEIP La Jota. Two different instruments were used for this research: (i) a survey of 6 questions to students in the first cycle (first and second year of primary education) in the schools; and (ii) an interview of 20 questions with the teachers of the bilingual subjects in both schools. The surveys were done in order to discover the students' attitude towards the use of ICTs in their bilingual classes (Science and Arts and Crafts). The survey was completed by 47 students, 25 in María Moliner School and 22 in La Jota School all of them in the first year of primary education. The

survey consists of six easy and short questions, with a simple structure adapted to the students' short age, about the bilingual subjects they are studying at the moment and the materials they like most and least when learning the contents of the subjects (see annex 1).

The interview with teachers consisted of 20 questions divided into 4 parts. The first part is related to the main aspects about the subject such as the number of hours of CLIL per week or the type of materials they use in the classroom. The second part of the interview concerns the teachers' personal experience with CLIL methodology, e.g. difficulties to adapt to CLIL or challenges when using CLIL. The third part of the interview comprises questions dealing with the use of ICTs in CLIL sessions such as which type of ICTs they use or if they consider the use of ICTs important in their classes. And finally, the fourth part deals with the perception teachers have towards the students' attitude in their CLIL sessions (see annex 2).

A preliminary analysis of the websites of schools implementing bilingual programs revealed that blogs are an important device used in CLIL methodology to increase students output and motivation since they are created with the aim of making students work at home with the materials already seen in the classroom. Blogs can include a variety of materials such as videos, songs, games and activities dealing with topics related to the contents instructed in the bilingual subject. In this way, students can enter their school blog at home, practice what they are learning in the classroom and receive input in an interesting and practical way. Thus, questions dealing with blogs have been included both in the interviews with teachers and in the surveys to students to complete the investigation on ICTs and CLIL methodology.

4. RESULTS

The results of the survey are presented in table 1 and 2, with the percentage of students who chose each of the answers:

C.E.I.P MARÍA MOLINER (25 STUDENTS) FIRST YEAR OF PRIMARY EDUCATION. BILINGUAL SUBJECT: SCIENCE	
1. ¿Te gustan las clases de (asignatura bilingüe)?	
Si : 96%	No: 4%
2. ¿Te gustan las actividades que hacéis en clase con videos?	
Si : 100%	No : 0%
3. ¿Qué te gusta más de las clases?	
Videos : 64%	Canciones : 56%
Juegos : 76%	Ejercicios del libro : 44%
4. ¿Utilizas el blog del colegio en casa?	
Si : 16%	No : 84%
5. ¿Juegas en casa con los juegos que el profesor pone en el blog del colegio?	
Si : 12%	No : 88%
6. ¿Qué te gusta más trabajar en clase?	
Libro de ejercicios : 20%	Videos y canciones : 80%
C.E.I.P LA JOTA (22 STUDENTS) FIRST YEAR OF PRIMARY EDUCATION. BILINGUAL SUBJECT: ARTS AND CRAFTS	
1. ¿Te gustan las clases de (asignatura bilingüe)?	
Si : 100%	No: 0%
2. ¿Te gustan las actividades que hacéis en clase con videos?	
Si : 100%	No : 0%
3. ¿Qué te gusta más de las clases?	
Videos : 14%	Canciones : 5%
Juegos : 77%	Ejercicios del libro : 9%
4. ¿Utilizas el blog del colegio en casa?	
Si : -	No : -
5. ¿Juegas en casa con los juegos que el profesor pone en el blog del colegio?	
Si : -	No : -
6. ¿Qué te gusta más trabajar en clase?	
Libro de ejercicios : 27%	Videos y canciones : 68%

Firstly, all the students from La Jota School like the bilingual subject they are learning, in this case, Arts and Crafts. In María Moliner School there is only one student out of 25 who does not like the bilingual subject (Science). In spite of this student, all students from both schools are happy with the bilingual subjects. All the students like the activities they do in class with videos so the use of ICTs is completely successful in both schools. Regarding the different ICTs used in class, students from María Moliner School like all the ICTs used since they marked several of them (videos, songs, games on the Internet) but they also like the exercises from the course book. The most successful ICT is games (76% students) and the less successful is exercises from the course book (44% students). On the other hand, students from La Jota School only marked one of the options given to them resulting in a completely success of games (77% students) and songs being the least successful (5% students). Only two students (9%) marked the option of exercises from the course book.

Thus, the results show that games are the type of ICTs students like most and the most effective way of motivating them. The reason may be that students like to participate in the classroom and be active during the lesson. It is also relevant in this case that anything motivates them more than the exercises from the course book. The situation is very similar in both schools but in the case of La Jota School songs are less successful than songs. The reason why in La Jota School students prefer the exercises from the course book rather than songs may be related to the type of subject and course book they have in the classroom. In La Jota School students learn the subject of Arts and Crafts in which the course book is very colorful, with a lot of drawings and sheets in which the students have to colour, cut with their scissors or stick pieces of paper. The role of students in Arts and Crafts in La Jota School is highly active and they are asked to do things very often. On the other hand, in María Moliner School the situation is different. The subject the students learn in English is Science and the course book is quite different from the course book students have in La Jota School. The students are

only asked to do exercises related to the content they have previously learnt in the lesson, so their role in the classroom is not very active. The materials used in CLIL subjects are important to motivate students and depending on how motivating they are, the use of ICTs is very important to achieve the motivation that the teachers using only the course book cannot achieve.

Students were also asked to answer a question about the blog but since in La Jota School there is no blog, the question about blogs was only done at Maria Moliner School. The results were disappointing since the majority of students do not use the blog (84% students) or play with the games included in it at home (88% students). Since teachers devote a huge amount of time to the selection of materials to include in the blog and to write the piece of information to each entry, the results do not show the effects teachers wanted to see when creating the blog. An analysis on the blog used in Maria Moliner School, called *The Bilingual Project* (<http://www.mariamolinerbilingualschool.blogspot.com.es/>), shows that the blog is very complete and that every entry explains what it contains. The blog is organized around topics and it includes short and explanatory videos about the topic, students' photographs and videos, songs with their lyrics and so on. The blog was partly created so that the students could revise the material already seen in the classroom and practice what they had learnt. The blog was created in 2011 and since then the number of visits to the blog has only raised to 2,248. What is interesting here is that the year which has more entries and that the blog was more active is 2014 with 24 entries. The present year it only has 7 entries, perhaps because teachers perceived the tool as of little use for students. Maria Moliner school blog is not well organized, it is not visually attractive and it seems that it is addressed to parents instead of to students since it talks about what they have done in class or includes students' photographs as it can be seen in the following image, where the principal page of the blog is presented:



By contrast, the blog from the school Josefa Amar y Borbón (where CLIL has been implemented in the course 2014/2015) (<http://jaybscienceexplorers.blogspot.com.es/>) presents an organized structure, is visually attractive and includes videos so that students can practice vocabulary or grammatical structures, images with vocabulary and verbs, interactive videos with subtitles addressed to the students and easy entries so that students can understand them. The main page (see below) is simple and it is written in Spanish so that students know where they are going to enter:



Therefore, the solution to motivate students to enter the school blog may not be to upload more material but make the blog and the materials interesting to students, to motivate them to enter the blog to know more about a topic or to revise what has been done in the classroom. Thus, the key to have a successful blog is to use it as a source of information to students not as a source or revision.

The final question of the survey was done with the purpose of discover if ICTs are more successful than the course book for students. The results confirm the idea: in María Moliner School only five students like the course book more than videos and songs and in La Jota School only six students prefer the course book. The majority of students (21 students in María Moliner School and 15 in La Jota School) prefer videos and songs rather than the course book.

The interviews with the teachers provided useful information on the use of ICTs for CLIL in primary education. The first interview was carried out in María Moliner School to two teachers and the second was carried out in La Jota School to one teacher. There is a huge difference in the number of hours of CLIL instructed in both schools. In María Moliner School, CLIL sessions include 4 sessions of science (both social and natural), 1 session of Arts and Crafts and 4 sessions of Literacy (Use of English). A total of 9 sessions of bilingual subjects per week. By contrast, in La Jota School only 3 sessions of CLIL (Arts and Crafts and Science) are instructed per week. This huge difference of hours can be due to the length of time CLIL has been used in each school. María Moliner School is one of the first schools in Zaragoza which adopted CLIL while La Jota School introduced CLIL last year so they are still working on adapting themselves to the new methodology. Teachers of both schools agree on the fact that students like CLIL but there is a difference between the attitude of students from both schools: students from María Moliner School are used to CLIL methodology because they are taught bilingual subjects since Kindergarten, but students in the second year in primary school from La Jota School find it difficult to adapt to bilingual subjects since

in the first year they were not taught any subject in English because CLIL was not implemented yet. Nevertheless, first year students in La Jota School have no problems to adapt to being taught content subjects in English.

Regarding the use of materials and resources for CLIL both schools use printed and on-line materials: both use a projector and a screen. Students in María Moliner School use digital books and students from La Jota School use iPads. Teachers in both schools use ICTs for different purposes, for example, in María Moliner School teachers use ICTs to introduce a new lesson to students, showing them pictures about the topic they are going to learn before starting the new lesson in the course book while in La Jota School the teacher uses ICTs in order to complement what the students are learning in the course book, showing them more pictures about an author or watching videos about the author they are seeing at that moment.

Regarding the experiences of teachers with CLIL methodology, teachers from María Moliner School found difficulties to adapt to the method since there was not much material to prepare their classes and at first, they found it difficult to organize and find resources to include in their classes. On the other hand, the teacher at La Jota School has learnt how to use CLIL while teaching the lessons. This may imply that teachers from María Moliner School previously prepared their classes and found difficulties in organizing them while in La Jota School the teacher faced the difficulties while teaching the class, without preparing it previously. All of them have done adaptation courses to CLIL: DGA workshops about the bilingual project in Aragón, courses on CLIL methodology, courses of adaptation to CLIL and PALE (Programa de Apoyo a la Enseñanza de Lenguas) courses. Although they have had a good instruction on CLIL methodology, all of them have found challenges when using CLIL in their classes. For the teachers at María Moliner School the greatest challenge was to teach a whole class in English and not use the mother tongue but the teacher at La Jota School found more

challenges regarding the new reforms and standards established by the government in Zaragoza (for example, LOMCE evaluations).

In terms of the importance of ICTs in CLIL, the three teachers agree that they are essential in CLIL methodology. Teachers from María Moliner School find the projector and the interactive board as the most appropriate ICTs in primary education. The teacher at La Jota School emphasizes the fact that ICTs are essential since they motivate students, catch their attention, show them for what purposes they are used and allow them to know more about the use of English on the Internet. The ICTs used in both schools are the same: teachers use songs and videos.

Regarding the use of blogs, María Moliner School has a blog which is part of the bilingual project and contains songs and videos already seen in class, students' photographs and experiments. The blog mainly includes material already done with students in class. By contrast, in La Jota School there is no blog, but they have a Facebook account which is fastest to access and easier to use for students.

The criteria followed by teachers from both schools to select ICTs material are very similar: all of them agree that the material has to be adapted to the age, level and maturity of the students, it has to be clear, short, methodological and funny in order to keep the students' attention. They emphasize the fact that it is important to select material that the students will be able to understand in the class.

There are advantages that teachers from both María Moliner School and La Jota School highlight in the use of ICTs. The most important aspect of ICTs is that they are motivating. They state that ICTs help students to understand lessons and motivate them to search information about the topic they are learning at home. ICTs also help students to center their attention on what they are learning and promote group work that allows every student to participate at the same time in class. Nevertheless, there are also disadvantages in the use of ICTs but they are mostly technical disadvantages. Teachers

from both schools state that there may be problems of connection or loss of documents in the computer or iPads.

Focusing on the teachers' perception of the students' attitude towards ICTs, all of them agree that they have noticed more motivation and interest on students when ICTs are used in class. However, teachers from María Moliner School state that students like ICTs more but they also argue that a class based only on the course book or on ICTs would be very boring and students would get tired soon. The teacher at La Jota School states that they like more the course book because there are a lot of pictures and drawings. She argues that students would be more satisfied if the school was provided with computers to allow students to work independently with a computer but there is not enough budget or resources. Last but not least, teachers from both schools state that the ICTs students like most are songs and videos which are adapted to their level in order to make students understand them. If the video is too difficult for them, they get bored and lost easily so they stop paying attention to the video.

5. CONCLUSIONS

After analyzing the use of ICTs in CLIL subjects in two bilingual schools in Aragón, the following conclusions can be drawn. Firstly, since CLIL is a method that has been implemented recently in Aragón, bilingual schools are still adapting to its methodology, theory of learning and theory of language learning. CLIL methodology is not used to teach content in a foreign language, in this case English, but it consists in integrating language learning and content learning in a way students learn the second language in a similar way as they learn their first language. In order to teach a second language through this methodology, teachers need teacher training which involves changing the way in which language and content were taught till the implementation of CLIL. Little research has been carried out on the students' perspectives and perceptions

of CLIL. Parents whose children have been exposed to the new methodology have doubts about it, stating that learning a subject in English may be too difficult for students or that learning the same content in English rather than in Spanish may be different and thus, not good enough as if it was in Spanish. Nevertheless, students learning a CLIL subject are satisfied with what they are learning in the classroom and how the subject is taught by the teacher.

The analysis done through interviews to teachers and surveys to students in María Moliner School and La Jota School has shown that CLIL requires resources that engage students with the content and that ICTs are highly effective in CLIL in order to motivate students. Both schools use several types of ICTs in their CLIL subjects in which activities with videos, games and songs are the most frequent and the favorite ones among both teachers and students. The use of iPads and digital boards facilitates the utilization of ICTs in the classroom. Nevertheless, due to a shortage of budget and resources, there is only one iPad in La Jota School and one digital board in María Moliner School. This implies a passive role of the students in the learning process, since the students have little opportunity to use these tools. Teachers agreed that with more budget or resources to buy more iPads, computers and digital boards, ICTs could be exploited for different types of activities, where students could interact individually with the language and the technology, and the students' motivation would increase. A long-term solution found to the problem of limited resources in María Moliner School was the creation of a blog. The blog in the school is used to upload videos, games and songs previously seen with students in the classroom and entries in English explaining what the students have done in their day-to-day. The results about blogs have been disappointing in the sense that they are not used by students so the amount of time teachers invest in the blog is not resourceful. The problem may result from the lack of motivation of students to enter the blog and see the same exercises they have already seen in the classroom. The introduction of new materials enlarging information about a

topic may be a useful solution to make blogs more interesting to students. The use of blogs with ICTs as sources of information for primary students would be an interesting idea in order to make the maximum use of them and motivate students to know more about a topic increasing their interest in both English and new knowledge.

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ANNEX 1

Survey done to students

1. ¿Te gustan las clases de (asignatura bilingüe)?

Si

No

2. ¿Te gustan las actividades que hacéis en clase con videos?

Si

No

3. ¿Qué te gusta más de las clases?

Videos

Canciones

Juegos

Ejercicios del libro

4. ¿Utilizas el blog del colegio en casa?

Si

No

5. ¿Juegas en casa con los juegos que el profesor pone en el blog del colegio?

Si

No

6. ¿Qué te gusta más trabajar en clase?

Libro de ejercicios

ó

Videos y canciones

ANNEX 2

Interview done to teachers

1. Number of hours/sessions of CLIL per week
2. Subjects instructed in English
3. Do the students like CLIL? Why?
4. Material they use: printed or online materials
5. Level they start-finish
6. Difficulties/experiences of teacher to adapt to CLIL?
7. Have you done any adaptation course on CLIL / AICLE? Where? Which?
Which kind of information was given? Has it been useful?
8. Which are the challenges of using CLIL?
9. Do you consider that adopting the CLIL methodology requires the use of ICT in the classroom? What kinds of ICT resources are more appropriate for this approach in your opinion?
10. Do you use ICTs to teach CLIL?
11. Which types of ICTs do you use?
12. If you use blogs, which types of materials do you include, e.g. songs, games, informative videos.
13. Do blogs include material to work with in the classroom, to work with at home or both?
14. How are ICTs integrated with other materials (e.g. the coursebook) and how are they used in classroom?
15. Which criteria do you use to select the ICT materials to be used in a lesson?
16. Which are the advantages of using ICTs in CLIL classrooms?
17. Which are the problems that may arise when using ICTs in CLIL classrooms?
18. Do students prefer to work with book or with ICTs ?

19. Have you noticed more motivation or more interest in students when ICTs are used?

20. Which types of ICT materials do students like most?

Transcription of the interviews

MARÍA MOLINER SCHOOL. INTERVIEW WITH ISABEL SALCEDO AND ESTHER GARCÍA.

Number of hours/sessions of CLIL per week: 4 sessions of science both social and natural, 1 session of Arts, and 4 sessions of Literacy (Use of English). A total of 9 sessions of bilingual subjects per week.

The *students like CLIL* since they are used to it. They have been instructed English since Kindergarten.

The *materials* used are both printed and on-line: digital books are useful and each student has one. They also use a projector and a screen.

They *start* with a level of A1

Difficulties to adapt to CLIL methodology: teachers have found difficulties to adapt to CLIL since they had to find resources due to there were not enough materials to prepare their classes. It was very difficult at first to prepare and organize the classes.

Adaptation courses to CLIL: Isabel did DGA seminars about the bilingual project in Aragón and Esther had training and courses about CLIL methodology.

Challenges of using CLIL: For both Isabel and Esther, the greatest challenge was to instruct a whole class in English and not use the mother tongue.

ICTs are essential to CLIL methodology. They think the most appropriate ICTs are the projector to project the book, an interactive board and the compound of projector and laptop. They emphasize the importance of the interactive board since they do not have one but it would be very useful.

ICTs they use: explicative videos and songs in the classroom.

There is a *blog* that is part of the bilingual project which contains songs, videos already seen in the class, students' photographs, and experiments.

The blog includes mostly material already done with the students in class.

Integrate ICTs with other materials: they introduce the topic of the new lesson with ICTs. Before starting the lesson and before projecting the cover on the screen, they show students flashcards to introduce the new lesson. They emphasize the fact that ICTs and the course book are much related.

Criteria to select ICTs material: The material has to be methodological, it has to be adaptable to the students' maturity and it has to be understood by students.

Advantages of using ICTs: they are motivational, it helps students to understand the lessons and it motivates them to search information themselves at home.

The *main problems* they find of using ICTs in classroom are technical problems such as error of connection, slow connection and so on.

Students: Book or ICTs?: Both of them think that ICTs and the course book are complementary; a lesson instructed with only ICTs or only the course book would be boring to the students and they will be tired very soon.

They have noticed more motivation and interest on the students when using ICTs since they ask the teachers to use ICTs in the class.

The ICTs materials the students like most are games, songs and videos. Videos have to be short, adapted to their age in order to make them understand it.

LA JOTA SCHOOL. INTERVIEW WITH CONSUELO RODRÍGUEZ.

Number of sessions/hour per week: 3 sessions per week.

Subject: first, second and third courses of primary education Arts and Crafts and fourth, fifth and sixth courses Science.

Students like CLIL methodology because there is a lot of demonstration. They had problems adapting to the subject because it is strange to them to have a subject which is entirely in English. Nevertheless, they have adapted well to the subject. It was easier to students in the first year of primary education because those who are in the second year had not had bilingual subjects in the first course.

Material: they use both printed and on-line material. They use a course book and the use a projector where they show complementary material to the lesson (for example, the students work on an author picture and the teacher projects in the screen more pictures by the author they are working on)

Students have a very good level of listening comprehension in the first course.

Difficulties in adapting to CLIL methodology: the teacher has been learning how to teach CLIL while instructing the classes. She has always taught English subjects.

Adaptation courses of CLIL: She has done a lot of adaptation courses of CLIL but she highlights the PALE course which comprised 3 years of instruction (Friday evenings and Saturday mornings from December to April).

Challenges of using CLIL: She emphasizes the latest reforms, the new standards of education (because teachers are supposed to be very specific in the LOMCE evaluations, so she thinks that a teacher can teach a class or be writing and taking notes all the time about his/her classes and students).

ICTs are very important for every area in CLIL methodology. ICTs motivate the students, catch their attention, show them for what they are used. Students pay attention to the images the teacher shows in the class and they know more about the use of English on the Internet. They see English as actual.

ICTs used: songs, projector with images, videos.

In this school, they have *no blog* but they use Facebook, which is faster and easier to use for students.

How are ICTs integrated with the course book: Everything is related to the course book; they use images related to authors in the book and they listen to songs related to the course book.

Criteria for the selection of materials: materials have to be clear, short and adapted to the age and level of students. Language has to be concrete and funny in order to keep the students attention on what they are watching or listening.

Advantages of using ICTs: Motivation, center the students' attention, they make the classroom more active and they allow to create more group work in which every student can participate at the same time.

Problems when using ICTs: problems of connection, the iPad memory is usually not enough, documents often are lost.

Book or ICTs: Students like the course book. They also like ICTs since they can use iPad where they can paint or make videos themselves. They use iPads a lot. They would like to work with computers but there is not enough budget or resources.

The teacher has noticed more motivation and interest in the students when using ICTs in the class.

Students like most songs and videos where they can sing something.

**The teacher highlights the fact that the school is in need of more resources in order to use ICTs more*