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**INTEGRATING CROSS-CURRICULAR TEACHIING AND CALL IS  
FEASIBLE: AN INTERVENTION PROJECT IN PRIMARY  
EDUCATION<sup>1</sup>**

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*Foreign language teaching offers an invaluable opportunity to bring peace, health, environmental, gender, sex, moral and civic, road safety, and consumer education into the classroom. Addressing these topics in all subjects throughout the compulsory educational period was actively encouraged in Spain from 1991 to 2007*

*Unfortunately, many members of the teaching profession believe that this way of dealing with them did not succeed. This idea is partly confirmed by the information I gathered in 2006 and 2007 from the majority of schools in the city of Jaén as part of my doctoral research. It can be concluded from the data collected that most teachers of English in these schools rely exclusively on published materials to deal with cross-curricular topics of*

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*moral nature and that many of these resources do not cover this content sufficiently.*

*Thus, to make up for this shortcoming, teachers should create material on these issues, which is relatively uncomplicated thanks to Information and Communication Technology (ICT). This is what I advocate here, that teachers of English resort to designing ICT activities to compensate for these essential issues being poorly addressed by publishers. This paper describes a project carried out in a primary English classroom that proves that introducing cross-curricular content in their lessons is something that foreign language teachers can easily do now through computer technology.*

*Key words: cross-curricular issues, value-laden education, CALL, ICT and material development*

*La enseñanza de lenguas extranjeras ofrece una inmejorable oportunidad para integrar en el aula la educación para la paz, la salud, el medio ambiente, la igualdad entre los sexos, la educación sexual, la educación moral y cívica, la educación vial y la educación del consumidor. El tratamiento de estos temas en todas las asignaturas a lo largo de la etapa escolar obligatoria se fomentó en España entre los años 1991 y 2007. Desgraciadamente, existe la sensación entre muchos miembros de la comunidad educativa de que esta manera de abarcarlos no fue exitosa. La información que recogí en 2006 y 2007 en la mayoría de los colegios e institutos de la ciudad de Jaén como parte de mi investigación doctoral confirma parcialmente esta idea. Se puede concluir de los datos obtenidos que gran parte del profesorado de inglés de los centros visitados confía exclusivamente en los materiales editados a la hora de tratar los Temas Transversales y que muchos de estos recursos no cubren el contenido suficientemente.*

*Así pues, con el objeto de compensar esta deficiencia, los profesores deberían crear material sobre estos temas, lo que es relativamente sencillo gracias a las Tecnologías de la Información y la Comunicación. Esto es por lo que se aboga aquí, por que los profesores de inglés recurran al diseño de*

*actividades en formato electrónico para suplir el escaso tratamiento que muchas editoriales dan a estos imprescindibles temas. En este artículo describo un proyecto llevado a cabo en un aula de Inglés de Primaria que demuestra que la introducción de contenido transversal es algo que los profesores de lenguas extranjeras pueden fácilmente hacer ahora a través de la informática.*

*Palabras claves: Temas transversales, educación en valores, aprendizaje de lenguas asistido por ordenador, tecnologías de la información y la comunicación, y creación de materiales*

## **1. Introduction**

The educational law that was applicable in Spain from 1990 to 2007 was the *Ley Orgánica General del Sistema Educativo (LOGSE)*. Its ultimate aim was the full development of the student's personality. This implied working not only on the academic dimension but also on the social, emotional and ethical-moral ones. With a view to achieving this objective, it was stated in the national curricula for primary and compulsory secondary education that were published in 1991 that a series of topics must be taught across all subject areas and throughout all their years. These *cross-curricular issues (CCIs)* are: *moral and civic education, peace education, health education, gender education, environmental education, sex education, consumer education and road safety education* (cf. *Real Decreto 1344/1991: introducción, artículo 4; Real Decreto 1345/1991: introducción*).

According to this original approach, these issues would also be taught in the area of Foreign Languages (being English the most widespread one in schools in Spain). Teaching grammar, vocabulary and pronunciation, and aiming at communicative competence would be combined with the teaching of these cross-curricular topics.

In contrast, the curricula of the current educational law in Spain, the *Ley Orgánica de Educación (LOE)*, which came into effect in the academic year 2007-2008, do not mention the CCIs. Educating in values in general is advocated as a methodological principle to be followed across all subjects of

compulsory education (cf. *Orden ECI/2211/2007: artículo 8*; *Orden ECI/2220/2007: artículo 8*) but no specific topics of moral kind are explicitly referred to as in the previous law curricula. Therefore, it seems that the fully advantageous *LOGSE* cross-curricular approach loses strength in favour of dealing with similar content at specific subjects like Citizenship Education. Sadly, this happens precisely at a moment when addressing these issues in an interdisciplinary way, especially in the English as a Foreign Language (EFL) classroom, is more feasible than ever thanks to the potential of computer technology. The teacher of English can now easily create motivating and interesting activities that integrate the content that best suits his/her students.

## 2. Literature Review

To the best of my knowledge, no author has written on the introduction of the *LOGSE* CCI approach as a whole into the primary English classroom by means of computer technology. Nevertheless, within the ELT literature some reflections, ideas and projects about the combination of ICT and content related to any of the Spanish CCIs have been reported.

In spring 2006 the IATEFL interest groups on computers and global themes edited jointly a special issue with the idea that “the links between learning technologies and global issues are worth exploring in greater detail [*because*] both areas of teaching and research have a great deal to learn from each other” (Dudeney and Hall, 2006: 3).

Of the six articles featured, the first two are connected with teaching CCI-related content through ICT in primary education. To begin with, in Templer 2006, we are told about the opportunity that the Internet offers students to develop critical skills through learning on ecology. A few ideas to engage teachers and students are given, and also some exploratory modules are suggested. Several websites that can be exploited for an education in environmental, peace and moral and civic issues are mentioned. Nevertheless, it is not much oriented to the primary classroom, since the author says that students need to have an intermediate level that allows them to handle the difficult texts that the Internet offers.

The second paper is a summary of the GISIG Pre-Conference Workshop that took place in Cardiff in April 2005. This event dealt with the teaching on peace through material design. It touched technology because using the software WordClassifier and *WebQuesting* were suggested as possible ways to achieve that aim (Goethals, Neilson and McClure, 2006).

The Spanish author Prado Aragonés (2002: 292) finds the Internet very useful for intercultural competence (and then also for peace education and moral and civic education) because, according to her, it gives the opportunity to learn languages in their real cultural contexts. Linder (2004: 16) has a similar opinion since, in his view, when the Internet is used for doing project-based and content-based work, it becomes a tool for intercultural communication. Rodiki Petrides (2005: 59) also mentions the potential of computers in this sense when in her list of advantages she refers to the opportunity they offer to “introduce children to other countries or places they are not familiar with.”

A few projects involving the primary ELT classroom, CALL and CCI-related content (mainly peace and moral and civic education) at the same time have been reported. For instance, in Ho 2000 an intercultural education experiment between primary students from Singapore and Birmingham is described. Pupils improved the awareness and understanding of their own and their correspondents’ cultures through email writing. In addition, telecollaboration projects, such as those that have resulted in the last years from the European Union’s *eTwinning* project, can be ways of approaching intercultural education in English learning through ICT.

### 3. Objectives

The main purposes of the experimental research reported here are the following:

1. To carry out a short intervention programme focused on combining cross-curricular teaching and Computer-Assisted Language Learning (CALL) in a state primary school in the city of Jaén.
2. To analyse the effects of such intervention in terms of CCI and English language learning through the administration of pre-tests and post-tests.

3. To analyse if differences between the results obtained before and after the intervention were statistically significant.
4. To reflect on the usefulness of exploiting computers to plan lessons that deal with the CCIs, on the one hand, and that help students practise the English language, on the other hand.
5. To know the difficulties that have to be faced during the development of this sort of projects involving the integration of ICT.

#### **4. Methodology**

##### **4.1. The Sample of Subjects**

The school where the experiment was conducted is one of the seventeen state primary schools in the city of Jaén. The selection of the school was not made randomly. On the contrary, it was carefully made with the help of the Local Education Authority Office, which provided the following data about each of these educational institutions in the city: total number of students, number of male and female students, number of students of a nationality different from Spanish, and age of students in the fifth and sixth level courses. The arithmetic means of these four factors were calculated. The state school in the city of Jaén that was the closest to the results obtained with regard to the third cycle of primary education was *San José de Calasanz* (see Table 1). The results of the study can be generalised to similar schools concerning the characteristics controlled and the kind of urban area (working-class) in which it is located. Thus, it can be claimed that this intervention programme is externally valid.

Table 1. Data about state schools in the city of Jaén concerning the third cycle of primary education

Students per class	21,4
Boys per class	11,3
Girls per class	10,1
Other nationalities students per class	0,9
Age of students in the fifth level	Ten years old (92,9%)
	Eleven years old (9,8%)
Age of students in the sixth level	Eleven years old (77,8%)
	Twelve years old (18,4%)
	Thirteen years old (3,5%)
	Fourteen years old (0,1%)

Once the school was selected, choosing the level at which the research would be carried out was much easier. Since there was only one group in the fifth year of primary education and two in the sixth one in that institution, the only level of the third cycle of primary education in which this kind of experimental research could be implemented in this school was the sixth one.

After employing several pre-tests (see 4.3) with both classes at this level, 6<sup>o</sup>A and 6<sup>o</sup>B, I decided that I would administer my sessions to the latter, because it was the class that performed worse in the tests linked with the CCIs (they obtained lower results in the English language exams as well). Specific information about their results in all pre-tests and post-tests is provided in tables 3 and 4. The table below gives information about the

gender and the native Spanish or non-native Spanish character of the eighteen students in each of the classes.

Table 2. Sample of subjects of the intervention programme

	Boys		Girls		Total
	Spanish	Other nationalities	Spanish	Other nationalities	
6°A	7	0	9	2	18
6°B	10	1	6	1	18
Total	17	1	15	3	36

Apart from differing very little as far as the number of boys, girls and other nationalities students is concerned, 6°A and 6°B were also presumably homogeneous in terms of exposure to the second language and motivation because in Spain, according to Pérez Cañado (2004: 143), “the law in force compels all schools to randomly assign learners to each group” and because, as Seliger and Shohamy mention (1989: 143), “randomisation is a procedure with which to reduce the amount of systematic error that might result from biases in the assignment of subjects to groups.”

#### 4.2. Variables

The main dependent variable in this study was the learners’ performance in the test and in the exam about the CCIs that they made both before the lessons they were given and after them. However, there was another dependent variable in this project, proficiency in English, since a reading and writing exam, a speaking exam and a listening exam were also administered in March and June.

On the other hand, the independent variable was the eleven sessions of English and of the CCIs that were given using ICT and taking the published materials, especially the coursebook, as a basis. This is what Seliger and Shohamy (1989: 137) call the “experimental treatment”.

It was not determined if the relationship between these two variables was affected by a moderator variable. However, through the careful selection of the sample of subjects that was described in 3.1., variables like number, sex, origin and age of the students were controlled so that they did not have an effect on the study. As for the intervening variables, CCI learning, to a greater extent, and English language learning, to a lesser extent, must be highlighted.

### 4.3. Instruments

Several instruments were used to measure the two dependent variables. All of them were responded in an anonymous way. With regard to the cross-curricular topics, pupils in 6<sup>o</sup>A and 6<sup>o</sup>B were administered an exam on concepts (see appendix 1) and a test on attitudes (see appendix 2) that I had created following what should be learnt on this content in primary education according to the guidelines published by the Spanish Ministry of Education. The former consisted of forty short questions, five on each of the CCIs.

The latter included seventy items on these issues. In this case students were asked to circle 1, 2, 3 or 4 depending on their level of agreement with each of the statements. These numbers stood for *I totally agree*, *I partly agree*, *I partly disagree* and *I totally disagree*, respectively. In some of them the right answer was 1 (*I totally agree*) and in others it was 4 (*I totally disagree*), in order to avoid them doing the test without reflecting on the answers just by opting always blindly for the same number. Students were encouraged to answer as sincerely as possible. The same concept exam and the same attitude test were administered to both groups in March and in June 2006.

Regarding the other dependent variable, proficiency in English, students did a reading and writing exam, a listening exam and a speaking exam in March and also in June. In this case the same exams were not employed before and after the teaching process, but they had an identical format. I was the author of all of them. The ones they took in March were totally based on units 1-4 of their coursebook and activity book, and those they did at the very end of the academic year were about units 6-8. (Unit 5 was deliberately excluded: students had not finished it before the March exam and the intervention programme included just units 6-8.) Thus, adaptation to their level was ensured.

The two reading and writing exams were similar to those created by their English teacher who, in contrast, did not assess the listening and speaking skills at specific moments. These reading and writing exams contained six sections. The first and the fifth consisted in matching the words in a box with pictures, so they aimed to assess vocabulary. The second was about matching words and phrases from different columns, so learners had to put their vocabulary and their grammar into practice. The third and fourth sections in both exams were the most demanding as they involved translating. Finally, in the last part learners had to show their reading skill. 100% of what they were asked was included in their coursebook. They could obtain up to ten points.

The listening exams were activities taken from their workbook. The one that they did in March was an activity from unit 4 that I had previously asked their teacher not to do with them. The second one, which they did with me some weeks later, was composed of an exercise taken from unit 7 and another one taken from unit 8, which they had not seen with their teacher either. As for the mark, ten was the highest grade that they could obtain.

The speaking exam they took completed the series of instruments that were employed so as to measure their proficiency in the four English language communicative skills. For this purpose, activities from the coursebook demanding students to ask and answer questions in pairs were chosen. Presumably, they had already carried them out with their teacher since the March exam was based on units 1-4 and the June one on units 6-8, as mentioned above. Despite that, it was thought that they would serve as

good ways of testing their speaking and pronunciation skills. In fact, this exam turned out to be the most difficult one for them. They were rated up to three points on this occasion.

As far as the independent variable of this study is concerned, the instrument employed was an intervention programme implemented with 6<sup>o</sup>B for eleven weeks from the last week of March to the third week of June 2006. An hour session was given to this group during one of the three weekly classes of English it had. All the sessions took place in the ICT room.

I fully exploited the opportunity that I was given to do classroom-based research by providing instruction in the CCIs with the use of computer technology. At the same time, the sessions followed what was included in the syllabus of the course in terms of objectives and English Language Teaching (ELT) content as much as possible. Moreover, I tried not to neglect any of the four communicative skills.

The coursebook, especially units 6-8, was also the starting point for preparing my lessons on the *LOGSE* cross-curricular topics, as more often than not the main CCI that was dealt with in my sessions appeared in this material either from a conceptual or from an attitudinal point of view. The guidelines that I used for integrating these issues into the primary EFL classroom were the ones published by the Spanish Ministry of Education and the pre-tests that students took on them, which in turn had been devised following these central government documents.

For all the eleven sessions I took to the school my own laptop and a data projector. The ICT room that was used was equipped with eight computers in satisfactory working order, but there were only five Internet connections. There was a portable screen available in the school. At the beginning I used it, but after the third session one of the walls served that purpose.

Concerning technical problems, at nearly the end of the intervention programme a technician went to the school on behalf of the regional government to change the Internet supplier, which unfortunately resulted in

only three computers being able to access the Web in the last three sessions that were implemented.

#### 4.4. Procedure

In the fourth week of March 2006 the two sixth-grade groups at *San José de Calasanz* did all the pre-tests. On Tuesday 21st, both of them did the exam on conceptual contents and the test on attitudinal ones. An hour was needed for these pre-tests. On Thursday 23rd March, they did the rest of the pre-tests, that is to say, the reading and writing, the listening and the speaking exams. In this case, 25 minutes, 15 minutes and 15 minutes were needed for each of them, respectively.

Since 6°B obtained the worst results in all pre-tests, as mentioned in 4.1. and shown in tables 3 and 4 below, I decided to implement the eleven-week intervention programme with that group and not with 6°A to prevent results after the post-tests from being biased. Sessions were given every Tuesday, except at Easter, from 9 to 10 am, starting on 28th March and ending on 13th June. Then, following Seliger and Shohamy (1989: 141), 6°B was the “experimental group” and 6°A was the “control group”. The former received the “treatment”, which consisted in dealing with some of the CCIs in each class through computer technology, and had two weekly hours with their EFL teacher to cover the objectives and contents in the syllabus. In contrast, the latter did not receive instruction in the CCIs through ICT and kept having three weekly sessions with their teacher of English to focus on the lesson plan of the course exclusively.

The first session had to do with the projection of a story featuring children from different nationalities. It dealt with road safety, peace, and moral and civic issues. It was created using the Microsoft PowerPoint program and contained motivating visual stimuli such as images and graphics interchange (gif) files. Then, we did a reading comprehension exercise and an activity based on the popular bingo game (as a way of reinforcing the vocabulary in the story). Therefore, they were able to practise all the communicative skills in this class.

The second session also intended to work on road safety, peace, and moral and civic education, but this time through activities designed with the Quandary and the Hot Potatoes programs. The group that had obtained the highest mark in each exercise or had finished it more quickly read their answers aloud.

In sessions 3, 4 and 5 students did some project work in groups on a WebQuest that I had created (<<http://questgarden.com/23/56/4/060424212653/index.htm>>). An online dictionary was consulted to look up new words (<<http://spanishdict.com/>>). During these three classes, the contents broached were basically of an environmental kind and there were a few related to peace too. Then, each group presented its work orally in English to the rest of the class. Most group members participated in the description of their work.

Apart from peace, and moral and civic education, the CCI that was more widely addressed in session 6 was gender equality. Students visited a Weblog I had created for this project (<<http://english-and-more.blogspot.com/>>) to read a short text by Mary and Peter, some characters they were familiar with (they had been featured in sessions one and two). The text was a request for help with a translation. At that moment, it was emphasized that online translators can be good tools for looking up the translation of a word, sentence or text different from one's own translation of them and, in consequence, for comparing both versions, but that they must bear in mind that the reliability of the translations offered by this sort of programs is questionable. They were excited when they were told that the best translation would be published on the Internet as a comment posted on my Weblog.

The sentences of the text to be translated were distributed to different groups and each student took three pieces of paper. They worked cooperatively to order the sentences in Spanish and used an online translator (<<http://www.freetranslation.com/>>) in turns to translate the sentences. Also in turns, they wrote the translation the online tool offered on a sheet of paper, and afterwards they selected a secretary that read the translation of the whole text aloud in front of the rest of classmates. In this way, apart from the written skills, all of them could practise the listening skill and the secretaries

developed their speaking competence as well. At the very end of the class the best text in terms of accuracy and sentence order was chosen democratically and it was posted on the Weblog (so that Mary and Peter could compare their own translation with it and thus succeed in their homework).

Gender education was also the main topic of sessions 7 and 8, together with sex education. Multimedia Authoring for Language Tutors and Educational Development (MALTED) was the authoring package this part of the intervention programme was designed with. The arrangement was whole-class this time. Most of the exercises involved reading and listening practice, but a few aimed at practising speaking or writing too.

In session 9, students were divided into two big groups randomly. Each of them gathered in front of a computer connected to the Internet, which were far from each other. They were asked to open my Weblog so as to watch and listen carefully to an uploaded album presentation created with Bubbleshare about the humanitarian character of some celebrities. Then, the two groups did a listening comprehension jigsaw exercise consisting in completing the transcription sentences. Each half of the class was given different sentences and students stood up and mixed with pupils in the other group in order to obtain what they needed to complete the jigsaw exercise, so they could also put their oral skills into practice. Peace, gender, moral and civic, and consumer education were the CCIs covered in this lesson.

The tenth session had to do with carrying out an activity that is a variation of web-based treasure hunts. It consisted in finding out the words hidden in nine sentences and writing down the whole text on a sheet of paper. At the end of the class students read the sentences aloud from where they were sitting. On this occasion some peace, health, moral and civic, and consumer issues were introduced in the classroom. This exercise can be found at <<http://wizard.4teachers.org/builder/worksheet.php3?ID=83332>>.

In the last session learners arranged randomly in *The open-minded students* or in the *The respectful students* team with a view to working on peace, consumer, and moral and civic content. They were given pieces of paper and they were asked to enter <<http://www.hotmail.com>> and log into

their accounts, which I had created the day before, thanks to the email addresses and the passwords they were provided with.

Both teams could find an email from me containing the first text to be completed using the pieces of paper that had been distributed. They were advised again to use a dictionary available online. Once I received the email back and checked that the gap had been correctly filled, I sent another email with an incomplete dialogue, and so on and so forth until learners added successfully what was missing in seven texts and sent them back.

Once the intervention programme was fully implemented, the same two pre-tests on the CCIs that had been administered in March were again taken by learners as post-tests on 15th June 2006. They also sat exams to show their linguistic and strategic competences on 20th June but in this case they were not identical to those administered in March. All these post-tests were done at the same time of the day and in the same order as pre-tests had been just at the beginning of spring. Marks obtained by both the experimental and the control groups were compared and, with the help of the statistician that supervised this project, the Wilcoxon Test was used to see if results yielded from 6<sup>o</sup>B were significant from a statistical point of view.

#### **4.5. Data Collection**

The results of all the tests and exams that students did were obtained under similar conditions in the fourth week of March 2006 and before the end of the course. They yielded qualitative information, which became quantitative once the learners' answers and performance were transformed into numerical data. Following the administration of the eleven sessions given to 6<sup>o</sup>B, qualitative information in the form of observations and notes was gathered.

#### 4.6. Data Analysis

The comparison of the means of the groups' results in the tests and exams that they did before and after the implementation of the intervention programme shows that 6<sup>o</sup>B, the experimental group, performed better in June than in March 2006 in the majority of instruments employed, as can be seen in Table 3. Students ameliorated their marks in the test of CCI-related attitudes but their most noticeable improvement had to do with their knowledge of cross-curricular content. Concerning the exams that aimed to assess their strategic competences at both moments of the course, results indicate that they were more skilled at listening English and above all reading and writing it at the end of the eleven sessions. The same cannot be said about the class level of speaking this language, which remained identical.

The analysis of the 6<sup>o</sup>B results by using the Wilcoxon Test for two related samples proves that differences between March and June in the CCI attitude test ( $Z=-2.415$ ,  $p=0.016$ ) and in the CCI concept exam ( $Z=-3.077$ ,  $p=0.002$ ) are significant. Besides, this test indicates that students of this group significantly improved on the reading and writing exam ( $Z=-2.585$ ,  $p=0.010$ ). In contrast, the differences concerning the listening ( $Z=-0.440$ ,  $p=0.660$ ) and speaking exams ( $Z=0$ ,  $p=1$ ) are not statistically significant according to this test.

Table 3. Results obtained by 6<sup>o</sup>B in the pre-tests and post-tests

Instruments	Before the intervention	After the intervention
Attitude test	2,99 (out of 4)	3,37 (out of 4)
Concept exam	3,4 (out of 10)	5,5 (out of 10)
Reading and writing exam	4,62 (out of 10)	5,75 (out of 10)
Listening exam	6,13 (out of 10)	6,47 (out of 10)
Speaking exam	0,73 (out of 3)	0,73 (out of 3)
Number of observations	14	14

On the other hand, students in 6<sup>o</sup>A, the control group, also performed better in the attitude test, in the concept exam and in the reading and writing

one that they did at the end of the course. However, they did not improve as much as 6°B. The means of this group were not much higher in June than in March, as can be observed in Table 4. Surprisingly enough, they performed worse in the second listening exam that I administered to them. With regard to the speaking exam, results coincide with those of 6°B in the sense that they did not vary from one month to another.

The same technique was employed in order to know if results obtained by 6°A in both months are significantly different from a statistical point of view. In this case, the application of the Wilcoxon Test for two related samples proves that the results of neither the CCI attitude tests ( $Z=-1.250$ ,  $p=0.211$ ), the CCI concept exams ( $Z=-0.839$ ,  $p=0.401$ ), the reading and writing exams ( $Z=-0.142$ ,  $p=0.887$ ), the listening exams ( $Z=-0.910$ ,  $p=0.363$ ) nor the speaking exams ( $Z=0$ ,  $p=1$ ) are.

Table 4. Results obtained by 6°A in the pre-tests and post-tests

Instruments	Before the intervention	After the intervention
Attitude test	3,24 (out of 4)	3,37 (out of 4)
Concept exam	3,4 (out of 10)	3,8 (out of 10)
Reading and writing exam	5,65 (out of 10)	6,01 (out of 10)
Listening exam	7,53 (out of 10)	6,60 (out of 10)
Speaking exam	1 (out of 3)	1 (out of 3)
Number of observations	14	14

The data analysed corresponds only to fourteen observations of 6°B and 6°A since this is the number of students in each of the classes that did all the pre-tests and post-tests.

## 5. Conclusions

**Objective 1.** A short intervention programme consisting in integrating cross-curricular content and computer technology into the English classroom was successfully implemented during three months in one of the seventeen state schools in the city of Jaén. Firstly, a series of pre-tests were administered to an experimental group and to a control one in March 2006. Then, eleven

sessions were given to the former, 6°B. Finally, some post-tests were taken by learners of both classes at the end of the course.

**Objective 2.** The analysis of the data collected with the aforementioned tests proves that most of the means or arithmetic averages of the experimental group had risen more than the control groups' ones from the end of March to mid June 2006. This clearly shows that my instruction had an effect on the pupils that received the eleven classes in terms of cross-curricular content and even on their written communicative skills.

**Objective 3.** Moreover, the employment of the Wilcoxon Test for two related samples indicates that the differences between the results of the CCI concept exam, the CCI attitude test and the reading and writing exam that 6°B students obtained in March and June are statistically significant. In contrast, none of the differences between the results of the pre-tests and post-tests 6°A learners took at the beginning and end of spring are significant from a statistical point of view, according to this test.

**Objective 4.** Computers made it possible to deal with all the CCIs in only eleven sessions of one hour at the same time that the linguistic and communicative aims of the subject of English were pursued. Different ICT applications such as the Microsoft PowerPoint program, authoring packages like Quandary, Hot Potatoes and MALTED, and the star of them all, the Internet, were used to plan the classes. Exploiting synchronous communication was thought to be too ambitious for this project because of the students' low level of English.

**Objective 5.** The first difficulty that has to be faced when carrying out a project related to the one described in this paper, is to have the computer equipment that will be needed, especially the Internet connection, ready to be used and plan your lessons according to the ICT resources that are available.

Moreover, during the implementation of a programme involving the use of online computers, the teacher will constantly have to be a facilitator and monitor, and be on the lookout when the Web is accessed by the whole class. They will rarely have time for relaxation. Using a data projector is

highly recommended because it aids instructors to successfully play these roles in a similar context.

Further obstacles of this sort of projects may be the time that is needed to set everything before each session, sometimes even more than five minutes, and the location of the ICT room. This was not the case of this study because the classes started at nine am and I could afford that preparation time, and the computer room was only ten metres away from the classroom of 6<sup>o</sup>B. However, these problems may be important for teachers giving one lesson after the other.

Finally, it is also worth mentioning that Internet connections are not always one hundred percent ensured or may be slow. Therefore, when possible, it is advisable to store Web-based activities on CD-ROMs or on a computer disk if a data projector will be used. Fortunately, neither of these inconveniences had any important effect on my classes.

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**Appendix 1. Pre-test and Post-test on CCI Concepts****Examen de los Temas Transversales**

1. Escribe tres alimentos que debas comer todos los días

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2. Escribe dos alimentos que debas comer sólo de vez en cuando

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3. ¿Cuándo debe uno asearse?

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4. ¿Cuántas horas debes dormir como mínimo?

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5. Nombra tres productos que se consideren drogas

---

6. ¿Qué es el embarazo?

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7. Nombra dos órganos de reproducción masculinos

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8. Nombra dos órganos de reproducción femeninos

---

9. ¿Cuál es la diferencia entre sexualidad y amor?

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---

10. Indica tres maneras mediante las cuales el SIDA se transmite

---

11. Escribe cinco materiales que se puedan reciclar

---

12. Nombra cuatro animales salvajes

---

13. Nombra cuatro animales en peligro de extinción

---

14. Escribe tres cosas que puedes hacer para proteger el medio ambiente

---

15. ¿Qué es el desarrollo sostenible?

---

16. Escribe tres normas de circulación que sepas

---

17. ¿Cómo se llama la parte de la vía utilizada generalmente para la circulación de vehículos?

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18. ¿En una carretera con arcén por qué lado debes circular si vas a pie o en bicicleta?

---

19. ¿Cómo se llaman las señales que hay pintadas en el suelo de la vía pública?\_\_\_\_\_

20. Cita dos ejemplos de desigualdad entre hombre y mujer

21. ¿Es correcto decir sobre tu clase entera: “Mis compañeros de clase y yo estamos en sexto” o cambiarías algo? ¿Qué cambiarías?

22. Escribe el nombre de un país en el que los hombres tienen más derechos que las mujeres

23. ¿Qué es el servicio postventa de una tienda?

24. ¿Para qué sirve la publicidad?

25. ¿Qué parte de un producto, aparte del precio, debes mirar y leer antes de comprarlo?

26. ¿Qué debes hacer justo después de pagar en la caja de una tienda?

27. Indica dos formas de ahorrar dinero

28. Define la paz

29. Indica dos maneras en las que puedes ayudar a alguien de tu clase

---

30. ¿Qué es el desarme?

---

31. ¿Quién sufre las peores consecuencias de la guerra?

---

32. Indica dos cosas que debas hacer si te acosan en el colegio o en otro sitio

---

33. Escribe el nombre de cuatro razas humanas

---

34. ¿Qué es una ONG?

---

35. ¿Por qué las mujeres musulmanas llevan un velo?

---

36. ¿Qué son los derechos humanos?

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37. ¿Qué son valores?

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38. ¿Deben todas las personas tener los mismos valores?

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39. Nombra cinco valores

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40. ¿Cuándo debe una persona actuar en la vida según los valores que tiene?

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**Appendix 2. Pre-test and Post-test on CCI Attitudes****Test de los Temas Transversales**

1=Totalmente de acuerdo 2=De acuerdo en parte 3=Desacuerdo en parte  
4=Total desacuerdo

Lavarse los dientes dos veces todos los días es una tontería 1 – 2 – 3 – 4

Es estupendo lavarse las manos cada vez que vamos a comer 1 – 2 – 3 – 4

Es una lata llevar abrigo en invierno 1 – 2 – 3 – 4

Odio tener que asearme después de hacer deporte 1 – 2 – 3 – 4

Conocer las partes del cuerpo humano es algo que me produce satisfacción

1 – 2 – 3 – 4

Ojalá no tuviera que comer verduras 1 – 2 – 3 – 4

Prefiero hacer deporte antes que jugar a la consola 1 – 2 – 3 – 4

Cuando tengo clase al día siguiente me acuesto antes de las 12 1 – 2 – 3 – 4

Me gustaría comer siempre pizzas, hamburguesas y patatas fritas

1 – 2 – 3 – 4

Me aburre pelar una manzana en vez de tomarme un yogur 1 – 2 – 3 – 4

Cuando me ofrezcan fumarme un cigarro no lo aceptaré 1 – 2 – 3 – 4

Ojalá comiera fruta todos los días 1 – 2 – 3 – 4

Aprender los órganos de reproducción sexual es una tontería 1 – 2 – 3 – 4

Estar embarazada debe ser un latazo 1 – 2 – 3 – 4

Me encanta conocer en qué consiste la sexualidad 1 – 2 – 3 – 4

Ojalá los hombres y las mujeres tuvieran los mismos órganos sexuales

1 – 2 – 3 – 4

Es estupendo hablar con mis padres sobre sexualidad 1 – 2 – 3 – 4

Es un rollo reciclar papel, pilas y cristal 1 – 2 – 3 – 4

Ahorrar cada uno agua es una tontería 1 – 2 – 3 – 4

Me alegra recoger los desperdicios que he ocasionado cuando voy al campo

1 – 2 – 3 – 4

No me gustan los documentales sobre animales 1 – 2 – 3 – 4

Si no hay una papelera cerca tiro el papel al suelo 1 – 2 – 3 – 4

Odio tener plantas en mi casa 1 – 2 – 3 – 4

Me gustaría ir a Cazorla a ver animales salvajes 1 – 2 – 3 – 4

Comer pipas y guardar las cáscaras es una lata 1 – 2 – 3 – 4

Cerrar el grifo mientras me lavo los dientes me produce satisfacción

1 – 2 – 3 – 4

Ojalá aprendiera a cultivar plantas 1 – 2 – 3 – 4

Me aburre no poder ir corriendo por las calles 1 – 2 – 3 – 4

Cuando un semáforo está en rojo no cruzo nunca 1 – 2 – 3 – 4

Me encanta ir en bicicleta por las calzadas de mi ciudad 1 – 2 – 3 – 4

Todo el mundo debería coger el autobús en vez de sus propios coches

1 – 2 – 3 – 4

Odio esperar a que un semáforo se ponga en verde para cruzar 1 – 2 – 3 – 4

Es una tontería tener que cruzar una calle por el paso de cebrá 1 – 2 – 3 – 4

Cuando sea mayor y vaya a una fiesta no beberé nada de alcohol si luego tengo que conducir 1 – 2 – 3 – 4

Disfruto mucho cuando mi padre o mi madre conducen a gran velocidad

1 – 2 – 3 – 4

Que los hombres planchen, frieguen y barran es absurdo 1 – 2 – 3 – 4

Me aburre que los niños y niñas jueguen al fútbol, baloncesto o balonmano juntos 1 – 2 – 3 – 4

Los hombres deben siempre cobrar más dinero que las mujeres 1 – 2 – 3 – 4

Me gustaría que una mujer fuese presidenta del gobierno 1 – 2 – 3 – 4

No me gustaría que el hombre realizara tareas del hogar 1 – 2 – 3 – 4

Ojalá el hombre siempre sea superior a la mujer 1 – 2 – 3 – 4

Es estupendo que una mujer pueda realizar los mismos trabajos que el hombre 1 – 2 – 3 – 4

No me gusta que la mujer esté adquiriendo la misma libertad que el hombre  
1 – 2 – 3 – 4

Comprar es una de mis actividades preferidas 1 – 2 – 3 – 4

La televisión, la radio y las revistas siempre transmiten cosas buenas  
1 – 2 – 3 – 4

Ojalá no viera la televisión tanto 1 – 2 – 3 – 4

Prefiero usar más mi ropa si todavía está decente antes de comprármela nueva 1 – 2 – 3 – 4

Cuidar bien el material escolar me causa satisfacción 1 – 2 – 3 – 4

Tener más ropa que los demás hace que me sienta importante 1 – 2 – 3 – 4

Ojalá fuera con mi padre o mi madre todos los fines de semana a comprar ropa 1 – 2 – 3 – 4

Cuando no me gusta el bocadillo que me ha preparado mi madre lo tiro  
1 – 2 – 3 – 4

Una persona es más importante si tiene un buen teléfono móvil 1 – 2 – 3 – 4

Cuando tengo algo de dinero siempre me lo gasto en chucherías 1 – 2 – 3 – 4

Es estupendo no tener amigos gitanos 1 – 2 – 3 – 4

A veces una pelea puede solucionar un problema 1 – 2 – 3 – 4

Compartir el libro con alguien que lo ha olvidado es un latazo 1 – 2 – 3 – 4

Ojalá tuviera algún amigo marroquí 1 – 2 – 3 – 4

Poner motes a la gente es de lo más divertido 1 – 2 – 3 – 4

Hacer cosas en grupo es un rollo. Prefiero trabajar solo 1 – 2 – 3 – 4

Cuando en un grupo se decide algo, hago caso aunque no esté de acuerdo

1 – 2 – 3 – 4

Me aburre conocer costumbres de otros países 1 – 2 – 3 – 4

Es vergonzoso ser amigo de un niño pobre 1 – 2 – 3 – 4

Que esté prohibido que dos hombres o dos mujeres se quieran es genial

1 – 2 – 3 – 4

Me alegra tener sólo amigos cristianos 1 – 2 – 3 – 4

No soporto oír opiniones de los demás contrarias a las mías 1 – 2 – 3 – 4

Tengo muy claro lo que quiero en la vida desde siempre. No hace falta que me guíen 1 – 2 – 3 – 4

Me gusta ser y actuar en la vida según las ideas que tengo 1 – 2 – 3 – 4

No me gusta tener que reconocer los valores incluidos en la Declaración de los Derechos Humanos y en la Constitución Española 1 – 2 – 3 – 4

Me causa satisfacción crearme una personalidad y tener unos valores  
elegidos por mí, incluso si molestan a los demás y van en contra de una vida  
colectiva 1 – 2 – 3 – 4

Me interesa saber lo que la felicidad es para mí 1 – 2 – 3 – 4

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