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Trabajo Fin del Máster en Enseñanza Integrada de la Lengua Inglesa y Contenidos: Educación Infantil y Primaria

THE INTERACTIVE DIGITAL WHITEBORD WITHIN THE CLIL CLASSROOM

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INDEX

INDEX.....PAG 2

1. INTRODUCTION.....PAG 5

1.1. Objectives of the Master Thesis.....PAG 5

1.2. Parts of the Master Thesis.....PAG 6

1.3. Justification.....PAG 7

2. THEORETICAL FRAMEWORK.....PAG 9

2.1. Content and Language Integrated Learning (CLIL) methodology..PAG 9

2.1.1. CLIL Methodology.....PAG 9

2.1.2. Using CLIL in the classroom.....PAG 10

2.2. Information and Communication Technologies (ICT) in our society.....PAG 13

2.2.1. The digital society.....PAG 13

2.2.2. Use of ICT in the Educative System.....PAG 14

2.2.2.1. Brief history of the ICT in the Educative System...PAG 14

2.2.2.2. Use of ICT in Primary Education.....PAG 15

2.2.2.3. Use of ICT in the Foreign Language Classroom. ...PAG 16

2.2.2.4. Use of ICT in CLIL lessons.....PAG 19

2.3. The Interactive Digital Whiteboard: Definition.....PAG 20

2.3.1. What is an Interactive Digital Whiteboard?.....PAG 20

2.3.2. Elements of the Interactive Digital Whiteboard.....PAG 21

2.3.3. Types of Interactive Digital Whiteboards.....PAG 22

2.3.4. Teachers training in the use of Interactive Digital Whiteboards.....PAG 23

2.3.5. The Interactive Digital Whiteboard benefits. .....PAG 24

2.3.5.1. General benefits .....PAG 24

2.3.5.2. Benefits for teachers.....PAG 24

2.3.5.3. Benefits for students.....PAG 25

3. AN INNOVATIVE PROPOSAL OF INTERACTIVE DIGITAL WHITEBOARD INTEGRATION IN THE CLIL CLASSROOM.....PAG 26

3.1. Introduction.....PAG 26

3.2. Context.....PAG 27

3.2.1. Context variables .....PAG 27

3.2.2. School variables.....PAG 28

3.2.3. The Interactive Digital Whiteboard in the school.....PAG 30

3.2.3.1. The Interactive Digital Whiteboard in Primary Education: L1. Teacher's opinion PAG31

3.2.3.2. The Interactive Digital Whiteboard in Primary Education: CLIL lesson. Teacher's opinion.....PAG 34

3.3. Development of the Innovative Proposal.....PAG 35

3.3.1. Justification.....PAG 35

3.3.2. Didactic objectives of the Innovative Proposal .....PAG 37

3.3.3. Methodology .....PAG 38

3.3.4. Activities.....PAG 41

3.3.6. Contribution to the Key Competences.....PAG 43

3.3.6.1. Key competences .....PAG 43

3.3.6.2. How the Innovative Proposal contributes to the key competences .....PAG 45

3.4. Results of the Innovative Proposal .....PAG 46

3.4.1. Evaluation of the Innovative Proposal .....PAG 48

3.4.2. Strengths and weakness of using the IDW.....PAG 51

4. CONCLUSION .....PAG 56

BIBLIOGRAPHY .....PAG 59

1. INTRODUCTION

1.1. Objectives of the Master Thesis

Because in my school is implementing the use of the Interactive Digital Whiteboard (IDW), and we are participating in a bilingual project following a Content and Language Integrated Learning (CLIL) methodology, I want to focus my Master

Thesis on an innovative proposal of Information and Communication Technologies' (ICT's) integration within CLIL methodology.

I have based this innovative proposal on the use of the Interactive Digital Whiteboard (IDW) in a CLIL classroom, carried out within a real school of Asturias. It is an urban school located in a small city in the South of Asturias involved in a bilingual program since 2007, and with IDW in some of their classrooms.

I am in charge of the second cycle of Primary Education, teaching English, Science and Art. As regards the teaching of Science I have to teach 1 topic per term, but without any textbook. I have to prepare all the materials I need for me and the children. Because of this fact I started using the IDW applying this innovation to this group of children: 35 students between 8 and 10 years old.

The main objectives of this Master Thesis are:

- **To know how teachers in a specific school of Asturias use the Interactive Digital Whiteboard within a CLIL lesson:** I mean not only the frequency of use of the tool, but if they are also capable of using it in an appropriate way and exploiting their possibilities to the maximum.

- **To check the main advantages and disadvantages of using the Interactive Digital Whiteboard as regards learning Science contents through a foreign language,** and especially to prove if this tool is able to contribute to an improvement in children's academic results, as well as if it facilitates the teaching- learning process.

- **To know the main Interactive Digital Whiteboard possibilities within a CLIL lesson.**

1.2. Parts of the Master Thesis

According to what I have just explained, this project has got four main parts:

1. Introduction

2. Theoretical framework about ICT and CLIL: This second part of the project is divided at the same time in three main parts:

- CLIL methodology explanation.

- Theoretical framework about the evolution of ICT in education.

- The ICT and Interactive Digital Whiteboard educational applications, mainly in the bilingual classroom.

3. An innovative proposal of Interactive Whiteboard integration in the CLIL classroom:

This is the main part of the project. I start with a description of the school context indicating how ICT are used in it and the use teachers make of the IDW (mainly in the subjects taught in English).

Within this section I will also explain my intention, the main reasons why I use this ICT tool, my objectives and how I have integrated it into the classroom. I also include the types of activities I do with my students.

The assessment of the results of my learning experience will appear in this part including the learning outcomes observed, positive aspects in the teaching learning process, difficulties…

4. Conclusions

These four parts are all interrelated, applying the theoretical foundation to the innovation project, and basing both in my own personal teaching experience, and in the results of surveys answered by other teachers and students of the school. At the end, the main conclusions about the use of IDW in a CLIL classroom will be shown.

1.3. Justification

Teaching has always been a very complex and difficult task, mainly due to big amount of different situations a teacher have to deal with every day. In our classrooms, our students are different from each other: different nationalities, capacities, interests… and our must is helping them all to understand the world and live in it.

Nowadays, globalization and the information society we are living in, expect from a teacher new educative projects and challenges: new contents, new methodologies, more educational training….

> "As experts recognized, Information and Communication Technologies (ICTs) are having an impact in the educational world in different ways. ICTs are increasingly the importance of informal education of the people, demanding new basic training for young people and training for citizens, becoming necessary to use new tools in the educational process, offering the possibility of virtual environments of learning and requiring a new didactic and technological training in teachers" (Marqués, 2000. Quoted by Red.es, 2006:3)

All the circumstances we have just mentioned and that we have to deal with make teaching even more complex. In this context, we as teachers need medium and more and update pedagogical training. The aim is to get an appropriate knowledge about these new situations we will find in our classrooms, and that they provide us with methodological resources to carry out our task efficiently.

Among the wide range of available resources for teachers, in my opinion, the Interactive Digital Whiteboard is one of the best. It provides us training, while including a progressive introduction of innovative practices focussed in the student activity. It is important that the teacher receive a little training about basic notions of it: how to work with it in a classroom context.

The IDW allows to project and comment on any document done by teachers or students, and give us the opportunity of integrating in our sessions and lessons the educative resources that Internet and communication technologies provide us. It is also necessary saying that their use is extremely simple because it requires no more computer knowledge than being able to write with the computer and surf the Internet.

Nobody can deny the great power that multimedia resources have in education. In the last years a new resource has appear, which by its nature has a direct relationship as a teaching resource and its use in teaching and learning processes. We talk about the "Whiteboard".

Mainly because this is a new tool, there are few studies and researches about how teachers (especially in Primary Education) develop their bilingual lessons with an IDW support, as well as the benefits, disadvantages or problems we can find with the use of this instrument during a CLIL lesson. Through my proposal I want to contribute to these

investigations, compiling information about how this instrument is used on a specific school in Asturias, how it works and the results we get.

As a starting hypothesis I have to say that the use of an Interactive Digital Whiteboard also contributes to a better development of the teaching learning process, as well as to motivate children in the learning of contents through a language that is not their mother tongue.

At the end of this Innovative Project, I will show if my hypothesis were correct, analysing the different results I have obtained with my investigations, but it is time to start with the essence of the project: CLIL methodology and the Interactive Digital Whiteboard.

2. THEORETICAL FRAMEWORK:

2.1. Content and Language Integrated Learning (CLIL) methodology.

2.1.1. CLIL Methodology

The term Content and Language Integrated Learning (CLIL) was established by David Marsh, from the University of Jyväskylä, in 1994 in Finland. He said that "CLIL refers to situations where subjects, or parts of subjects, are taught through a foreign language with dual-focused aims, namely the learning of content and the simultaneous learning of a foreign language" (Pokrivcáková, 2012:26).

CLIL is not anything new, because the origin of this term is associated with the genesis of language immersion education in Canada in the 60's, and it is also linked to other models such as "Language Across the Curriculum" and "Language for Specific Purposes, Language for Academic Purposes". Nowadays, because of globalization and big migrations from one country to another, - something translated in the necessity of learning new languages-, and the big amount of researches about language teaching, this methodology is turning into something attractive for teachers in our country.

At a starting point CLIL offers students of any age the opportunity to acquire a second language in a natural way, because during the teaching- learning process, they concentrate on contents not on the language. Therefore we can say that language is not the object of study itself, but a way of acquiring contents: Students learn a new language without being conscious about it. In CLIL methodology, we provide a situation in which the attention of the child is on some form of learning activity which is not the language itself. So what we are doing is providing the opportunity to learn to think in the language, not just learn about the language itself as the major learning focus.

This is usually done through putting aside some time in the school week for learning subjects or special modules through another language. Therefore, there are two main aims in the class: one related to the subject or topic, and the other one linked to the language.

> *"*Good results have been found with very different CLIL types, and it is clear that a small amount of CLIL can go a long way towards improving a teenager's hunger, willingness, and capability to learn both other languages, and other subject matter" (Rubio and Conesa, 2012:210)

Language and communication are considered very important aspects of human behaviour. We have an increasing desire to measure success in terms of an exam result,

and it sometimes does not allow us to see other learning qualities which can be highly advantageous for any person.

> "The brain offers enormous capacity for languages. If a child learns different languages, this will develop the thinking processes within the brain itself. What we need to realise is that the ability to use different languages, even to a modest extent, can have a positive impact on the youngster's thinking process". (Rubio and Conesa, 2012: 211).

Following Rubio and Conesa, as we have said before, CLIL is related to the genesis of language immersion education in Canada in the 60's. But not everybody had the opportunity to benefit or receive this possibility of education because only the small elite groups of the society can participate in this kind of education programs. At this respect CLIL tries to offer an opportunity to everybody, providing all young learners, regardless of social and economic position, the opportunity to acquire and learn additional languages in a meaningful way.

> "Another important aspect is that CLIL classrooms always have children with mixed abilities in terms of not only the additional language, but also other forms of knowledge and skill. One key part of CLIL methodology requires that children use the language actively with each other during the lessons so that they learn from each other. All children can benefit from CLIL, not just those that we think of as being good at languages."(Rubio and Conesa 2012: 211)

2.1.2. Using CLIL in the classroom.

> "The main difference between CLIL and teaching in the mother tongue is the fact that CLIL involves additional language learning objectives. Instruction thus has a double focus because apart from a pupil learning the content, there should be a corresponding aim regarding development of target language skills. This double focus is not reached simply by changing the language of instruction from one language to another. There is a consensus opinion that realisation of the potential of CLIL can only usually be achieved through specific methodological adaptation." (Marsh, 2003)

Little children use different strategies when they are learning their mother tongue: Garvey and Beringer talks about "initiation of communication when they get no answer (Dafouz Milne, 2005: 176), children also correct themselves, and from two years on they are able to communicate in a different way depending on their interlocutor. It is important to take this into account in a bilingual context.

According to different researchers such as McLaughlin and Foster- Cohen the acquisition of a foreign language has to be developed in natural contexts. They consider

that this is the reason why a second language is not easy to learn in the English classroom: because it does not provide a real context to the child. Nevertheless, using an appropriate methodology and activities inside the classroom, learning could take place in a context very similar to the natural one. (Dafouz and Llinares, 2005)

Following Rubio and Conesa, most CLIL lessons involve the use of two languages, the mother tongue and the foreign language: "This is one reason why this CLIL approach is called integrated because of the integration of the focuses on language and subject matter as well as the promotion of integrated curricula."(2012: 212)

> "It has also been found that some of the most suitable CLIL teachers are those who speak the majority language as their first language, and the CLIL language as a second language. This is particularly important when dealing with young children because these teachers are often sensitive to the ways children learn in the first language, and are familiar with the points of transference which come about from using the CLIL language." (Rubio and Conesa, 2012: 212)

According to Marsh, there are disagreements among teachers, as regards the use of the foreign language to acquire contents: some teachers find more interesting the use of the target language because they teach the essential part of the subject matter, so teaching is more efficient because contents are clearer. Against this opinion, other teachers consider that "they lose something in terms of depth of instruction because of the use of the additional language" (Marsh, 2003)

As regards children opinion, they "report that the most positive thing about CLIL is the fact that instruction is more concise and subject matter is often handled more tightly". (Marsh, 2003)

When talking about CLIL it is necessary to make reference to the 4CsFramework: Content, Cognition, Communication and Culture.

> "Whilst the 4 Cs can be outlined individually, they do not exist as separate elements. Connecting the 4 Cs into an integrated whole is fundamental to planning. For example, exploring how cognitive elements interconnected with content will determine the type of tasks which will be planned. Similarly, relating cognition to communication will demand careful consideration of classroom activities to ensure that learners not only have access to the content language, but also to the classroom language needed to carry out the tasks". (Coyle, Hood and Marsh, 2010:55)

Every time we want to plan a CLIL lessons, and following what Coyle, Hood and Marsh established, we should have in mind these 4 Cs:

- Content: “It is the subject or the CLIL theme”. (Coyle, Hood and Marsh, 2010:53). When we talk about content we refer not just to the new knowledge acquisition, but the knowledge we want our students to access.

- Communication: It refers to children using a second language in order to express their opinions, feelings and thoughts about the subject matter. “Language is a conduit for communication and for learning which can be described as *learning to use language and using language to learn*.” (Coyle, Hood and Marsh, 2010:54). We distinguish among language **of** learning, language **for** learning and language **through** learning.

- Language **of** learning: “This explores what language learners will need to access new knowledge and understand when dealing with the content”. (Coyle, Hood and Marsh, 2010:61).
- Language **for** learning: “It makes transparent the language needed by learners to operate in a learning environment where the medium is not their first language. (Coyle, Hood and Marsh, 2010:62).
- Language **through** learning: “Not all the CLIL language needed can be planned for. As new knowledge, skills and understanding develop, then so too will new language.” (Coyle, Hood and Marsh, 2010:63).

-Cognition: “For CLIL to be effective, it must challenge learners to create new knowledge and develop new skills through reflection and engagement in high-order as well as lower-order thinking”. (Coyle, Hood and Marsh, 2010:54).

- Culture: ““Self” and “other” awareness, identity, citizenship, and progression towards pluricultural understanding” (Coyle, Hood and Marsh, 2010:54).

According to Rubio and Conesa (2012) in the last years, Content and Language integrated learning (CLIL) has had a fast and big development in Spanish schools. This fact is related to commitment with the European polices aimed at fostering plurilingualism and a growing necessity of learning foreign languages.

In Spain, CLIL programs are being implemented in many schools quite frequently with direct support from educational authorities. CLIL varies from one region to another, and it can be divided into two main contexts:

- Monolingual communities: They have got Spanish as the official language.

- Bilingual communities: Spanish is the official language together with another co-official regional language.

As regards "El Principado de Asturias", educational authorities are making special emphasis in bilingual education. Despite just two schools in the region are considered bilingual having half of their curriculum in English, most of the schools follow a CLIL methodology having a bilingual section. This way, they include 3 English sessions and 2 other sessions of a non-linguistic section taught in English.

2.2. Information and communication technologies (ICTs) in our society

2.2.1. The digital society

It is important to establish from the very beginning that technology was created by the human; it is something that has an evolution thankfully to the changes people make on them. We use technology to broaden horizons, but we do not have enough so we modify technology improving it, trying to get always more from them and have a better life. As a consequence, these technological changes go linked to changes in people and the society.

According to Gargallo López and Suárez Rodríguez (2002) in their investigation about the integration of ICT in the school, and following Adell, Bosco, Harnad and Levinson, we can divide the human history into phases or periods characterized by technology:

1. "The oral language emergence: It allows us accumulating and transmitting our culture to the new generations." It is immediate, and both transmitter-receivers have to be present.

2. "The emergence and spread of written language": Transmitter- receivers do not need to be together to communicate. Communication is not immediate but it allows the preservation of knowledge for ever.

3. "Printing emergence: It was a complete revolution in the dissemination of knowledge making it accessible to the population and to eliminate the elitist character. This fact gave rise to the modern culture".

4. "The use of electronic media and digitalization". This is the stage we are at nowadays. We can communicate in an immediate way without sharing the same physical space. It is a revolution and it is producing many important changes in our society: labour, business relationships, culture, education…

Because of the repercussions that ICT are having, Castells (2000: 88-89) talks about a techno-economic paradigm whose main characteristics are:

> - "These are technologies to act on the information, not just information to act on technology"
> - "The second feature refers to the ability of penetration of the new technologies effects. Since information is an integral part of all human activity, all processes of our individual and collective existence are directly shaped by the new technological environment".
> - "The third characteristic refers to the networking logic of any system or set of relationships that these new information technologies use".
> -"Fourth and related to the interaction, although it is a feature distinctly different, the paradigm of Information Technology is based on flexibility. Not only the processes are reversible, organizations and institutions can be modified and even fundamentally be altered by the rearrangement of its components".
> - "A fifth characteristic of this technological revolution is the growing convergence of specific technologies into a highly integrated system, in which the former separate technological trajectories become practically indistinguishable."

2.2.2. Use of ICT in the Educative System

2.2.2.1. Brief history of the ICT in the Educative System

Before entering the field, and discuss the main topic of this project (The Interactive Whiteboard), we need to make a brief historical overview of these of the ICT in education.

According to Vidal Puga (2006:540)

> "The first trace of investigation about media, as an ICT antecedent, is founded in 1918, but is during the fifties where we have the key point in the further development to fall Educational Technology's areas. The use of audio-visual media with formative purpose is the first specific field of Educational Technology".

Following the researches made by Vidal Puga (2006), the sixties were the era of the mass media development, mainly the television and the radio, which had a very big

influence in the society. The original core of this revolutionary phenomenon in the field of communication is particularly located in the U.S.A. and Canada and this will be incorporated in the Educational Technology, in the area of educational applications of mass media.

Since the seventies, the development of ICT consolidates the use of computers for educational purposes, and the emergence of personal computers generalized this option as an alternative of huge possibilities. It is during the eighties, because of the critics and doubts about the efficiency of the ITC in the educative field, when this topic began to be studied in order to get the best from it.

Since the late nineties and nowadays, the integration of ICT in education has become the centre of attention. Proofs of this are the many publications, researches, and project we can find about it.

2.2.2.2. Use of ICT in Primary Education

Nowadays society and technology cannot be separated. We are immersed in a world where ICT are one of the main means of communication, and the school cannot be aside of the changes and opportunities that this powerful tool give us. Through ICT people have the opportunity of accessing to a wide range of information. As a consequence, changes in the teaching-learning process are necessarily bringing new opportunities both for teachers and students.

Society, ICT and Education have to be linked, and we cannot understand one without the others. As we have just said, ICTs are indispensable in our society, and we as teachers have the must of helping our students to cope into the new society. This is why we have to include the use of Information and Communication Technologies in our lessons in a pedagogical way, trying to get the best from our students and improve their academic results.

> "The incorporation of information and communication technology in education is not an easy task. The school always goes behind the society and there is an obvious discrepancy between the use of the new technologies in a general level, in the different social and economic activities of our daily life, and the use done in the schools. It can be a kind of resistance of changing in the school, a fear of losing control by teachers and a lack of mastery of new technologies, a difficulty to adjust the traditional role to the new reality….In addition, changes in this area are taking

> place at breakneck speed, without giving too much time to reflect on the possibilities and consequences of its introduction into the classroom. All this slows down and difficulty its integration" (Gargallo López and Suarez Rodríguez, 2002)

Following Gargallo López and Suarez Rodríguez (2002), ICTs have some advantages against the traditional methods of education, but some risks and drawbacks too:

ADVANTAGES:

- Instructional Flexibility: Education is more individualised and personalised because it is adapted to the different possibilities.

- Complementarity of codes: Through multimedia, children get the information from more than one channel, what make them learn better.

- Increased motivation.

- Development of collaborative and cooperative activities.

DISADVANTAGES:

- The pseudo information: Children have to be able to select information in a meaningful way, separating the relevant information from the useless one.

- The saturation of information: Sometimes too much information can be negative producing a cognitive saturation effect.

- The technological dependence.

2.2.2.3. Use of ICT in the Foreign Language Classroom.

Information and Communication Technologies (ICT) should be used to help the learner advanced the basic linguistic skills. They provide practical solutions to the problems of language teachers whose solo equipment, as a rule, consists of nothing more than textbooks and the classroom.

> "Other pedagogical innovation processes that the language teacher should implement in the classroom are to build virtual environments that allow students to develop their ability to learn. (...) Students develop their knowledge through interaction with other educational agents and new Information and Communication Technologies are just one of the cognitive tools that students have, since interactivity is its most significant element." (Siliberti, 2011:98).

According to the existing bibliography, these are the main reasons for the use of ICT in the second language classroom:

1. Motivation: children usually like using computers outside class and school to play games or surf the Internet. We can take advantage of this enthusiasm and focus it on children's learning process.

2. Neutral assessment: Foreign language exercises on-line can be a good solution for less advantages children as they will be corrected or evaluated by a machine and not be the teacher or other classmates. This fact may motivate them to take risks and experiment with the language during the learning process.

3. Communication: Nowadays Information and Communication Technologies are used as one of the major means of communication. The language teaching and learning should not leave this medium behind.

4. Attention to diversity: In big classes, there will always be children who learn at different pace. By using computers, each child can do exercises which are adapted to her pace. Individual learning features will be respected.

Apart from these main advantages we can also add that:

- ICT helps the learner understand the second language by putting her or him in direct contact with objects and materials artefacts, by making them having things near, and by bringing the world into the classroom.

- ICT promotes remembering by involving the perceptual sense of the learners, by arousing the learner's curiosity, by making use of pictorial content, and by providing varieties of teaching.

- ICT makes teaching effective by creating situations for presentation and practice of language items and by reducing dependence on the learner's native language.

- ICT helps in formation of language habits by drills, repetition, and constant practice.

- ICT increases the learner's experience of language by providing a rich variety and better quality of instruction.

> "ICT do not automatically add quality. There is however, growing evidence that ICT application to the core business of education can accelerate and improve learning on a number of fronts. It can also provide the means of gathering,

> connecting and analysing data about teaching and learning in ways that enable us to more accurately diagnose student need and evaluate programs. To apply ICT in these ways requires changed approaches by educators." (Dellit, 2002:56)

- ICT increases the teacher's efficiency by saving time and energy. There is a big amount of activities to download on the Net, so teachers can take advantage of them and use it during their lessons without the necessity of preparing themselves all the materials to use in their lessons. This fact allow them to prepare a wider range of activities for their students increasing at the same their efficiency by spending less time preparing materials.

New technological resources can also have some disadvantages among we can mention the following:

- Some students see them as another resource without showing any special interest in them.

- Some students do not reach to understand that the use of ICT is a significant progress both in their personal and academic life.

- Sometimes the teacher has to deal with technological problems: the computer does not work, there is too much light in the classroom…

Nevertheless, the use of Information and Communication Technologies in the second language classroom is an important and motivating factor that makes children on one way or another come to see the foreign language as a language that connects with their interests and motivations, and that could help them in their professional and personal development.

However we cannot forget that these new resources are just a complement in the teaching of a new language, but they can never supply ourselves.

These are some technologies we can use in the Foreign Language classroom:

- Computers.

- Mp3.

- Laptops

- Internet

- Whiteboards.

- Interactive Whiteboards.

2.2.2.4. Use of ICT in CLIL lessons

Both CLIL and the introduction of ICT in education are brand new, so mixing both together during the same lesson in something even more recent. There are not many researches or investigations about it, and this is one of the reasons why I decided to investigate the use of the ICT (mainly the Interactive Digital Whiteboard) within the bilingual classroom.

Its use is specially related to the improvement of the use of the foreign language both in a written and oral way, like what happen with the learning of English as a foreign language. Obviously, this is a new and innovative tool for both teachers and students, so there are lots of things to learn in order to use it in the most efficient way.

In the early stages of Primary Education (first and second cycle) children need to manipulate the reality, observe and see what they are studying in order to understand it. Teachers have to be able to show them this reality, and bit by bit they will internalise the knowledge. ICT can help us in this task, because they can get knowledge about reality, and what it is also important, children can follow the explanation of the teacher more easily.

From my own experience, because of the novelty in our country of teaching a non-linguistic subject trough a foreign language, there is little material, or even more, there is not good material for our children to buy. This is why ICTs are an invaluable tool, because we can get a wide range of foreign and appropriate materials for the students. Using Internet also allow us preparing more varied and colourful lesson, what make children being more enthusiastic and motivate to our explanations and to participate in them, what make them use the language to communicate with their partners and the teacher.

2.3. The Interactive Digital Whiteboard: Definition.

2.3.1. What is an Interactive Whiteboard?

> "The whiteboard in the classroom opens a window to the world that lets you share and comment all materials and work done by teachers and students and acts as a seed for innovation and cooperation. Its availability in the classroom will induce a remarkable renewal of the teaching methodologies and the processes of teaching and learning, increases student motivation, revitalizes teachers' professional self-esteem and facilitates the achievement of learning more meaningful and consistent with current society".(Marqués and Casals, 2002:36).

According to Red.es, the Interactive Whiteboard is a computer connected to a video projector that projects the image of the screen onto a surface. The screen is an adequate element to be integrated in the classroom in a natural way, from which you can control the computer, make handwritten notes on any projected image and save, print, email them and export them to different formats (Red.es, 2006)

It is a very powerful instrument in education because it is the combination of the use of the traditional board with the new multimedia system resources and ICT.

2.3.2. Elements of the Interactive Whiteboard

Atypical installation of an Interactive Digital Whiteboard must include at least the following elements (Ferrer Marqués, 2003):

- **Multimedia computer** (laptop or desktop), equipped with basic elements. The possibility of having a keyboard and wireless mouse increases students' facility of participation from their own desks. This computer must be able to reproduce all the

multimedia information stored on the disk. It is important to consider that the board operating system must be compatible with the software of the computer.

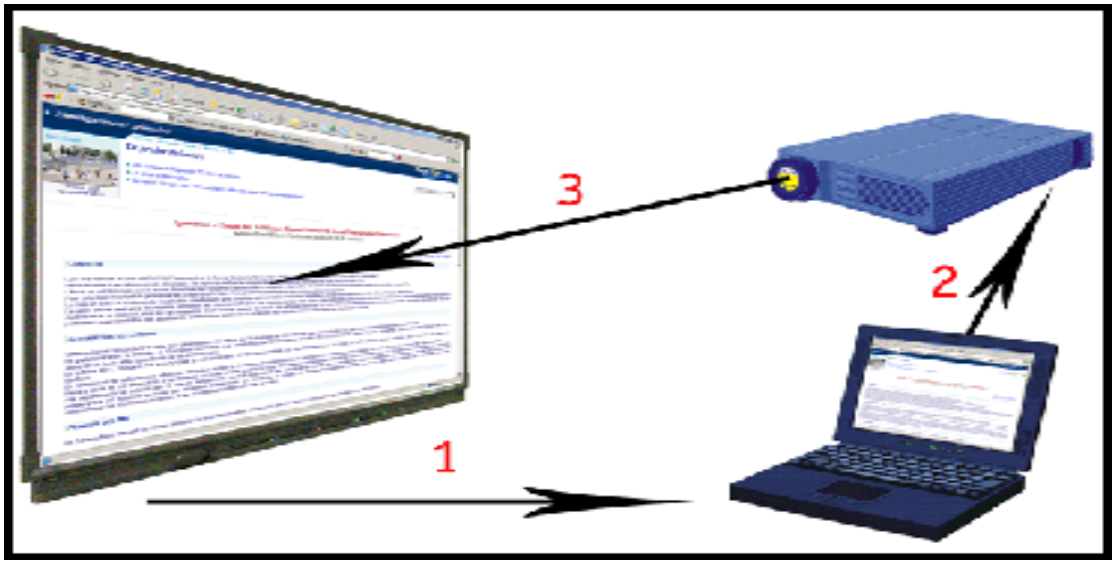
- **Interactive screen:** On this screen the computer's image will be projected and this image is controlled with the finger or a pointer. This system allows both teacher and students to interact or visualise a wide range of materials with different formats, such as multimedia presentations, documents or videos.

- **Digital Projector**, to see the computer image on the board. As a preference it should be placed in the ceiling or inside the screen at a distance from the board in order to have a large and bright image.

- **Connection media:** The computer and the board communicate it. There are connections via Bluetooth, cable (USB, parallel) or connections based on identification technologies by radio frequency.

- **Interactive white board software**: Every IDW needs its own software provided by the manufacturer or distributor in order to use all its functionalities.

The use of an Interactive Whiteboard can be explained with this picture (Red.es, 2006):



1. "The board give instructions to the computer."
2. "The computer sends to the video projector the instructions and the display."
3. "The video projector projects onto the board the result, allowing the person who operates with the computer see in real time what he does on the board and how the computer interprets it."

2.3.3. Types of Interactive Whiteboards.

We find different models of Interactive Whiteboards. Currently, even new models are emerging in the market and it is especially necessary to know the use of each. (Red.es, 2006)

Electromagnetic Whiteboards: They have got a magnetic membrane and through a pencil or pen they interact on the board. An example is the Interwrite – School Board 1077.

Slates Touch: Those who have a sensitive membrane, running through some pens or our own hand. Among these we find the *Smart Board.*

Infrared and Ultrasonic Whiteboards: Using these combinations writing is registered. They often use specific electronic pens or standard markers, MIMIO Xi

All Interactive Whiteboards have their own software, but many of these programs have similar functions. Below are the main common applications: Writing and drawing from your computer or directly on the board with different colours.

2.3.4. Teachers training.

Teachers who use the interactive whiteboard must have received the required training from the moment they have this resource, in order to make a really useful use of it when teaching their lessons. This will require the training to be given at the time of installation and that it perfectly fits with their needs, starting with the basics and including a wide range of educational proposals to take advantage of it with their students: simple examples and of immediate application in the classroom.

It will also require getting used to managing his resource in order to avoid the problem of shadows, learning the teacher to make light of the projector and accustomed to a suitable position to write (the head slightly back and the arm more extended).

There are different ways of taking advantage of the Interactive Digital Whiteboard in the classroom according to Marques and Casals (2002:37):

- An Interactive Digital Whiteboard can support teachers' explanations, something that can contribute at the same time to the treatment of diversity.

> "As each teacher is discovering new Web pages relevant to their subject, they may be using them in conjunction with traditional notes (…). These wide varieties of multimedia resources, in addition to raise student motivation and keep their attention, increase the opportunities to connect with their interests, facilitating the treatment of diversity and the orientation of their learning". (Marqués and Casals, 2003:37).

- Students can look for information in the Net about the topic they are studying and present it to their partners, using the language.

> "Students will have an opportunity to present and explain to their partners the content of these web pages and other found materials related to topics covered. The teacher's role is to listen, collaborate and if it is necessary, correct or complete the explanations of the students." (Marqués and Casals, 2002:37)

- The use of the IDW can turn some individual activities into collective and collaborative activities.

2.3.5. The Interactive Digital Whiteboard benefits.

According to different studies compiled by the British Educational Communications and Technology Agency (BECTA) using whiteboards involves the following benefits (Red.es, 2006: 12-15).

2.3.5.1. General benefits

"Increases efficiency and effectiveness in the teaching- learning process":

When using an IDW we have got varied and more dynamic resources, and even the time the teachers has is optimized. This factor made lessons more colourful and attractive for both teachers and students. At the same time there is more interaction and relationships among children, teachers, technology and the subject and this is translated in terms of more communication and participation in the classroom.

"Resource applicable to all stages of education: The interactive whiteboard is a resource that teachers can use with students of all ages and in all areas of the curriculum."

2.3.5.2. Benefits for teachers

"Flexible and adaptable resource to the different teaching strategies":

The IDW stimulates students' critical- thinking, so creativity is just limited by the imagination of the teacher and the students themselves. It also allows the use of different teaching methods because it can be used as a combination of group and individual work, favouring at the same time communication, for example through the use of videoconferencing.

"Accessibility to an attractive and easy to use ICT technology":

First of all the IDW facilitates teaching, it is easier than using one computer for each child. This way the teacher can work in big group increasing the use of ICT and motivating to use new pedagogical strategies, encouraging professional development.

"Interest in innovation and professional development: The interactive whiteboard increases teachers' interest in innovation and professional development, and pedagogical change which may involve the use of a technology that initially fits with the traditional models, and that it is easy to use."

"Saving time":

One of the IDW associated software give us the possibility of recording the worksheets we are using for the next session, facilitating the revision of the contents and reducing the involved effort.

2.3.5.3. Benefits for students

"Increased motivation and learning":

The use of pictures and videos helps children understand complex concepts because they facilitate comprehension, and at the same time explanations can be sent by email to the students, something that makes the revision of the concepts seen during the lessons possible.

"Bringing ICT to students with disabilities":

- The IDW can cater to different disabilities:

1. Children with kinaesthetic problems: "They reinforce their learning through exercises that involve contact with the Interactive Whiteboard".

2. Children with visual problems: They have got "the possibility of increasing the size of the text and images, as well as the possibility of objects and symbols manipulation."

3. Children with hearing problems: They have got "the possibility of using visual presentations or the use of sign language simultaneously."

4. Children with other special needs: "Students with severe behavioural and attention problems will be favoured by having a large interactive surface, sensitive to a stylus or even the finger."

3. AN INNOVATIVE PROPOSAL OF INTERACTIVE WHITEBOARD INTEGRATION IN THE CLIL CLASSROOM

3.1. Introduction

After having clarifying the concepts of ICT and CLIL (something essential for being able to understand the project) and analysing the impact, evolution and importance of the New Technologies in the educative field, I will start developing the main part of my Master Thesis.

It is essential to start with an explanation of the context of the school where I had applied my innovation proposal, followed by the school variables (the programmes the school is involved in), and especially I will develop an analysis of the use of the ICT, concretely the Interactive Digital Whiteboard, within the school and specifically in the CLIL classroom. In order to elaborate this last part, I have done some questionnaires to most of the staff of the school (Primary teachers) and to the students of the second cycle of Primary Education.

Moreover, I want to develop an Innovative Proposal in this school related to the use of the Interactive Digital Whiteboard within a CLIL lesson (specifically in Science because of the lack of a text book to follow). In order to work this idea out, I collected information through questionnaires among the students and the teachers that allow me gather information about several aspects: their opinion about the IDW, the advantages and disadvantages they find on it, the training teachers need in order to use it, the use of this instrument during a bilingual lesson and the frequency of its use.

I have got three main aims with the development of this Innovative Proposal: To know how teachers use the Interactive Digital Whiteboard within a CLIL lesson, to check the main advantages and disadvantages in the use of the Interactive Digital Whiteboard as regards learning Science contents through a foreign language and to know the Interactive Digital Whiteboard possibilities within a CLIL classroom. As a starting hypothesis, I consider that motivation is increased with the use of the IDW because children have a visual support. This is something essential when we talk about

the acquisition of contents through a foreign language. Some children can refuse studying or paying attention to the explanation, just because they are not able to follow a lesson. With this new instrument they can put this idea aside, because what the teacher is saying is illustrated on the screen. We all know how little children enjoy playing games on the computer, and this is more than playing and having fun because they are learning, not only from the activity but from their partners' answers, establishing communication among them while they show their agreement or disapproval.

As regards the use of the IDW by teachers, they are conscious of this motivation, so they find it a very useful tool for their lessons. The main problem is that some of them are not too young and it can be difficult to use for them, or they are not able to exploit all its possibilities. The specific training that sometimes is required is something that not everybody wants to receive.

Once this project is completed, we will check if my hypotheses were true, and what aspects could be improved in order to do a proper use of the Interactive Digital Whiteboard.

3.2. Context

3.2.1. Context variables

The school is an urban school of a small city in the South of Asturias. It is located in a valley surrounded by forests, mountains and fields, using the hillsides for the farming activities and forest development. The low zones are used for industry and mining pits. It has also a big river, and some interesting monuments and buildings, including its town hall.

The demographic structure of the city has suffered a negative development since the eighties, because there are more deaths than births. It has also been an area of big migrations related to the disappearance of the iron and steel industry: much population moved to another big city; the second migration movement was because of an industrial crisis which made that many people lost their jobs, so they had to move again.

We can say that this city suffers a big crisis of unemployment. The main occupations are: 1% of the population works in the primary sector; 55% in the secondary one (44% in the mining industry and 11% in others); and 44% in the tertiary sector. Farming is one of the works that many families do in order to increase their income, but it does not take an emphasized place as the unique work.

Nowadays, mining industry continues being an essential activity in the city providing one out of every four employments, but the main source of employment is the service sector: trade, education and health are the three main ones, followed by transport and communication.

Gypsies are considered the marginal ethnic group, despite of constituting an important nucleus of the population. To this we can also join the presence of a high number of drug addicts not only from the town itself, but from other councils and close parishes.

The city has lost many leisure facilities or places, although now they are trying to solve this problem and they are building some places for children and young people.

Policemen of the city are involved in the education of the children and they usually go to local schools to teach them some instructions about road safety. Nowadays they also have a carting track with traffic lights and other road signs in order to put their instructions into practice.

3.2.2. School variables

In the school there is only one class per level. Each group has a classroom, but for some subjects like English, Physical Education… children have to move to another classroom. There are support lessons for Special Education Needs children and special groupings for children of other countries, or the absent ones, in order to help them acquire the basic skills in Spanish language which will let them cope on with the level of the group.

A big percentage of the students who come to the school are gypsies and marginal minorities, but they have to live together with other children (the minority) whose social level is medium. Although there is a good relationship between the children, this

difference in the social position also established a difference in the academic results and the motivation, as well as the implication of their parents.

From 2007 the school has broadened its educational offer through its participation in the Bilingual Program. The main aim of this project is improving the English linguistic competence of our students through CLIL methodology. In order to achieve this objective, in addition to the 3 English sessions children already have, they will have two more extra sessions of two non- linguistic subjects (Conocimiento del medio and Plástica) in English. This way we increase the number of English sessions (5 per week) without having to increase the school time.

By participating in the Bilingual Program, launched by the Ministry of Education and Science of the Principado de Asturias, the students' families who join the Primary Stage of Education from the academic year 2007 will choose, and therefore voluntarily, between two options:

OPTION A: The student to receive one session of "Conocimiento del medio" (Science) and another one of "Plástica" (Art) in English.

OPTION B: The student will receive the four "Conocimiento del medio" and "Plastica" sessions in Spanish.

The contents will be the same, independently the option you choose. The only difference will be the language they will use to acquire them.

Choosing either option A or B is totally voluntary and students' families have the opportunity of changing from one option to another at the end of the academic year.

The school is also involved in a Health Project which main objective is promoting correct health, hygiene and diet among our children taking into account their different ages and needs.

From 2009 it has been outfitted with several Interactive Digital Whiteboards. As everybody knows, nowadays ICT are main tools in the teaching-learning process. From this starting point, the school tries to do its best and facilitates the students the possibility of contact with the new digital area. All children in the school (including the 3 year-olds) go at least once a week to the computers room to work different contents related to their curriculum and according to their level and capacity.

3.2.3. The Interactive Digital Whiteboard in the school

The use of ICT in this school is increasingly day by day. As I have said before, apart from the traditional computer, we have several Interactive Digital Whiteboards. This fact is related to the implementation of "One laptop per child"**,** the last project in integration of Information and Communication Technologies (ICT) in schools. The objective was to launch the XXI century digital classroom, classrooms equipped with technology infrastructure and connectivity. The Programme is based on:

- Digital classrooms: Give ICT resources to pupils and schools: laptops for students and teachers, and digital classrooms with effectively standardized resources.
- Ensuring Internet connectivity and interconnectivity within the classroom for all digital resources.

- Promote teacher training both in the technological and methodological and social aspects, integrating these resources into their daily teaching practice.

- Generate and provide access to digital educational materials related to the curricula for both teachers and students and their families

- Involve students and families in the acquisition, custody and use of these resources.

All the children in the school go at least once a week to the computers room, but we also have got two Interactive whiteboards for the Infant Stage (3 and 5 years old classroom), and five for Primary Education (the third cycle of Primary Education classrooms, and two of the three English classrooms).The whole stuff can use them, but because of their location, teachers who have got the tool in their classrooms are who benefits more of this technological tool.

As regards English, we have got two Interactive Digital Whiteboards, but three English classrooms. I am the teacher without IDW in the classroom, but I have no problem to use it because I coordinate with the other two colleagues, so I can take advantage of it most of the times I need it.

3.2.3.1. The Interactive Digital Whiteboard in Primary Education: L1. Teachers' opinion.

Teachers who do not teach English or who are not in involved in the Bilingual Programme have the opportunity of including the Interactive Whiteboard in their daily lessons, because as "I have said before" in the school there are five. The main problem is that they are not located in common classrooms, so teachers need to ask for permission, or wait for the classroom to be free.

In order to know how the teachers in this school use this instrument, their preferences, if they find it a good resource or not… I made a quantitative and qualitative questionnaire (Annexe 2) with two main parts:

Part 1: Initial questionnaire

This initial part has got 2 questions related to the use the ICT in their daily teaching life, and an assessment of the PDI and their training in the use of ICT.

Part 2: Global questionnaire:

The second part of the questionnaire consists of 9 specific questions about the IDW and a tenth question about how useful they find this new tool in a CLIL lesson. All the questions are open because apart from giving different options, they can give their own opinion and vision of the topic.

It was answered by 10 of the 14 teachers of Primary Education, including the specialists (not the English ones): 7 woman and 4 men. 3 of them have been teaching from more than 25 years, and 8 for between 2 and 12 years. This difference in years of experience is not related to the more or less use of the IDW, as 2 of the 3 people with more years of experience consider its use as "a powerful visual reinforcement, with an attractive and powerful magnet to capture the attention of students at once".

Only 2 of the 10 respondents have an IDW in their own classrooms, while the other 8 teachers have to move to another room whenever they want to use it. This fact is much related with the more or less use of it. We are talking about children from between 6 and 12 years old. Moving them to another classroom is sometimes a hard task and teachers lose a lot of time while we go to the classroom, they take sit, we turn the DIW on, so teachers reduce its use to once o week or even less. To this

inconvenient, we have to add another problem, maybe the main one, and it is that most of the time the classroom is occupied by its teacher, so they have to wait for that classroom to be free.

An Interactive Digital Whiteboard has plenty of possibilities in Education. It is a very powerful instrument we can use in different situations and with different purposes. In this school the major educational application model is “the presentation of activities or resources (videos, websites…) by the teacher”, followed by “a supportive tool for the teacher explanation". Almost half of the respondents also use it for “collective exercises correction”, “collaborative work in the class and “exposition of the different resources founded in the net by the students”. A minority find it a useful tool to “support the public exhibitions of students when they have to present their works”, or “to make comments about newspapers news”.

The subject they teach is another crucial factor to take into consideration. A big majority have a preference and interest in incorporating the Interactive Digital Whiteboard in their lessons. Only the two Physical Education teachers, despite they find it a big resource, do not think this resource is essential or appropriated for their subject: “The contents of my area are explained in a practical way in the gym” say one of them.

When we talk about the effect that the use of the IDW has in the students learning, most of the teachers in the school think that it “improves comprehension and content acquisition”, as well as “improves the oral communicative skills”. More than the half of them also considers that most of their children “have integrated more the ICT in their learning processes, learning how to use programs and improving their skills in searching and selecting Internet information”. Half of the teachers considered that the help of this tool “have improved children attention and motivation, and the participation have been increased” and that “students have done more collaborative activities”. A minority, 20% of the respondents, also think that the use of the Interactive Whiteboard “improves public presentation of the student work, improving their ability to synthesize and the oral and written expression”, as well as that “it improves the written communicative skills.”

It is very remarkable that half of the teachers think that the use of this instrument in their daily lessons can improve learning and this will be translated in a reduction of

the escolar failure. The main argument they give for this affirmation is that explanations are better acquired, an even those pupils more reluctant to study, because of their attention during the class, are able to pass the exams. It increases motivation having a positive impact on their learning.

Some others strengths to highlight according to the questionnaire are that "teachers can submit information and present it through multimedia support, facilitating at the same time the interaction between teachers and students"; it is also "motivating for the teachers themselves, stimulating the search of new resources and the professional development". We cannot forget that "it provides immediate access to a huge source of teaching resources and its presentation to the whole class". Half of them remarks that the IDW give us "the possibility of doing collective corrections", "the ability to record and exploit screens again another day", "the convenience of surfing the net from the touchable screen", and " the possibility to write and underline in a handwriting way on the touchable screen".

We are just talking about the advantages and the power this resource has, but like any other material or tool it has some inconvenient or negative aspects. As regards the thought and experiences of the Primary Education teachers, 80% of the respondents consider that the main problem they can have when using an Interactive Digital Whiteboard is that "the Internet connexion does not work". As regards this problem, the solution is not immediate, and sometimes is something you cannot predict, because it can happen at any moment. The other problem teachers can find is that "the user covers the screen with his shadow". This inconvenient has an easy solution and in their opinion is just a question of getting use to the tool. An important point to consider too is the affirmation that one of the teachers does: "The biggest problem is that teachers do not know the great potential of the Interactive Digital Whiteboard, or they do not to use it properly".

The use of the ICT is related with the use of a new methodology, a new way of teaching and learning, so teachers need to have a kind of formation to use it, otherwise they will not know how to use it, or even more, they will not use the wide range of educational opportunity they give us. This is why more than half of the respondents say

that they have needed to renew their teaching strategies, and that it is not an easy resource to use.

As a final conclusion, almost the totality of the teachers in the school wants to use this new attractive tool next year. They find more advantages than disadvantages in their use what makes them consider using it in their daily lessons, and every time the Lesson Plan, or subject allows it.

3.2.3.2. The Interactive Digital Whiteboard in Primary Education: CLIL lesson. Teachers' opinion.

Two of the Interactive Digital Whiteboards there are in the school are placed in two of the three English classrooms. There are three English teachers, and the three of them are involved in the Bilingual Program. Apart from the analysis I have made of the use of the IDW in Primary Education within my school, and because of the importance and the use I do of this resource, I wanted to make a comparative of these two educational fields: Bilingual and non-bilingual.

Two English teachers answer the same quantitative and qualitative questionnaire (Annexe 2), and the results I have got are very similar to the use in the other Primary Education subjects. The main aspect I have to highlight is, like happened with the other two teachers who have got an IDW located in their classrooms, that they both make a greater use and enjoyment of it.

One of the questions I made to the whole stuff of the school is the importance they give to the use of the Interactive Digital Whiteboard within the CLIL classroom. All of them agree about how useful it can be in this field because of different reasons. The main highlighted comments or arguments, received from three of the teachers were the following:

- It gives the opportunity of joining image-sound-writing and movement in a second. Students can experience real situations, understand spatial concepts… They are very used to image world in their daily life, so this resource is not boring for them.

- Its use is very useful because it allows you to use tools in a quicker and more enjoyable way than traditional methods.

- It is a powerful visual reinforcement, with an attractive and powerful magnet to attract the attention of students at once.

3.3. Development of the Innovative Proposal

3.3.1. Justification

This innovative proposal consists of the integration of the Interactive Digital Whiteboard in the CLIL classroom, concretely, within the subject of Science, through the realization of different activities: Power Point Presentations to introduce the topic, online activities, worksheets... It was developed with a group of 35 students of the second cycle of Primary Education (16 of year 3, and 19 of year 4) between the months of September and March corresponding to the Academic Year 2012/13.

Depending on the school, the methodology to teach a non-linguistic subject through a foreign language is completely different. Logically, English teachers want their students to acquire contents in the best way, so they try to look for the most efficient strategy.

As regards the school I talk about, it is involved in a Bilingual Program since 2007, so in addition to the three sessions of English as a foreign language, children also have one session of Art and one session of Science in English peer week. This way, children are in touch with this second language more hours a week without increasing the school timetable.

Both for Science and Art teachers follow the Spanish curriculum, but the methodology they use is different from one subject to another: As regards Art sessions, each child from year 1 to year 6 has a textbook, but in the case of Science there is not any textbook, so the CLIL teachers have to prepare their own materials.

The way teachers teach contents in Science is also different from one cycle to another:

- 1st cycle of Primary Education: The CLIL teacher gives an overview of the topic that the children have been seeing in Spanish during the week.

- 2nd and 3rdcycle of Primary Education: In these two cycles, the CLIL teacher is in charge of teaching one Science topic peer term. In the Spanish Science curriculum there are 15 topics peer year, so children will study 3 topics in English, and the other 12 topics will be taught in Spanish.

In both cases the teacher has no textbook, so he has to prepare all the material for him and his children. This is not an easy task, and a time consuming work, because it is not just looking for extra worksheets for kids, but preparing the whole topic.

From my point of view, teaching a non- linguistic subject through a foreign language is very complex, not just for kids, so the fact that my students are very young, increase the difficulty. We have to be able to catch their attention and motivate them in order to make them want to learn and study the topic. Lessons have to be active, participative and very visual to facilitate comprehension. It is also important that children can experience what they are learning and give them as many examples as possible.

I teach Science and Art in the Second Cycle of Primary Education, so as I have explained before, I have to teach 3 topics peer year (one peer Term) of Science. I have no textbook, with the consequence of having to prepare my own material without having any material support. This is the main reason why I have decided using the Interactive Whiteboard in my CLIL lessons.

ICT are present in the daily life of our students, and from the school we have to contribute to the development of digital skills. Despite the great use that the English teachers do of the IDW, they take advantage of it during almost all their English daily lessons, but not during bilingual classes. This fact let us assert that this tool is underutilized because teachers do not take advantage of it, and as many investigations have demonstrated, the IDW is a strong and powerful instrument that is able to catch the attention of children and motivates them, apart from being an unlimited supply of resources.

CLIL lessons have to be very visual, in order to facilitate comprehension, and this way, children will assimilate information easier. This is very difficult and a time consuming activity by the teacher, because of the effort of having to prepare posters,

flashcards… This is for me one of the main arguments that make me want to introduce the use of the IDW in the CLIL classroom.

It also gives us the opportunity of working in big group with the children, so all of them will see the same at the same time. It promotes communication, because when worksheets are being corrected, children have to explain and argue their answers, as well as establish if they agree or not with their partners' answers.

As we can see, there are not strong arguments that make us reject the use of the Interactive Digital Whiteboard, because instead, it helps and facilitates our teaching labour.

3.3.2. Didactic objectives of the Innovative Proposal

Apart from what I have just explained, the main didactic objectives of my Innovative proposal are teaching Science through the Interactive Digital Whiteboard, the improvement of the communicative skills, to include the new technologies in children's daily life and contextualise the topic we are studying:

- To improve the communicative skills: When we learn a foreign language our main aim is that the student is able to communicate in the second language. Through the use of the IDW we can foster communication. Little children (between 8 and 10 years old) are not used to present school works, but with the presentation of videos or pictures to talk about them we are making them using the language. The same happen when we correct activities in big group.

- To integrate the ICT: Because of the society we are living in, everybody has the necessity of mastering the digital competence. All people need to coexist with media, and from the school we have to help our students in this distance race. Using the IDW I have the opportunity of cover this necessity while at the same time children are motivated to use it while at the same time they are learning.

- To give a context to the topic: Using an Interactive Digital Whiteboard allows me using a wide range of materials beyond the traditional textbooks and CDs. Sometimes it is better do not need to follow a book and finish it, but I have to recognize that some years ago it was very difficult having got to compile worksheets, activities… so

teachers prefer having a textbook. Nowadays thanks to this powerful tool, the textbook is not enough because the IDW is a non-limited resource. At the same time it gives me the opportunity of bringing the topic we are working into classroom contextualising it and making it easier to understand for children.

In the school there are three English classrooms, but two Interactive Whiteboards. So in my class there is not any IDB. This is not a problem, because I can coordinate with the one of my English colleagues. At the beginning of the Academic year, we try to leave her classroom free when I have to teach Science. This way my students go to her classroom to work with the Interactive Whiteboard.

3.3.3. Methodology

Communication is the primary linguistic function, and it takes place through oral and written language. These two ways of communication do not have the same relevance, and oral language has supremacy over the written language, although this last language form is also an important and normal way of communication and of obtaining information that everybody use in their mother tongue.

Before finishing Primary Education, children should have mastered an automatic and quick correspondence between oral language phonemes and the graphic signs they represent. The best way of making this, is teaching both, the oral and written forms of English Language, at the same time. This will help to make learning easier and more effective.

The main aim is not to teach a foreign language, but to help students to communicate and use a foreign language: Fluency is more important than accuracy. We have to help our children to acquire communicative competence, this means not only to achieve linguistic competence, but also master the appropriate norms, skills and strategies so they can adapt their response to different contexts.

We are following a Content and Language Integrated methodology, so apart from teaching English as a second language, we are teaching Scientific and Artistic contents through English. This is sometimes quite hard for little children, so we need a lot of visual support. It is important to support our explanations with flashcards, posters,

realia… and in my case, as I have no textbook for my Science lessons I use the Interactive Digital Whiteboard.

ICT has many advantages and benefits in the teaching-learning process, and in my case apart from the motivation that arouses in children, I am able to contextualise my bilingual sessions bringing the world into the classroom through the Internet, videos, and online games related to the topic we are working with.

In the school we consider ICTs as main tools in the teaching-learning process and apart from the Interactive Whiteboards we also have got traditional computers. All my children go at least once a week to the computers room to work different contents related to their curriculum and according to their level and capacity. It is good that children can work English from different ways and not always in the classroom. Computers are a good tool. We reinforced some lesson plans with interactive activities or online games (www.starfall.com; www.sesamestreet.com). We can work through free software like CLIC, or Edited Software like Q-Steps.

We have to motivate our students, sessions have to be very participative, active and at the beginning we cannot forget that activities have to be prepared to be solved with few verbal productions. Children do not have to be forced at any moment to any linguistic production until they feel ready to it. We have to respect their silent period. During it, children receive a lot of input but they do not feel confident enough to produce the adequate output. If children do not want to talk, we should not force them.

Sessions are carried out in English and children are going to receive as much input as possible. Their mother tongue will be used only in specific occasions when communication is impossible to be carried out, but it will be better if they resort to any other non-verbal resource to communicate and make themselves understood. In those occasions that children use their mother tongue to communicate, immediately I will give the correct model in English so they can internalize it. I do not use a teacher's book, but some activities are extracted from different books because I find them interesting. Children work with photocopies and other materials, but not with a class book.

Materials have to be manipulative and visual like flashcards, posters, magnetic and white boards… and we will work with songs, puppets, rhymes, storytelling…

The teaching-learning process is child centred, giving a lot of importance to their participation in the classroom. I take into account their previous knowledge, and their preferences in order to develop class activities and topics to produce meaningful learning. We have to make reference to Gardner's theory of multiple intelligences, because our children are all of them different from each other, and they belong to different intelligences group. So I will plan different kinds of activities to cater for all different learning styles in my group.

We have to be the guide of the language learning process. We have to be able to motivate students and to make them feel confident in the learning of the foreign language.

It is very important to take always into account the treatment of error. Children go through different stages of language learning. We all go through universal routes when learning a language, and we all use the same kind of strategies. The core of the process is making mistakes. You have to make mistakes in order to learn. When you make mistakes, you test the hypothesis against the new language.

Our students process all the information that the teacher gives them, but they also need time to process the information given and their hypotheses. Making mistakes is not a bad thing. We must not correct every mistake that our students make. Just in case we observe that they systematically make mistakes which are not allowed in the target language, shall we correct them and, of course, when they interfere in communication. We should also provide positive answers when we correct. When doing written pieces of work, in the margins, some recommendations or positive comments should be written, but best of all is to involve the students in the correction process.

Parents' role is also very important. They have to be conscious of the fact that they children are not going to acquire a very high level of English at the end of the Primary stage, but they are going to acquire the basic levels on the four skills (speaking, listening, reading and writing), which will be necessary to cover the basic communicative needs in those contexts where they will use the second language. They have to be in contact with their children's work because school work has to be complemented at home with their help.

3.3.4. Activities:

It is important to take into consideration that the age range of the respondents is between 8 and 10 years old, so it is quite difficult for them being able to use the Interactive Whiteboard by themselves, or preparing tasks to be shown through it.

This is how I use the Interactive Digital Whiteboard with the children:

- Teacher explanation support:

As these students have not got a textbook and I had got to teach them different Science contents, I prepared a Power Point Presentation (PPP) for every topic. In these PPP (Annexe 3) I included every definition they had to know and learn, illustrating them with a wide range of pictures to facilitate comprehension.

This activity was done in big group at the beginning of every Science lesson. Sometimes we do it to review what they had learned in the other session, but in every session it is used to explain the new part of the topic they are working on. All the information given to the students were supported by the IDW, so through pictures and written definitions the teacher could clarify the explanation, facilitating the comprehension.

Because of the lack of a text book, this tool is essential and irreplaceable during the lesson. Otherwise the explanation of the teacher with no support is useless for children. All text books include different pictures to illustrate what they are learning. In this case where they are learning through a foreign language the necessity of having images is bigger.

- Worksheets and homework:

The students had got to complete some worksheets and different activities in their notebooks. It is very practical the possibility of showing in the IDW the worksheet they will have to do for the next day. In this way, the teacher could simultaneously explain all the children in the classroom what they were being asked to do. Similarly, the next day, when the worksheet was completed, the teacher could re-use the projection to show the successful completion of it. Other times, some volunteers using the mouse and the keyboard, edited the scanned document filling each activity, submitting for approval or correction of the class.

The explanation of the worksheets or activities through the IDW took place in big group. Students had to demonstrate the acquisition of the new contents in every session, so they always have homework. The main advantage of explaining activities previously on the screen is that most of the children are paying attention to what the teacher want to. They do not have any other material to look at, so it is easier to catch their attention.

- News and videos comments from Internet: (Annexe 4)

Internet is an authentic resource that allows teachers finding nearly all the information we may need. Thanks to the IDW the teacher could show children places from the outside giving more realism to the lessons. Using videos and pieces of news from different newspapers allowed the teacher using real materials (realia) giving a context to the student.

The viewing of videos and news were done in big group. I appealed to this resource mainly to clarify or explain concepts more difficult to understand. It is also motivating for young learners and the acquisition of the new concepts is better.

- Online activities: (Annexe 5)

In case of language teaching and more specifically when we talk about bilingualism in Primary Education, we face certain difficulties in accessing to specialized materials, even more when the subjects in question represent a novelty in terms of their English language teaching. As regards Science, the Internet connection from our computer classroom give us the possibility to connect to pages with science content in English and project them on the Interactive Whiteboard.

Children enjoyed a lot online activities. They participated in an individual way going to the screen one by one. Not all children could participate in the activity because there was not enough time, but I tried to ask different children every time.

- Science experiments:

It is well known that one of the main principles of bilingualism, and more specifically in Science is manipulation. We have to take advantage of the natural curiosity of children in these early years to promote meaningful learning and production of language (English in this case) when manipulating different objects related to

scientific experiments. They can make hypotheses whose veracity they will have to check after.

These activities can be very varied, from the complexity of the dissection of a cow's heart to the simplicity of letting an ice cube melt. It may be the case that we do not have the infrastructure or the necessary equipment to perform some of these experiences, or that we are interested in making a general demonstration to the class before each student or a small group of students have to face it. In these cases the whiteboard is a good alternative.

We may use some Web pages where we will find all kinds of simulations and experiences adapted to the age of our students, and which are well suited to scientific methodology, that is, we can ask, once we introduce the activity, to predict or formulate a hypothesis about the outcome of the virtual experiment (urging them to relate to the knowledge they have already learned), which is verified through the "feedback" that the computer is giving us.

3.3.5. Contribution to the Key Competences

3.3.5.1. Key competences.

According to LOE (May 26th 2006), at the end of the Primary Education, children should have achieved a series of Key Competences:

1. Linguistic communication competence.

> "This competence refers to the use of language as an instrument of oral and written communication, representation, interpretation and understanding of reality, construction and communication of knowledge and self-regulatory organization and thinking, emotions and behavior." (…) "The development of linguistic competence at the end of compulsory education involves the mastery of oral and written language in multiple contexts and the functional use of at least one foreign language." (BOE 2006:43058-59)

2. Mathematical competence.

> "The development of mathematical competence at the end of compulsory education, involves using spontaneously-in the personal and social fields-elements and mathematical reasoning to interpret and produce information, to solve problems from everyday situations and to make decisions. In short, involves applying those skills and attitudes which allow for mathematical reasoning,

understanding of mathematical arguments and express themselves and communicate in the mathematician language, using appropriate support tools, and integrating mathematical concepts with other types of knowledge in order to give better answer to life situations with different levels of complexity."(BOE 2006:43059)

3. Competence in knowing and interacting with the physical World.

"It is the ability to interact with the physical world, both in its natural aspects and those generated by human action, so that it enables the understanding of events, prediction of consequences and activity directed to the improvement and preservation of conditions of life, of other people and other living things."(BOE 2006:43059)

4. Treatment of information and digital competence.

"Digital competence involves the habitual use of technological resources available to solve real problems efficiently. At the same time, it allows to evaluate and select new information resources and technological innovations as they appear, in terms of their usefulness to undertake specific tasks or objectives." (BOE 2006:43060)

5. Social and civic competence.

"This competence involves understanding the social reality in which we live, face the coexistence and conflict using ethical judgment based on democratic values and practices, and the exercise of citizenship, acting with discernment itself, contributing to building peace and democracy, and maintaining a constructive, supportive and responsible to the enforcement of rights and civic obligations." (BOE 2006:43061)

6. Cultural and artistic competence.

"The set of skills that make up this competence refers to both the ability to appreciate and enjoy art and other cultural manifestations, such as those related to the use of some resources for artistic expression creations, involves a basic understanding of different cultural and artistic events, the application of divergent thinking skills and collaborative working, open-minded, respectful and critical to the diversity of artistic and cultural expression, desire and willingness to cultivate their aesthetic and creative ability, and interest to participate in cultural life and to contribute to the conservation of cultural and artistic heritage, much of the community, as other communities."(BOE 2006:43062)

7. Competence in learning how to learn.

"Learning to learn means having the ability to begin learning and be able to continue learning in an even more effective and autonomously way according to their own goals and needs."(BOE 2006:43062)

8. Personal autonomy and initiative.

> "Autonomy and personal initiative involve being able to imagine, begin, develop and evaluate actions or individual or group projects with creativity, confidence, responsibility and critical sense". (BOE 2006:43063)

3.3.5.2. How the Innovative Proposal contributes to the key competences.

The use of the Interactive digital Whiteboard in the CLIL classroom contributes to the development of the linguistic communication competence in a direct way, completing, enriching and filling with new comprehensive and expressive nuances this general ability for communication. Children have to communicate for example while they have to correct worksheets in big group or when they are solving online activities, because they are using the foreign language to communicate and to try to make themselves understood in different situations and contexts. Apart from oral expression, oral comprehension is also practiced every time they are watching a video on the screen. We cannot forget that we are using this tool in order to learn a language, and that the main aim of learning a language is communication, so obviously we are developing this competence.

This innovative proposal is clearly linked with the treatment of information and digital competence. ICT offer the possibility to communicate in real time anywhere in the world and, also, the simple and immediate access to an incessant flow of information is increasing every day. The Interactive Digital Whiteboard helps us bringing the new technologies closer to the children, and it creates real and functional communication contexts.

This proposal contributes to the development of social and civic competence. Children have to be conscious that they live in a social world with established rules, rights and duties. When they have to wait for their turn to use the IDW, or respect an accept ideas or thoughts different from their own ones, we are contributing to the development of this competence. Also all the original sources or the resources we use are quoted.

This tool contributes to the development of the artistic and cultural competence. As I said before we are using a new and modern technology which main aim is helping

children acquire a second language in a natural way. The languages serve speakers to communicate socially, but they are also a vehicle of communication and cultural transmission. Learning a foreign language implies knowledge of facts and cultural traits associated with the different communities of speakers of that language. This learning, well-focused from school, must be reflected both in the capacity and in the interest in learning about other cultures and in the interaction with other people, speakers or learners of this language.

At the same time, knowledge of another language and cultural characteristics different to personal ones contributes to the better understanding and appreciation of one's own language and culture, and fosters respect, recognition and acceptance of differences in culture and behaviour, promotes tolerance and integration and helps to understand and appreciate both the features of identity and the differences.

The ISW was used during the Science lessons. At this respect its use obviously contributes to the competence in knowing and interacting with the physical world. Through this tool children acquire and review scientific concepts related to nature, such as plants and the water cycle.

3.4. Results of the Innovative Proposal

Apart from the different conclusions I could get from the observation I did during the lessons and the marks my students got in those two Terms, I also considered to have the opinion of the students into account, because at the end, all the new methodologies and strategies that teachers put in practice are always thinking about them.

In order to get their opinion, I made them a quantitative and qualitative questionnaire Annexe 1) consisting on six open questions about the use of the Interactive Digital Whiteboard: the advantages and disadvantages they find, if they have learned more with its use… In this questionnaire participated the totality of students of the Second Cycle of Primary Education who were involved in the bilingual programme: 35 (26 girls and 9 boys) from 8 to 10 years old (9 of 8 years old, 20 of 9 years old and 6 of 10 years old.

The big majority of the children, 90% of the respondents, said that they prefer doing their lessons with the support of the Interactive Digital Whiteboard. The main two reasons they give, or the main advantages they find in the use on this tool are that the lessons are more enjoyable, and that contents are acquired better and in a faster and efficient way. Against this opinion we have got 5 children who do not find any advantage because they do not like doing lessons with IDW.

Using the IDW is very motivating for children and this is translated in words of learning more and better in most of the cases. The big majority of children (80%) agree with this assertion arguing that:

- They understand contents better with the illustrations shown in the IDW

- Lessons are more amusing.

- Images can be seen better than in the text book.

- Because the teacher speaks English most of the time, and her explanation is supported by the IDW, comprehension is facilitated for them.

- Because they work in big group.

A minority of the students (10%) do not agree with the assertion that they learn more using this tool because sometimes they find it difficult to use and it does not work. Other argument is that they would prefer it if the teacher uses it in Spanish and not in English.

All the children use the Interactive Digital Whiteboard at least once a week, but only in the bilingual lessons, specifically in Science. They use it sporadically in music and in Science in Spanish.

Most of the respondents do not find any negative aspect or disadvantage in the use of the IDW because they say that they like it a lot. The only disadvantages that some of them find is that they have got eyestrain or that sometimes they have to copy some texts in the notebook.

What we could observe from the results of the questionnaires is that children have a really good attitude towards the use of the Interactive Digital Whiteboard. I teach English, Art and Science to the same group of students, and I can see that the attitude

they show towards these three different subjects is not the same: children are more enthusiastic as regards receiving a lesson through the IDW because they are not used to use it, so it is an instrument almost new for them.

3.4.1. Evaluation of the Innovative Proposal

After the implementation of this proposal, I developed an assessment of it to check its weaknesses and strengths. This way I could see what aspects are correct and what others could be improved. It is important to clarify that this questionnaire was carried out by me.

ACADEMIC YEAR: 2012/13

NUMBER OF STUDENTS: 35

LEVEL: 2ND cycle of Primary Education

SUBJET: Science

Ratefrom1 to 5according to the following options: Strongly Disagree, Disagree, Neither Agree nor Disagree, Agree and Strongly Agree.

VALUABLES for students	1	2	3	4	5
1. Motivation is increased					x
2. Contents are acquired better				x	
3. Development of the communicative skills				x	
4. Children work in a more collaborative way.				x	
5. Lessons are more attractive					x
6. Participation is increased				x	

After having implemented the Innovative Proposal about the use of the Interactive Digital Whiteboard within the bilingual classroom, I can ensure that motivation is strongly increased in children. Comparing the bilingual lessons with the use of the IDW, and those lessons where children do not use this tool, students' attitude towards the lesson is completely different, they are more concentrated in the explanation and they are not distracted, because they like what they are seeing.

The 6 variables I consider I could get from the use of the IDW in children are all interrelated, this means that they are all a result of each other. Lessons are more attractive for children, because they are out of their daily routines. Although they are used to the New Technologies outside school, this is different at school where they use to have traditional lessons using textbooks and notebooks, so they enjoy lessons and they want to participate more.

Participation is increased, and even those children who are shy or who normally do not want to participate, ask for going to the screen and complete the activities. As they want to participate they use the language without being forced to do it, they are using communication skills in order to make themselves understood.

As regards the acquisition of contents, they are acquired in a better way, but it is remarkable saying that although children are more enthusiastic and more motivated, with those children who do not study, the academic results are more or less the same than without using the Interactive Digital Whiteboard. This means that although this tool is very useful, and they understand contents better because of the visual support provided, they need to practice and work outside school.

VALUABLES for teachers	1	2	3	4	5
1. Increase teachers' motivation in the use of new pedagogical strategies.			x		
2. Increase the use of ICT				x	
3. Save time in preparing the lesson.		x			

4. The materials were appropriated for children's level			x		
5. Technical problems were solved correctly			x		
6. Materials were graded to children's level.			x		

One of the main aspects to consider as regards the advantages or disadvantages in the use of the IDW from my own experience is that I increased the use of ICT during the lessons. Having this instrument in their classrooms, I was motivated to use it with my students. This fact is also linked with the use of new pedagogical strategies, because obviously I cannot prepare the lesson in the same way I do when they do not use the Interactive Digital Whiteboard.

As regards this last aspect, I also wanted to take advantage of the wide range of possibilities provided by this instrument. Because of this reasons I had to receive instructions and help in order to improve my skills with it.

The assertions that thanks to the Interactive Digital Whiteboard teachers save time in preparing the lesson is very common but not totally true. Internet is a huge resource for teachers that help them find a wide range of materials for the students. In this case, I reduced time in preparing Power Point Presentations or worksheets, but as it has got lots of materials, I spent a lot of time looking for the appropriate one for the level or needs of my children.

Not all the materials we find are appropriated for our children's level because most of them are thought for native English speakers, so I had to grade it and this is another aspect to take into account as regards the time I dedicated to prepare materials for my IDW lessons. I found activities and resources but I needed to modify and adapt them to my students.

Technological problems we can find during the development of our lesson are not always solved at time. The different difficulties we can have while we use an Interactive Digital Whiteboard are countless, and depending on the gravity they will be solved immediately or they will impede us using it in several days, needing a specialist in the field. In my case I did not have big problems, just moments were connectivity does not

work properly and we have to wait to load the website, but I have some extra worksheets for my students while we were waiting.

3.4.2. Strengths and weakness of using the IDW

After analysing the results extracted from the questionnaires and my own didactic experience, as well as taking into consideration the results I could get from the students' marks and the direct and daily observation in the classroom, these are the main advantages or strengths we can get from the use of the Interactive Digital Whiteboard:

STRENGHTS:

- Motivation: Motivation is this way, one of the main reasons to use this instrument during a CLIL lesson. Following the different theories we present at the beginning of the project, we had established that ICT in general and the IDW in particular increase motivation. Children love playing with the computers outside the classroom, and apart from this, lessons are more enjoyable and colourful. The results of the questionnaires and the direct observation of the students agree with this assertion.

I started using this tool mainly because children lacked of a text book in Science and I had the necessity of having a wide range of visual material to explain the topics, but because of the positive answer of the children I found it a very useful tool even for those kids who are not interested in learning or studying. Children want to participate more during the lesson, they like going to the board and touch the screen to play an online game or activity, as well as watching videos or pictures on the screen.

- Better acquisition of contents: Everybody knows and have into consideration the difficulty of learning contents in a foreign language. The Interactive Digital Whiteboard gives us the opportunity of illustrating what we are teaching, facilitating comprehension. It is not just talking and explaining, but showing what we want children to learn.

From my own experience, children acquire contents in a better way, and they do not need too many explanations because they have the picture or video of the topic on the screen.

Regarding the attention to diversity, some theories talk about the advantages that this instrument can have related to this aspect. During this innovative proposal, there were not Special Education Needs children, but some students had learning difficulties in some subjects, and behavioural problems. Science will not be an exception, and despite what I have said, for those children who are not interested in school, it is important to clarify that the use of the IDW, in my case, motivates them for being attentive during the explanation of the topic, but the academic results were not improved.

- **Improvement of oral interaction:** Working in big group is very common in lessons with Interactive Digital Whiteboard. Some worksheets and activities were worked in big group making children participate giving their opinions and answers. They had to listen and respect their speaking turn, as well as the different opinions that emerged in the classroom.

- **Development of the communicative skills:** As we are following a CLIL methodology, children are learning more than contents: they are learning a foreign language at the same time. Communication is our main aim in the teaching-learning process of a foreign language, we want our children to be fluent English speakers.

The use of the IDW is very helpful at this respect, because most of the activities we develop are related to communication. Every time children have to give a solution to an activity he will use the language to communicate, and their peers will express their agreement or disagreement using the foreign language.

Apart from oral expression, oral comprehension is another aspect of communication and through the visualizing of videos, we are working it. They also worked on different activities to improve written comprehension such as reading power point presentations, the instructions to play an online game, or specific reading activities about the topic we are learning.

- **Teachers' support:** The IDW is a strong support during the development of a CLIL lesson. Children need to understand contents explained in a second language, something that makes the task more complex for them. At this respect teachers can use the IDW as a strong tool to support their explanations.

- Textbook substitute: Because of the lack of resources of nowadays families due to the economic crisis we are suffering, sometimes is quite difficult for parents to buy all the materials their children need for school. Having an IDW can be a solution to this problem, because all the contents they have to learn can be explained through it without the necessity of having a text book.

- Digital Competence development: Information and Communication Technologies are an essential part of nowadays society. The big majority of people have got a computer at home, and children have access to it and to other digital technologies. Taking advantage of the motivating factor this resources arouse on them we are making them enjoying the subject and at the same time contributing to the development of this important competence, because it offers us the possibility to communicate in real time anywhere in the world and, also, the simple and immediate access to an incessant flow of information.

WEAKNESSES:

The Interactive Digital Whiteboard can also present some problems. As regards my own experience:

As regards the fact of "saving time" in the preparation of the activities for children, that is one of the advantages that some researches on the topic agree and consider, is not totally true. In my case, you do not spend time preparing "physical materials", because you do not need to cut out, glue or prepare special worksheets, but you need to spend time looking for appropriate materials for kids.

From my own experience preparing the activities for the IDW is most of the times a more time consuming activity than preparing a traditional lesson. I say this because connectivity does not always work and you have to leave what you are looking for and continue in other occasion, other times the connexion does not work properly and you spend a lot of time waiting to download websites, looking for activities… Because of these reasons, sometimes you lose more time than cutting, painting or laminating.

What I have just explained is related to the time a teacher needs previously to prepare a lesson using an IDW. Very linked to it, we must consider that maybe when we

need to use some of those materials with our students, we can also have the same technological problems: the IDW or the connectivity does not work properly. Most of the times this is something easy to solve, but lot of time is wasted, and we are talking about teaching to small children who do not have patience to wait for a solution, so it is important to have always another resource until the technological problem is solved.

Apart from what I have just mentioned, it is important to consider that in the Net teachers can find a wide range of materials, but they are not always useful, and it is necessary to classify them and select those worksheets, games, presentations… more related to what it is being taught or to the specific needs of the group, and is not easy or quick, it is necessary to take time to do it.

Despite we can find resources to use during our Science lesson in Internet, not all of them are appropriate. In all the topics I worked during this year I always have to grade the materials, or modify the PPP because they are not exactly what I was looking for. In my opinion, there are many resources for native English speakers, but not for young English learners.

Using an IDW is not easy for all teachers: we need training and specific preparation if we want to use it efficiently. Everybody could be able to use it, at least having basic notions about it, but not everybody wants to study or refuse its use because they find it a complex tool. It is not complex, but for some teachers who have been teaching for many years is easier to follow the traditional method of the textbook, because they do not feel confident enough to use it, or because they spend a lot of time looking for specific activities, while they have got everything they need to teach on the textbook.

As the researches I have done in a school demonstrate, the more or less use of an IDW is clearly linked with the possibility of having one in our own classroom. Most of the teachers who have this tool in their classrooms take advantage of it almost every day, while those ones who lack of it and needs to move the children to another classroom do not usually use it. Nowadays because of the few economic resources of the schools, only the Advanced Used of ICT's schools have got one Interactive Digital Classroom per classroom. This is clearly another weakness in the use of this resource.

Some of the negative aspects or weaknesses I had just pointed can have solutions. As I have explained, preparing activities is not always an easy task because some problems can emerge while you are doing it. Having a resource bank in our school compiling those activities that had been successful with children make this task easier for teachers because although maybe you need to look for some other activities, you have most of the work done. Having these materials organized per topics and levels of difficulty facilitates it even more.

Providing schools with a better technological infrastructure would also increase the use of the this tool in daily lessons, because as I have explained, the more or less use of the IDW is very often linked with the possibility of having it in the classroom and do not need to move to another room every time a teacher want to use it.

Not all teachers want to study or have specific training in order to use the IDW because of different reasons. Sometimes this is related to the fact that there is not a wide formative offer for teachers or that it is not too much attractive and it does not catch their attention. Providing them with it, can change their minds and create in them the necessity of receiving those lessons.

Despite we have just seen that we have a list of possible disadvantages or weaknesses in the use of the IDW, we can observe that the positive aspects of this powerful resource clearly overcome the possible difficulties we can find.

4. CONCLUSION

Before starting this Master Thesis I had never worked before in a bilingual classroom using an Interactive Digital Whiteboard. This fact, due to the lack of a Science textbook to develop my lessons creates a big need on me of using this tool.

As we could see during the development of my Master Thesis, there are many researches about the use of the IDW in Primary Education and in the foreign language classroom, but very few about the use of this instrument in a CLIL lesson.

These were my main objectives, and as a consequence, the main paragraphs of my Master Thesis:

- To know how teachers in a specific school of Asturias use the Interactive Digital Whiteboard within a CLIL lesson.

- To check the main advantages and disadvantages of using the Interactive Digital Whiteboard as regards learning Science contents through a foreign language.

- To know the main Interactive Digital Whiteboard possibilities within a CLIL lesson.

The three of them were accomplished, because through the different questionnaires I made to my colleagues and through my own practice I could get how this instrument was used in my school, both in a CLIL and a non- CLIL lesson, as well as the different advantages and disadvantages of its use.

Using a CLIL methodology means teaching both contents and language at the same time, because we are teaching a non-linguistic subject (in my case Science) through a foreign language. At this respect, and basing on the didactic experience I put in practice, we can conclude that the IDW was a very powerful instrument in CLIL education: it supported my explanations through pictures and videos, engaging children from the very beginning and illustrating the concepts I was teaching to them. It facilitated comprehension, providing at the same time a natural context to learn a language, and helping children to learn more and more deeply about the topic.

From this experience I can also assert that motivation and IDW are linked, because even those children who do not participate or who are shyer during my lessons

wanted to play and use the board like their partners. So motivation is another factor to consider when we are thinking about using this resource or not.

The planning of a CLIL lesson is related to the 4Cs (Content, Communication, Cognition and Culture) and the use of the IDW contributes to its development:

1. Content: Children learn new contents about Science through PPP that support teachers' explanations and facilitate at the same time children's comprehension, online games, videos…
2. Communication: Children communicates in a foreign language both in an oral and written way in order to express their ideas, their doubts, their agreements and disagreements, every time they watch a video or a picture, they are playing an activity, correcting a worksheet…At the same time the selected materials allow enlarging vocabulary and improving the oral and written expression.
3. Cognition: The IDW helps students in this faculty, because it facilitates information processing from images perception. They are not just listening to the explanation but having a representation of the concepts.
4. Culture: Every time we learn a language we cannot put aside the learning of its culture.

It cannot be a perfect resource and it has obviously got some weaknesses. In my opinion I could highlight that I do not agree with the assertion that the Interactive Digital Whiteboard saves time in the preparation of activities, because despite there are wide range on materials on the Net that we can use, we need to grade them to our children's level, spending a lot of time. This way we are not saving time. This fact, due to the technological problems we can find while we look for activities (for example when connectivity does not work properly) and that make us lose time, is a disadvantage for me. These technological problems can also happen while we are using this instrument with students, so it is another weakness.

As regards some of the advantages established in some researches, and after my own experience I can assert that some of the advantages exposed at the beginning of my Master Thesis were true. It was a resource used in my school regardless of the level of the children, so it is applicable to all stages of education, being a flexible and adaptable

resource to different teaching strategies too. Motivation was another important benefit pointed in different researches and that I could also check that works really well specially with unmotivated children.

We can conclude then saying, that this innovative tool is a very powerful and strong instrument every teacher can use during their CLIL lesson demonstrating that their positive aspects are much higher than its weaknesses.

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