

# THE IMPLEMENTATION OF ICT IN THE ENGLISH CLASS IN ANDALUCÍA

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## ABSTRACT

The 21<sup>st</sup> century has brought with it many new technological developments which enable an improvement of the quality of education. The Regional Ministry of Education in Andalucía has taken measures to promote the use of new technologies in the classroom and has provided teachers and students with different resources and facilities. The aim is to update the teaching practice and to strengthen the development of basic competences by students to meet the demands of the knowledge society. The objectives of this study research are to corroborate if the official initiatives meet the real practice in secondary schools, to study the textbooks used and the level of implementation of the project *Escuela TIC 2.0*. In addition to the conclusions, a number of recommendations will be also produced in order to improve the above-mentioned project.

KEY WORDS: ICT, secondary education, language teaching, digital literacy, Andalucía

## RESUMEN

«La implementación de las TIC en el aula de inglés en Andalucía». Los numerosos avances tecnológicos con los que contamos en el siglo XXI posibilitan una mejora de la calidad de la enseñanza. La Consejería de Educación de la Junta de Andalucía ha tomado medidas para promover el uso de las nuevas tecnologías en el aula y ha ofrecido distintos recursos e instalaciones para profesores y estudiantes. Se pretende actualizar la docencia y potenciar el desarrollo de las competencias básicas por parte del alumnado para satisfacer las exigencias de la sociedad del conocimiento. Los objetivos de esta investigación son corroborar si las iniciativas oficiales coinciden con la práctica real en las escuelas de secundaria, estudiar los libros de texto usados y el nivel de implementación del programa *Escuela TIC 2.0*. Además de las conclusiones del trabajo, se establecen recomendaciones para la mejora del programa mencionado.

PALABRAS CLAVE: TIC, educación secundaria, enseñanza del inglés, alfabetización digital, Andalucía



## 1. INTRODUCTION

The development of the Information and Communication Technologies (ICT) has had a great impact in our current society and it has radically changed our way of life. This transformation has also played an important role in education since students must be prepared to face the changes that are taking place in the knowledge society. Hence, students are required to have a wide range of ICT competences in order to be able to participate thoroughly as citizens.

The term ‘technology’ comes from the Greek words *téchne* which means “art” or “skill” and *logia* which refers to “words” or “thinking”, that is, artful thinking. Nonetheless, today it is generally used to refer to instruments or devices that can be used for broadcasting information and establishing communication. In education, this definition is related to learning resources which are used as a help to achieve different objectives. Consequently, it implies the birth of a new culture of teachers and the optimization of the cognitive and creative abilities of students.

However, as it is known, it is easier said than done and changes do not always imply improvements since the first ones can also be negative. For this reason, after reviewing the theoretical framework, we are going to approach to the reality of schools to highlight the weaknesses and potentialities of using ICT.

## 2. BACKGROUND TO THE IMPLEMENTATION OF ICT IN ANDALUCÍA

Three different general stages can be defined when studying the implementation of ICT in Andalucía: *Averroes* project, Royal Decree 72/2003 and *Andared* plan, and *Escuela TIC 2.0* project. Previously, other projects like *Alhambra* or *Zahara XXI* also represented great efforts to integrate ICT into the education institutions.

Firstly, the *Averroes project* was created in 1996 by the Regional Ministry of Education. This was designed to be a computer network for non-university academic institutions in Andalucía which could use the Internet as an information, communication and training tool. Simultaneously, a web page was created for teachers to exchange experiences and materials and to participate in forums. It offers different learning platforms and resources such as *Séneca*, *Pasen*, *Helvia*, *Bartic* and *CGA*. Nonetheless, the *Averroes* project was not really appreciated by the academic community due to its lack of technical and support staff, its unclear objectives, its excessive technical nature and its lack of precision regarding training courses.

The next step was the *Royal Decree 72/2003* of 18 March on measures to promote the knowledge society in Andalucía. It was aimed at improving the quality of life, reaching a greater social and territorial balance and increasing the production and competitiveness of Andalucía. According to this Royal Decree, specific training on ICT is required to teachers and it will be considered as a specific merit in the teaching practice. Teachers’ creation of ICT materials and resources will also be valued.

At the same time that the *Averroes* project was being developed, the *Andared plan* was started up by the Regional Ministry of Education in 2003. Its main objective



was to drive the knowledge society in Andalucía in order to continue promoting the access to ICT within the teaching practice.

The last stage took place when the Regional Ministry of Education presented its project, *Escuela TIC 2.0*, to some primary and secondary schools at the beginning of the academic year 2009/2010 following the recommendations given by the Spanish Ministry of Education. It has represented the first real step to turn ICT into an essential tool to be used during the learning process. In fact, more than 282,000 students of the fifth and sixth years at primary schools and of the first year at secondary schools and more than 31,000 teachers received ultraportable computers that year. Apart from that, more than 9,500 digital classrooms, which were equipped with an interactive whiteboard, a projector, multimedia resources and a computer on the table of the teacher, were installed simultaneously in a great number of state schools. Once the new project had been presented, teachers started to participate in training programs to improve and increase their digital knowledge. Today the number of ICT schools has increased considerably and most of those schools which started at the beginning have already implemented the project in all the years of compulsory secondary education (CSE).

According to the Regional Ministry of Education, *Escuela TIC 2.0* is a strategy to improve the education in Andalucía since it promotes the acquisition of the basic competences which are essential in the current society. Besides, the digital competence is the cornerstone of the individual and social development and that is the reason why the project tries to influence the real needs of each social agent: the teachers, who are provided with a high quality tool to be used in the learning process, the students, who improve their basic competences completely, and the schools themselves, which become more modern and up to date because of the technological resources. Apart from that, this project has become an excellent support for bilingual projects in secondary schools since it allows teachers and students to learn virtually about other English-speaking countries and help them to share experiences, resources and materials.

The main general objectives of *Escuela TIC 2.0* are the following:

- To deal with the quality of education and equal opportunities.
- To manage to use ICT daily in the classroom as a learning tool.
- To develop a methodological change that implies significant learning, constructivism, connectivism, specific teaching and basic competences.
- To develop students' basic competences.

Regarding teachers, they are the main responsible for the appropriate use of digital classrooms and, therefore, their knowledge of ICT is essential to ensure their implementation. For that purpose, a training service was created during the academic year 2009/2010 and around 20,000 hours of specific training to teachers were given.

Students are also expected to achieve a number of objectives through the implementation of this project. Among them, we may find: (a) to get, interpret and transform information into significant knowledge; (b) to develop social knowledge,



skills and attitudes; (c) to create a critical knowledge and strategies to learn on their own; (d) to develop skills to look for information, process and communicate it; and (e) to implement the 1 to 1 model in the learning environment in order to provide orientation and help to reflect on important issues related to ICT management.

As for the families, they are involved in the maintenance and responsible use of the ultraportable computers that students receive (digital commitment between the families and the school) and they may attend information sessions in order to become familiar with the teaching and safe use of the ultraportable computers.

Finally, the financial contribution of this project is another important aspect to be considered. During the academic year 2009/2010 the Spanish Ministry of Education invested 21,863,049 Euros and the Regional Ministry of Education in Andalucía contributed the same amount. Therefore, it makes a total of 43,726,098 Euros which were intended for the implementation of ICT in the schools of Andalucía. It was a strong investment which has been reduced the following years until the last year when it was 3,223,200 Euros. This reduction is logical since during the first year of implementation the schools were provided with the necessary ICT resources and teachers and students received ultraportable computers but thereafter the investment has only been used to buy the ultraportable computers for students.

### 3. OTHER AUTHORS' VIEWS ON THE ROLE OF ICT IN EDUCATION

#### 3.1. THE INTEGRATION OF ICT

The European Union has strongly supported the consolidation of ICT in education and has stressed the necessity to adapt the European education to the demands of the knowledge economy. The promotion of the new ICT competences was also emphasized as one of the main component for its future development.

The report European SchoolNet (EUN, 2006; cited in Pérez, Fandos and Aguaded, 2010) suggests that the ICT implementation has to be planned and integrated in the curriculum by stressing competences like group work or autonomous learning. New ways to train teachers permanently have to be conceived in order to encourage and support the efforts to use ICT. In this sense, the development of competences is closely related to the current demands of the globalization, the modernization and the knowledge society. In addition to helping students to enter the workforce, key skills or competences are also regarded as a basis for “community cohesion, based on democracy, mutual understanding, respect for diversity and active citizenship” as well as for “personal fulfilment and happiness” (European Commission, 2011).

However, Spain is one of the less developed countries in Europe regarding the implementation of ICT in the schools. According to the annual report of the European Commission (2010), Spain presents a below European average on the implementation of ICT and its progress to the information society is quite slow.



Jerome Morrissey (2007) points out that the process of transforming schools through ICT implies a significant change regarding the organization, the infrastructures' investment (Area, 2010) and the training of teachers. He lists the main requirements to achieve the real integration of ICT in the school as follows:

1. The provision of enough ICT resources that have to be reliable, easy-going and available for teachers and students whenever they need.
2. The integration of ICT in the development and the subsequent implementation of the curriculum.
3. The use of ICT that has to be reflected in the way in which students are assessed and evaluated. Moreover, ICT are an excellent resource to evaluate the learning process.
4. The access to professional development based on ICT for teachers.
5. The strong support to managers and coordinators of ICT in order to master ICT use and facilitate the group learning and the exchange of resources.
6. The provision of enough digital resources of high quality, teaching materials and other practices to involve students and support teachers.

In connection with the last point, many studies have already revealed that teachers are one of the main barriers to the introduction of ICT in daily teaching due to the lack of technical support (Korte and Hüsing, 2007). However, once these requirements are fulfilled, we will be able to determine the efficiency of ICT since previous research studies seem to be limited and premature. As Jerome Morrissey (2007) explains, metaphorically speaking, it is similar to measure the improvement of a patient after taking only the first aspirin of an antibiotic. We also have to consider the opinion of Area (2008) as he highlights that it is not a lack of resources at schools but a deficient pre-service and in-service training “based on the principles of the New School, social constructivism and multiple literacy”.

### 3.2. THE USE OF ICT AND MOTIVATION

Motivation is indispensable when learning a language since it requires perseverance and dedication. Students need motivation not only in the classroom but also outside it if they want to improve their level of English. The teachers are the responsible of guessing what kind of motivation their students need because each of them has his/her own personality. In this sense, Madrid (2002) shows that the more powerful motivating strategies are the following:

1. The use of new technologies and audiovisual resources.
2. The group work.
3. To satisfy students' needs and interests.
4. The students' participation in class.
5. The good marks and the fulfilment of students' expectations of success.
6. The praises and rewards to students.



As the use of ICT is in the first position, teachers have to make the most of the interrelation between motivation and ICT since it will help their students to be eager to learn the language. But, does it really happen? Do teacher take advantage of ICT?

Ortega (2003) includes other resources which are closely related to ICT and are demanded by both teachers and students such as Internet, videos or DVD films, which can be heard in the original version or with subtitles in order to compare them with the mother tongue. Teachers and students agree that it is necessary to have a textbook which includes the objectives of each level but other real materials (maps, menus, leaflets...) have to complement it (Ortega, 2003). Cox (1997) also declares that the regular use of ICT across different curriculum subjects can have a beneficial motivating influence on students' learning. But, as Ortega (2003) states, these materials cannot be used just because the teacher wants to but because they are also aimed at the specific objectives of each level.

The same idea is stressed by other authors who prove that the regular use of ICT across the curriculum can increase students' confidence and motivation in learning (Hennessy, 2000) and that teachers providing ICT activities offering opportunities for active, independent learning can increase students' motivation to learn (Becker, 2000). In fact, a very high 86% of teachers in Europe state that pupils are more motivated and attentive when computers and the Internet are used in class (Empirica, 2006).

The advantages for teachers are also noticeable since students are generally more 'on task' and express more positive feelings when they use computers than when they are given other tasks to do (Becker, 2000). It also allows students to be more autonomous because they are able to learn on their own and to continue progressing as far as they want. Rockman (2000) agrees on that and states that laptops motivate students to work longer and harder with an increased pride in their work.

Finally, it is obvious that teachers themselves need to be motivated because, on the contrary, they will not be able to motivate their students. According to Korte and Hüsing (2007), although a positive trend can be observed in teachers' use of computers in class, their general motivation to use ICT remains an issue. Besides, teachers' motivation to use ICT in the classroom is, at present, adversely influenced by a number of constraints including lack of time to gain confidence and experience with technology, limited access to reliable resources, a curriculum overloaded with contents, assessment that requires no use of the technology and a lack of subject-specific guidance for using ICT to support learning (Osborne and Hennessy, 2003).

### 3.3. BOOK ADAPTATION TO ICT

Traditionally the textbook has been one of the main tools, if not the main one, that teachers have used to develop the learning process since it provides an efficient way of teaching the contents to reach the curriculum objectives and prepare the evaluation. However, nowadays ICT gain ground against textbooks and students are required to have certain competences that are essential for the future. But do teachers really take advantage of ICT? Or do they continue clinging exclusively to the textbook?



Several researchers support the use of the textbook and they state that textbooks have a trustworthy teaching value and represent a cheap and effective instrument to improve the cognitive development and the academic success of students (Fuller and Clarke, 1994; Hurd, Mangan and Adnett, 2005; Lockheed and Verspoor, 1991; Tan, Lane and Coustère, 1997; cited in Braña, Real and Rial, 2008). A clear bent towards the use of textbooks instead of ICT is still shown and it may be explained by the effect of textbooks on the learning process.

On the contrary, there are also many authors that see ICT as a teaching resource in place of the textbooks. Even the Spanish Government recognises the importance of ICT in education and in the Organic Law 2/2006 of 3 Mai it is considered that “it is more necessary than ever that the education prepare [students] properly to live in the new knowledge society and be able to face its challenges.” Besides, one of its main objectives is “...to develop the necessary attitudes for the knowledge society and ensure the access to ICT equally...” In this sense, textbooks have a new challenge: to be adapted and updated to the requirements of the knowledge society.

Some publishers have already started to see ICT as a new opportunity rather than as a threat and they have adapted some of their formats and contents to ICT. A good example is *Santillana* ([www.santillanaenred.com](http://www.santillanaenred.com)) that offers a learning platform with different sections depending on the subject and the level of students. Another publisher that is also getting on board with ICT is Oxford which offers different resources for teachers and students (<http://digital.oupe.es/elt/index.htm>). A learning zone is available for students of secondary education and they can also access the digital student's book.

## 4. METHODOLOGY

This section introduces the objectives of the research study since they will be essential when it comes to deal with the results. The research design, sampling, instruments, data analysis, reliability and validity are also discussed. In general, it is intended to be a review of the whole research process that has been developed and it will help us to understand our findings properly.

### 4.1. PURPOSE AND OBJECTIVES FOR THE RESEARCH STUDY

The purpose of this research study is to investigate the integration of ICT into secondary schools and therefore into the English classroom and its implications for both teachers and students. To meet this purpose, the research objectives are the following:

1. To review the English books that are used in two different schools in order to analyse the way in which ITC are integrated. These schools are: IES. Fray Luis de Granada (Granada) and IES. Sierra de las Villas (Villacarrillo, Jaén).



2. To know the level of implementation of ICT in the English classroom in these schools from the perspective of both teachers and students and to determine the role that ICT play in motivation.
3. To produce recommendations in relation to the correct implementation of ICT in the English classroom.

#### 4.2. RESEARCH SETTINGS

Two different schools have participated in this research study and the Heads of both English departments allowed us to deliver the questionnaires.

The secondary school Fray Luis de Granada is located in Huerta del Rasillo s/n, Granada, in front of another high school, Generalife. There are forty-seven teachers and around 80% of them are permanent in the school. Besides, the school has around 650 students which are assigned to different groups throughout the years of CSE, Upper Secondary Education and the Higher Grade of Vocational Training of Administration and Finance.

IES Sierra de las Villas is located in Carretera Mogón s/n, Villacarrillo (Jaén), in front of a primary school, Nuestra Señora del Rosario. There are a total of 68 teachers and around 700 students, divided into twenty-nine groups of CSE, Upper Secondary Education and the Higher Grade of Vocational Training of Administration and Finance.

Given that they are ICT schools, they have a variety of computers and audiovisual resources: mobile computer classrooms, digital classrooms, ultraportable computers for students and teachers and computers on the tables of teachers, interactive whiteboards, portable searchlights, sound systems and computer equipments in the library, the Assembly Hall, the staff room and the departments. Obviously, both students and teachers have free access to Internet.

#### 4.3. SAMPLE GROUPS

The sample has been chosen according to a cluster-sampling method and the criterion to select the subjects has depended on the chance of being easily accessible. In total, the questionnaires have been filled out by 287 subjects distributed as follows:

- *Students*: a total of 278 students participated in this study research. 205 participants studied in *IES Sierra de las Villas* and 42 of them were in the first year, 62 in the second year, 49 in the third year and 53 in the last year of CSE. 73 students were from *IES Fray Luis de Granada* and they were distributed in the following way: 20 of them were in the first year, 30 in the second year, 11 in the third year and 12 in the fourth levels. All of them studied English as a second language and their ages ranged from 12 to 17 years old.



- *Teachers*: a total of 9 English teachers were included in the sample. Five of them worked in *IES Sierra de las Villas* while four of them taught in *IES Fray Luis de Granada*.

TABLE 1: DISTRIBUTION OF STUDENTS			
TOTAL OF STUDENTS: 278			
		TOTAL	PERCENTAGE
<i>Secondary school</i>	IES Sierra de las Villas	205	73,75%
	IES Fray Luis de Granada	73	26,25%
<i>Year of education</i>	1 <sup>st</sup> year	62	22,30%
	2 <sup>nd</sup> year	92	33,09%
	3 <sup>rd</sup> year	60	21,58%
	4 <sup>th</sup> year	65	23,03%

TABLE 2: DISTRIBUTION OF TEACHERS			
TOTAL OF TEACHERS: 9			
		TOTAL	PERCENTAGE
<i>School</i>	IES Sierra de las Villas	5	55,55%
	IES Fray Luis de Granada	4	44,45%

#### 4.4. RESEARCH INSTRUMENTS

In this research study, the questionnaire was the main research instrument while observation was useful for completing and validating the data.

In the first stage, two different questionnaires were prepared to be distributed among students (appendix II) and teachers (appendix III) separately. The language in which the questionnaires were written was Spanish to simplify their completion and avoid possible problems to understand the questions properly. Besides, they were delivered to students of all the years in secondary education with different levels of English which meant that the sample was heterogeneous. The writing of the items was also revised conscientiously to make students understand them better. Items were also numbered consecutively to avoid misunderstandings when presenting our findings and conclusions.

As for the reliability of the questionnaires, they were assessed and approved by three different teachers of English who worked in secondary schools. This triangulation method was used since it offers many advantages: higher validity for results and confidence in research data, authenticity and credibility, and strength of results.



The questionnaires were mostly centred on a Likert scale based on a rating scale from 1 (I strongly disagree) to 4 (I strongly agree). It allowed us to measure the responses to statements and work on quantitative data. The number of possible responses was four because we did not want teachers and students to adopt an intermediate position. They also included some open-ended questions which were essential to analyse some of the close-ended questions in depth since they asked for qualitative information. Moreover, the questionnaires were distributed and collected by myself to ensure a high response rate. The data was analysed and interpreted by using IBM SPSS Statistics which is a software programme for statistical analysis. After that, the results were specified with the answers of the open-ended questions.

The first questionnaire had twenty-three items and it was made for students of all the years of CSE since attention was also given to the possible differences that may exist among different levels. In this manner, we could study the way in which students used ICT and if they really took advantage of them.

The second questionnaire was for the English teachers and it also had twenty-three items which allowed us to determine how teachers used ICT and observe their points of view regarding the ICT implementation. Besides, their opinions could be compared to the students' ones to see if they agreed or not on different aspects about ICT.

On the other hand, the observation which was carried out during my practice period was also helpful since I could realise how ICT work in a real context and use this qualitative data to corroborate the findings. It allowed me to analyse people in their natural settings and to have a more holistic point of view of ICT. Therefore, my own experience is also taken into account when studying the results.

#### 4.5. RELIABILITY AND VALIDITY

Quantitative data in this research is reliable since it was analysed properly by working with statistical analysis software (SPSS). Moreover appropriate instruments were used before. On the other hand, qualitative data also shows reliability because all the participants were free to express their opinions whatever they were.

As for validity, this research study is valid because triangulation was used to ensure that our instrument measured what it was supposed to measure. Moreover, the use of authentic data implies accuracy and it is also a sign of validity.

### 5. FINDINGS

This section will detail the research findings of this study. It consists of the revision of textbooks and the analysis of questionnaires and observation which were appropriate means of obtaining data.



## 5.1. REVISION OF THE ENGLISH TEXTBOOKS

For the purpose of this section, a grid (appendix I) has been elaborated and it is aimed at showing the level of integration of ICT into the English textbooks which are used in the secondary schools where we have carried out this study research. The references of these textbooks are: Davies, P.A., T. Falla, and R. Quinn (2007). *Oxford Spotlight 4*. Oxford: Oxford UP. and Wetz, B. and H. Halliwell (2010). *English Plus*. Oxford: Oxford UP. To this effect, we have defined some criteria which may be helpful when analysing each unit. They will allow us to know to what extent ICT are included in the textbooks as an essential tool to be used to develop the digital competence. In this sense, it is necessary to clarify that all the criteria are related to the use of ICT although it is not specified to avoid repetitions.

After analysing the textbooks, we realised that their levels of implementation of ICT are nearly the same since they both are from the same publisher. The only great difference lies in the level of difficulty since students who use English Plus are expected to learn more advanced contents and to develop their skills further.

Although students can use a digital book, it is just the same than the textbook but with a different format. According to the publisher, this resource was created to meet the challenges of the current world and its main objectives are to increase students' motivation and to promote significant learning. Nonetheless, a change of format cannot really improve the motivation of students since the same traditional methodology continues being followed. Motivation can be increased at the beginning but when students get used to the new format, it will remain as usual. As for the second objective of the digital book, the problem is more or less the same: how can they promote significant learning if they continue presenting the same kind of exercises in isolation? Moreover, as we have been able to realise during the practice period, students can do them automatically without implying a great effort.

On the other hand, online activities are available for students of secondary education on the platform of Oxford. The activities are useful and interactive and allow students to improve their English by using ICT resources. The only problem can be that they are not presented in connection with the units in the textbook and maybe students can get a bit confused if they do not know which contents they have to centre on. In fact, as they do not strictly deal with the contents of the textbook, students can also feel that they are unhelpful.

Regarding oral and written skills, they are not worked through ICT in the textbooks. The only way in which they deal with them is through traditional activities that do not require the use of ICT. In this manner, they do not take advantage of the wide range of ICT resources that are aimed at students to improve their English skills.

Another aspect that is not included in the textbooks is the use of authentic materials which may help students to understand why it is important to learn English. Authentic materials can be also appropriate to deal with (inter)cultural aspects since they allow students to become more interested in other cultures' characteristics.

Finally, the textbooks do not make the most of ICT to teach learning to learn strategies and to address to diversity. These strategies should be considered



since they are essential for students to continue progressing and learn faster about contents on their own. In the same way, there are small sections of graded activities for lower and higher achievers but again they do not follow an ICT approach which has many benefits regarding aspects such as methodology, students' motivation and self-assessment.

Therefore, we can confirm that practically the only thing that has been adapted with the times has been the format of the books being also available in a digital format. However, the general approach continues being more or less the same than twenty years before. Then, what is the point of investing a great sum of money in the implementation of ICT if the students cannot use them through one of their main tool, the textbook?

## 5.2. PRESENTATION OF FINDINGS BY GROUPING VARIABLES

The following research findings will be presented by grouping variables, that is, we will group all the variables that are interrelated to avoid unnecessary repetitions and we will use them to meet our second objective. Three hundred questionnaires were distributed at the already mentioned secondary schools and a high percentage (92%) was returned: 9 questionnaires of English teachers and 278 of students of English as a second language.

### *Main findings from teachers' questionnaires*

#### V. 1 IMPLICATIONS OF THE *ESCUELA TIC 2.0* PROJECT

Firstly, we asked teachers if they really knew the implications of this project and here it is what they said:

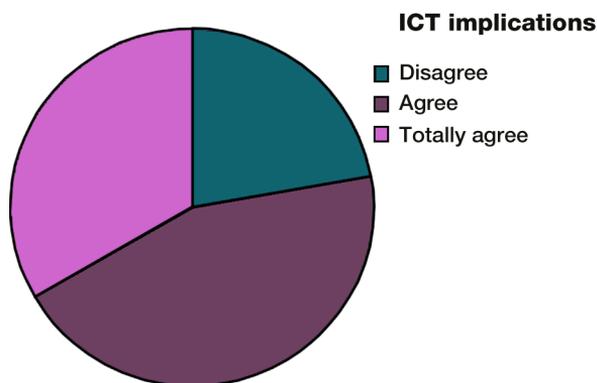


Table 3. The implications of the *Escuela TIC 2.0* project.

Around 70% of teachers affirmed that they were familiar with the implications of the ICT project which is a positive datum since it is the first step to implement ICT in schools.

## V. 2 INITIAL ICT TRAINING FOR TEACHERS

When asking teachers if they had received an initial ICT training, they answered the following:

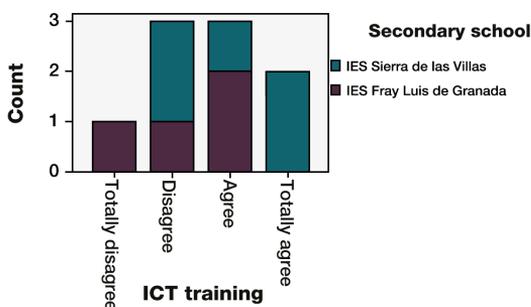


Table 4. Teachers' initial ICT training.

The results vary from one school to the other and they are not homogeneous. The reason may lie in the teachers' attitude towards the possibility of taking courses or not. Therefore, those who agreed had probably participated in ICT training courses and vice versa.

## V. 6/15 THE USE OF ICT IN THE CLASSROOM

These two items were intended to know if teachers used ICT frequently in the classroom or if they considered them to be a waste of time.

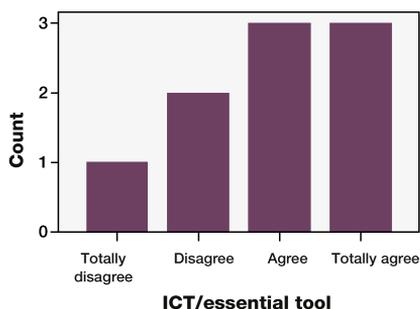


Table 5. The use of ICT daily.

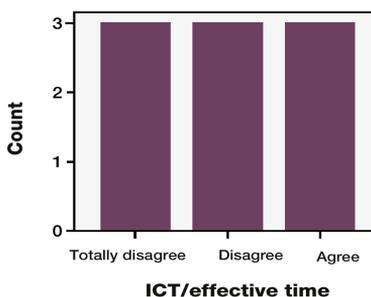


Table 6. The negative influence of ICT on the effective time of classes.



There is a correlation between both bar codes. In the first one, approximately two thirds of teachers claimed that they used ICT frequently in the classroom while the rest (totally) disagreed. The second one confirms these results since two thirds of teachers stated that the use of ICT was not a waste of time and the rest expressed the opposite.

### V. 7 THE ADAPTATION OF METHODOLOGY

As for the methodological change that teachers had to carry out regarding significant learning, constructivism, connectivism, specific teaching and basic competences, the following bar code shows the results:

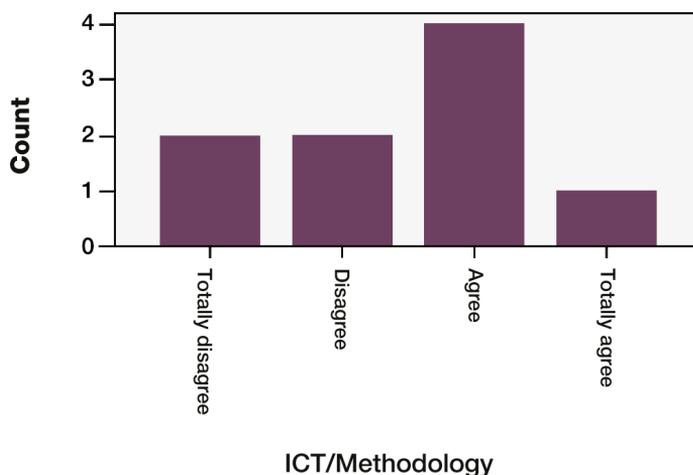


Table 7. The methodological adaptation to *Escuela TIC 2.0*.

Despite the fact that more than 50% of teachers affirmed that they had already done it, attention has to be also given to the significant percentage of teachers that disagreed which means that they had not introduced any methodological change.

### V. 13 ICT AND LEARNING TO LEARN STRATEGIES

From this item, we expected to know if teachers showed students how to use reliable web pages to look for information and work autonomously.

More than 50% of teachers pointed out that they promoted learning to learn strategies among students. However, the percentage of teachers that affirmed that they did not use ICT for that purpose has to be also taken into account since more than 25% did not give any importance to learning to learn strategies.

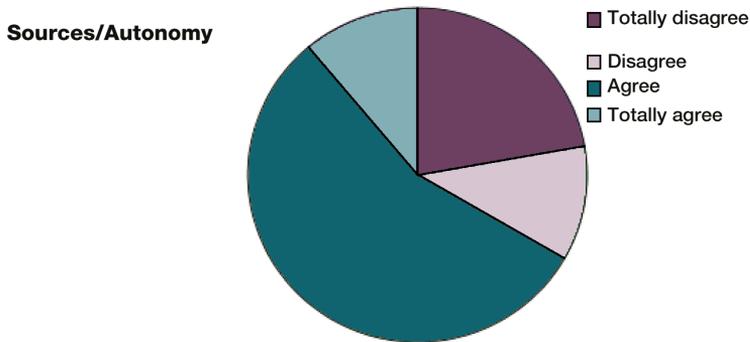


Table 8. The use of ICT to look for information and work autonomously by students.

## V. 19 THE IMPROVEMENT OF STUDENTS' ACADEMIC PERFORMANCE

Regarding the academic performance of students, teachers were asked if they thought that it improved when ICT were used and the results were the following:

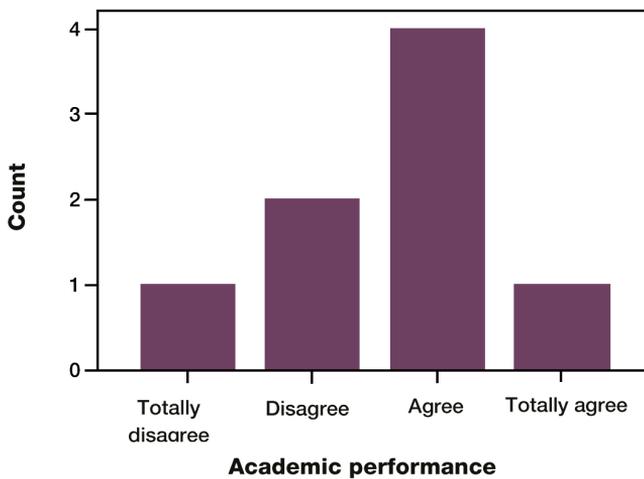


Table 9: The improvement of the academic performance of students through ICT.

A great percentage of teachers agreed that ICT have a positive effect on students' academic performance. In fact, if we put 'agree' and 'strongly agree' together, they make a higher percentage than 'disagree' and 'strongly disagree'.



## V. 20 MOST FREQUENT RESOURCES USED BY TEACHERS

Teachers had to list the ICT resources that they used more frequently and we obtained a great variety of answers. In general, teachers pointed out that the interactive whiteboard was the main resource that they used whenever it was possible. Other resources mentioned by teachers were CD and DVD players, e-books, personal blogs, mobiles and the students' multiROM.

## V. 21/22 ADVANTAGES & DISADVANTAGES OF THE IMPLEMENTATION OF ICT

The following pie charts show the main problems that teachers have to overcome when using ICT. They had to order six possible problems from 1 (the most frequent) to 6 (the less frequent). They also had to list the three main advantages of using ICT in the classroom.

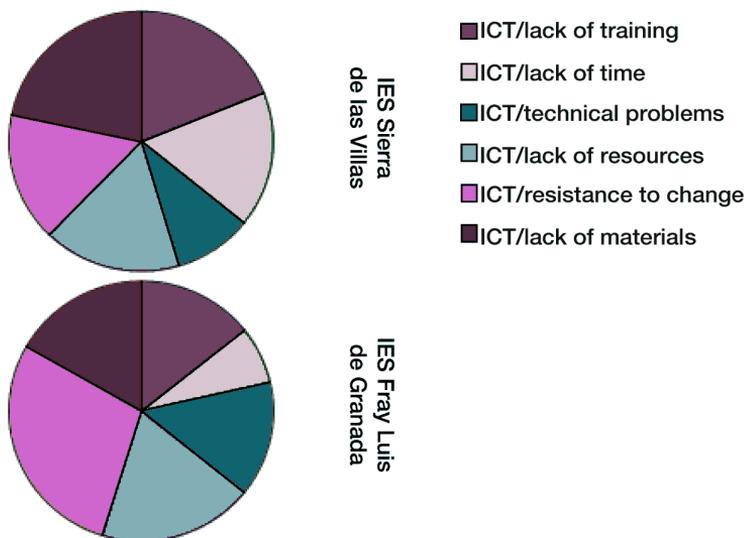


Table 10. Main problems when using ICT in the classroom.

As we can see, the main problem that teachers at IES Fray Luis de Granada faced was the resistance to change followed by the lack of ICT resources and materials. As for IES Sierra de las Villas, teachers also considered the lack of resources and materials as one of the main problem together with the lack of training and time, and the resistance to change.



Regarding the advantages, teachers from both schools agreed that students' motivation increases when learning English through ICT resources. They also stated that these resources allow teachers and students to interact in a better and more dynamic way. Teachers from IES Fray Luis de Granada also added that ICT imply the optimization of resources which benefit not only teachers but also students.

#### V. 23 TEACHERS' EVALUATION OF THE USE OF ICT

Finally, teachers were asked to evaluate, from 1 to 10, the implementation of ICT. They also had to explain their opinions to complete the punctuation.

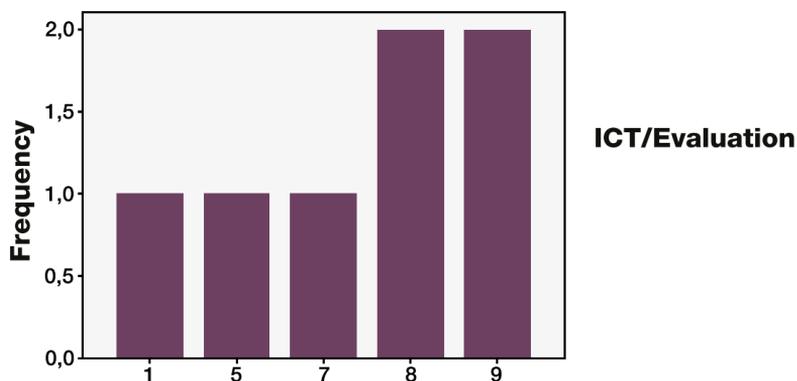


Table 11. Teachers' general evaluation of ICT.

There was no agreement when determining a general evaluation of ICT. That is why we have turned to open-ended questions in order to see the reasons of teachers. In general, most of the teachers gave a high score to ICT because they agreed that ICT may improve the teaching and learning process. However, they also mentioned many cons such as the fact that they had not received specific training, the lack of ICT resources available for teachers, the lack of time to stay up to date and learn to use ICT, the technical problems, etc., which explain the decrease of the score of the use of ICT.



V. 1 THE USE OF ICT AS AN ESSENTIAL TOOL TO LEARN ENGLISH IN THE CLASSROOM

First, students were asked if they used ICT as an essential instrument in the classroom and the following bar codes show students' answers depending on their school and the year of secondary education that they were taking.

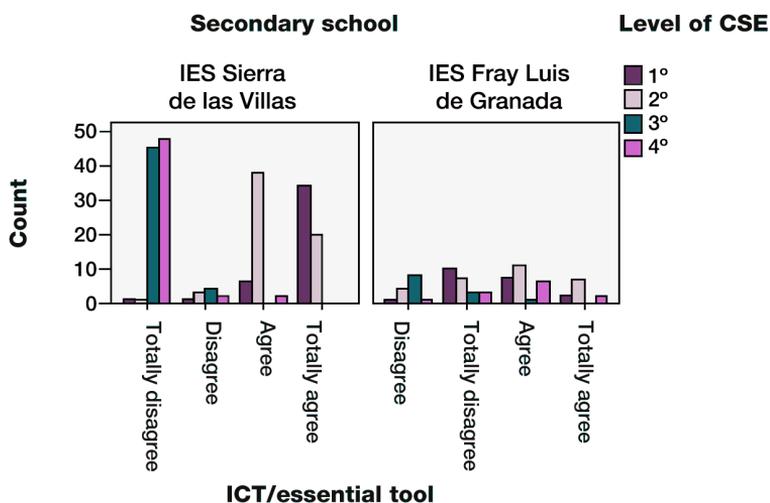
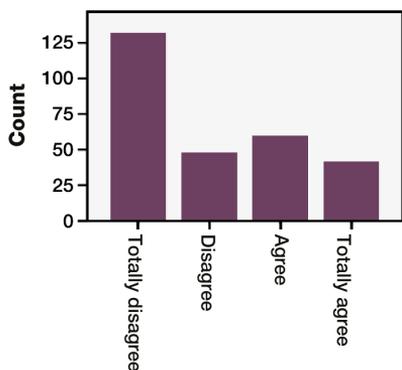


Table 12. The use of ICT as an essential tool in the English classroom.

Students at IES Sierra de las Villas used ICT more frequently when they were studying the first and second years of secondary education while the use of ICT decreased considerably in the following years. The results at IES Fray Luis de Granada vary considerably and there is no consistency among students of the same year of CSE. The reason may lie in the different teachers that students of the same year could have; it is probably that some of these teachers gave importance to the use of ICT while the others did not.

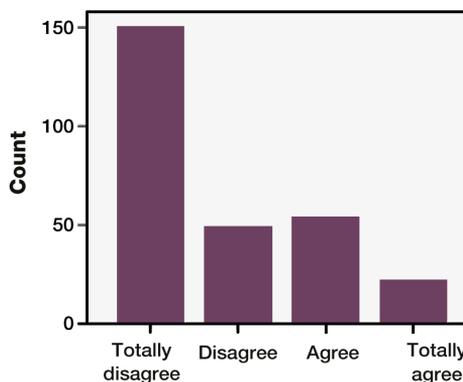
V. 2/5 THE USE OF ICT REGARDING TEXTBOOKS & OFF-LINE/ONLINE ACTIVITIES

The first variable referred to the use of ICT to deal with the contents of the textbook while the variable 5 asked students if they did not only off-line but also online activities in the classroom.



**ICT/Textbook**

Table 13. The use of ICT to work on the textbook's contents.



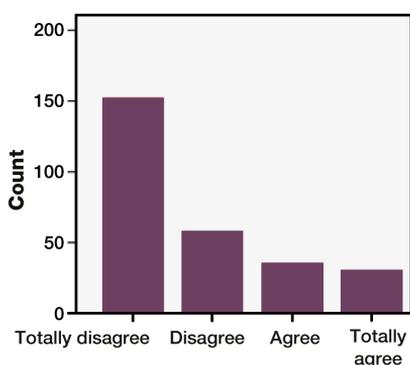
**Offline/Online activities**

Table 14. The use of off-line and online activities.

There if a high percentage of students who affirmed that they did not use ICT to work on the textbook and that is what explains the great number of students who stated that neither off-line nor online activities were used in the English classroom.

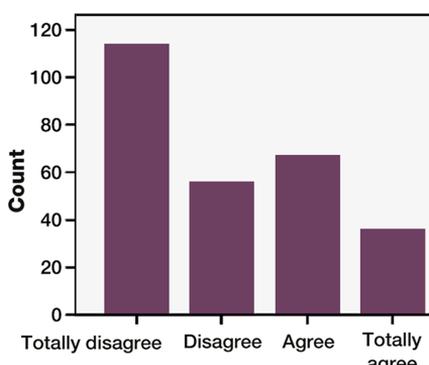
#### V. 4/10/11 THE USE OF ICT RESOURCES & AUTONOMOUS LEARNING

The aim of these variables was to analyse if students developed autonomous learning through the use of ICT. In this manner, we asked them if they used the ICT resources available for students and if they also used them to learn outside the classroom. Finally, we inquired about reliable web pages which allow them to continue progressing on their own.



**Multimedia teaching resources**

Table 15. The use of ICT resources to learn English (*mochila digital*).



**ICT/Autonomy**

Table 16. The use of ICT to learn autonomously.



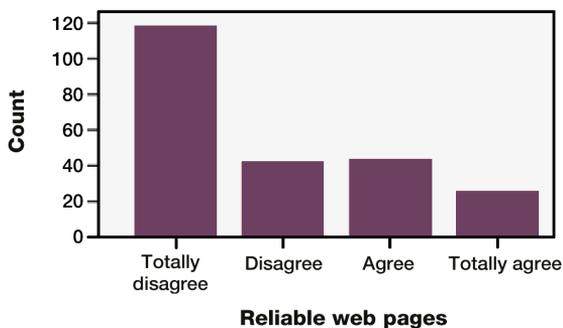


Table 17. The use of reliable web pages to continue learning English.

Around 70% of students stated that they did not take advantage of ICT to develop autonomous learning. That is the reason why the percentage of students who ‘agreed’ or ‘totally agreed’ in the other code bars is quite low: less than 30% of students used ICT resources to learn English and the same number of students did not know any reliable web page to learn English on their own. Among the answers in open-ended questions about the most frequent reliable web pages used by students, we may stress dictionaries (Word Reference), translators (Google Translator), personal blogs of teachers and different web pages to learn English autonomously such as The Yellow Pencil, Wlingua, Pipoclub or The Big Challenge.

#### V. 6/7/8 POSSIBLE USES OF ICT IN THE ENGLISH CLASSROOM

In the same way that we did with teachers, students’ questionnaires had three items to deal with three possible uses of ICT in the classroom: to improve pronunciation, to learn about English-speaking cultures and to be more motivated through ICT games.

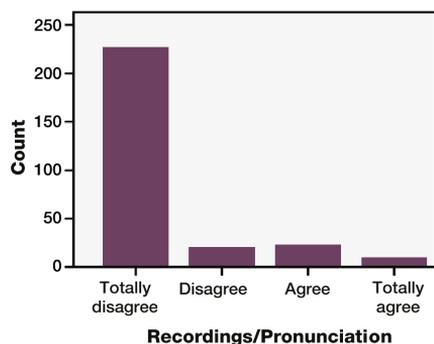


Table 18. The use of ICT to record students and improve pronunciation.

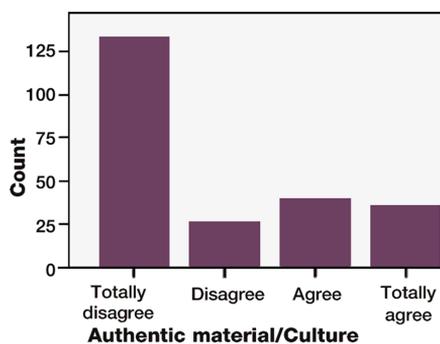


Table 19. The use of ICT to learn about English-speaking countries’ cultures.

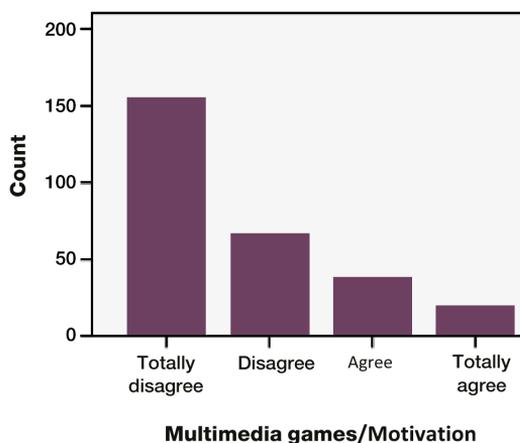


Table 20. The use of ICT to increase motivation through the use of ICT games.

The results speak for themselves: most of the students pointed out that they did not use ICT in the English classroom to improve their pronunciation through recordings or to increase their motivation through games. Moreover, around 75% of students affirmed that they did not use authentic materials to learn about English-speaking countries. When the rest answered the open-ended questions to see what kind of materials they used, the main ones were the following: books, magazines, CDs, newspapers, listening activities and videos.

## V. 20 THE USE OF ICT MOTIVATING RESOURCES

The main aim of this variable was to determine which the main ICT resources that motivated students were. Many students considered Jclíc and Hot potatoes as the main ones. However, the number of students who affirmed that they had never used any of these resources is surprising and that is why we can conclude that teachers did not really work on them in the English classroom.

## V. 23 STUDENTS' EVALUATION OF THE USE OF ICT

Finally, the last variable of the questionnaires was to evaluate the use of ICT.

In general, a downward tendency is observed as students promote to the last years of secondary education. Therefore, we can affirm that students of the first and second years of Compulsory Secondary Education use ICT more frequently than those of the third and fourth years. In fact, after reviewing open-ended questions, we realised that the dissatisfaction was considerably higher among students of the last years of secondary education. They listed several problems about the implementation of ICT such as the lack of ICT resources and facilities, the technical problems or



## Secondary education level

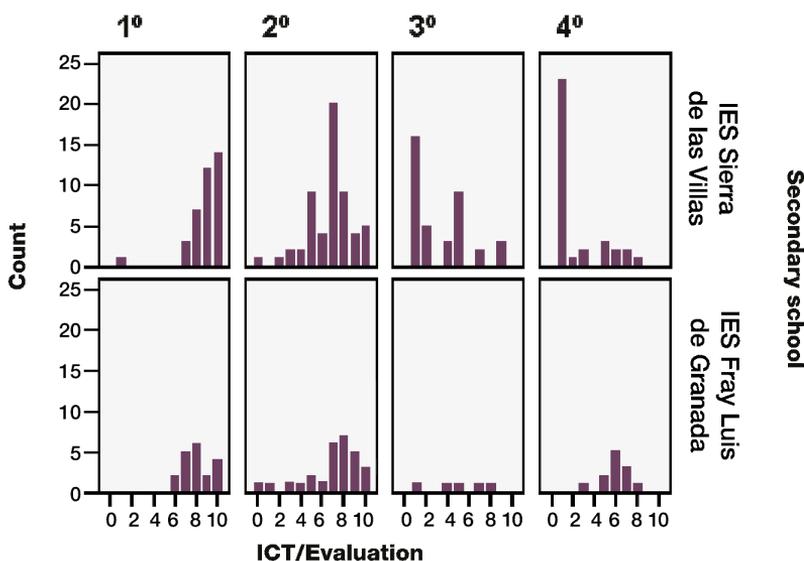


Table 21. students' evaluation of the use of ICT.

the fact that teachers did not use them in class. On the contrary, students of the first years of CSE enjoyed learning English through ICT and they considered them to be helpful for the learning process.

## 6. CONCLUSIONS AND RECOMMENDATIONS

Before coming to our conclusions, we would like to highlight that this research study only focuses on two high schools but both have the same organising characteristics of most of high schools in Andalucía; on the other hand, class-teachers in both high schools follow the same procedure to become civil servants and have the same in-service training programmes.

Regarding Objective 1, we conclude that textbooks are not really ICT oriented as they do not include any sections to develop the basic competences including the digital one. In this sense, we consider that ICT offer a great variety of opportunities to deal with the basic competences that are missed here.

In light of the results (Objective 2), which showed dissatisfaction among teachers regarding ICT, and the role that the motivation of teachers plays in the implementation of ICT, we consider essential to take measures to improve the current situation of teachers. The Regional Ministry of Education should promote new

campaigns and courses to develop teachers' knowledge of ICT and ICT training should be compulsory and considered as a specific merit in the teaching practice. It should be provided in the schools themselves in order to teach how to use the ICT equipment which is available in the classrooms. Besides, facilities should be also given to teachers who want to start a training course outside the schools.

Nowadays, it is obvious that it goes unnoticed for the Regional Ministry of Education since it does not put its efforts in the training of teachers. Teachers are the key element of students' learning process and it should be necessary for them to be up to day to meet the demand of the current society. In this sense, teachers will also have to make an effort to research about it and adapt their teaching to the use of ICT.

We have also observed that the situation is quite similar when it comes to promote research in education. It is true that today the role of teachers as researchers is not really widespread and it is confirmed by our findings. Even half of the teachers had not adapted their methodology to the implementation of ICT, which is considered essential according to the Regional Ministry of Education. This is, in our opinion, a key element to know the level of implementation of the above-mentioned program (Objective 2).

Therefore, again it seems that teachers need more support to carry out the necessary changes that the implementation of ICT entails. Research in teaching is absolutely necessary since it allows teachers to question and evaluate their practice and consequently to improve it with the help of their findings. However, it requires support and that is the reason why teachers should not be swamped but have available time to research and innovate. In the same way, the adaptation of methodology should be made not only theoretically but also in practice. It has no sense if teachers adapt their methodology to comply with the bureaucratic paperwork but then they do not know how to put it into practice.

Apart from that, teachers should promote cooperative learning within the English department itself and among different schools in order to get a higher level of implementation of ICT in the classroom (Objective 2). They would be able to share their experiences and materials and learn from those of others and it would be absolutely beneficial for them. The problem is that some teachers prefer to be isolated in their own classrooms and they do not realise that it is against their own interests.

From our questionnaires' findings, we can also deduce that the use of ICT resources in the English classroom is almost always limited to the use of the interactive whiteboard to work on the textbook. Some students also mentioned some helpful resources such as Jcllc or Hot potatoes but we realised that there was no agreement among students of the same class so we cannot consider these data to be really reliable.

In this sense, today there are many ICT resources within reach and they are aimed at teachers and students to be used during the learning process. Moreover, although it may be a bit difficult to learn how to use them, there are also many tutorials available and the advantages of using them periodically in the classroom are noticeable: students leave the textbook for a while as they continue learning English in a more dynamic and interactive way. In fact, they can be used as a support for the



textbook to review the contents that students may find more difficult. However, it is necessary that hardware and software facilities are available in all the classrooms to provide equal opportunities for all the teachers and students, which is something that is not possible in every school.

Regarding students' academic performance, the percentage of teachers who thought that students' academic performance was better when using ICT is higher than the number of students who did. From our point of view, ICT by themselves may not have a positive effect on students' academic performance; it is the use that teachers make of them which may have a beneficial effect on students. Teachers cannot consider ICT as a genie that improves students' results as if by magic. They have to know the best way to implement ICT in their classroom in order to achieve that their students develop the competences that are necessary in the current society. Once those students acquire these competences, they will be able to learn by themselves with the guidance of teachers.

Definitively, the findings of this study research are aimed to be a help for high authorities, teachers and students to reflect on the way in which the implementation of ICT is being carried out. As we saw in the second section, a great investment was made to promote it and now it is time to ask ourselves: does it worth it? Are teachers really making the most of ICT? Do high authorities really know all the problems that teachers have to face to integrate ICT in the classroom?

There are so many questions and no answer to them. However, in favour of teachers, we can point out that there are still many barriers preventing them from being able to use ICT. In fact, the profession of teacher is getting more discredited and their work conditions are getting worse. Therefore, if teachers do not receive the necessary support, it is harder to achieve it with limited facilities. In other words, the rich world of ICT which offers endless possibilities is negatively influenced by the unfavourable conditions of teachers.

There are still many obstacles to be faced such as the lack of time for teachers who are willing to integrate ICT, the lack of training, the lack of ICT resources and facilities, etc. ICT implementation requires an effort not only of the education community (teachers, students and parents) but also of the authorities and even the publishers who should adapt substantially their resources to make it easier for teachers to integrate ICT. The quality of education is at stake and it represents a great future investment. These barriers preventing the integration of ICT should be fought at all costs if we really want to improve our education system because only when these barriers are substantially eradicated, we will be able to achieve the implementation of ICT completely. Motivated and skilled teachers, strong support by authorities and effective and modern facilities and resources are needed. The theory is clear enough at this point; will the practice be improved from now on?

Fecha de recepción: octubre de 2013; fecha de aprobación: diciembre de 2013.



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APPENDIX I: ENGLISH TEXTBOOK ANALYSIS

ENGLISH TEXTBOOK:										
ANALYSIS OF UNITS FROM THE STUDENT'S BOOK										
CRITERIA/UNIT	1	2	3	4	5	6	7	8	9	OTHERS
<i>ICT-oriented</i>										
<i>Offline activities</i>										
<i>Online activities</i>										
<i>Oral skills</i> (pronunciation, video based role-plays, broadcasts)										
<i>Written skills</i> (blogs, social networks)										
<i>Authentic materials</i> (from TV, radio, press.)										
<i>(Inter)cultural aspects</i>										
<i>Learning to learn strategies</i>										
<i>Attention to diversity (HA &amp; LA)</i>										
<i>Additional ICT resources</i>										

APPENDIX II. CUESTIONARIO DE OPINIÓN DEL ALUMNADO DE SECUNDARIA SOBRE LA IMPLEMENTACIÓN DE LAS TIC EN LA CLASE DE INGLÉS

Rellena el siguiente cuestionario conforme a la siguiente escala: **1** totalmente en desacuerdo; **2** en desacuerdo; **3** de acuerdo; **4** totalmente de acuerdo; y contesta a las preguntas cuando proceda.

	1	2	3	4
<b>A.1.</b> En clase utilizamos las TIC como un recurso fundamental para el aprendizaje del idioma				
<b>A.2.</b> En clase usamos las TIC solo para trabajar con los materiales del libro				
<b>A.3.</b> El uso de las TIC en clase contribuye a la mejora de mis estrategias como alumno/a				
<b>A.4.</b> Utilizo recursos didácticos multimedia basados en el aprendizaje del inglés (mochila digital)				
<b>A.5.</b> En clase se realizan no solo actividades off-line (guadalinux) sino también actividades online				
<b>A.6.</b> En clase nos grabamos y nos escuchamos después para mejorar nuestra pronunciación				

continúa



Rellena conforme a la siguiente escala: **1** totalmente en desacuerdo; **2** en desacuerdo; **3** de acuerdo; **4** totalmente de acuerdo; y contesta a las preguntas cuando proceda.

	1	2	3	4
<b>A.7.</b> En clase utilizamos material auténtico para acercarnos a las distintas culturas de habla inglesa. ¿Qué tipo de material?.....				
<b>A.8.</b> Utilizo juegos multimedia para practicar lo aprendido porque me motiva aprender jugando.				
<b>A.9.</b> Utilizo las TIC para realizar actividades en grupo con otros compañeros/as de clase.				
<b>A.10.</b> Las TIC me sirven para seguir aprendiendo inglés por mi cuenta fuera de clase.				
<b>A.11.</b> Conozco páginas en internet que son fiables y me ayudan a seguir aprendiendo inglés. En caso afirmativo, ¿cuál es la que más utilizas? .....				
<b>A.12.</b> Las TIC nos permiten interactuar e intercambiar experiencias con otros compañeros de clase, del centro e incluso de otros centros educativos externos al nuestro.				
<b>A.13.</b> Creo que utilizar las TIC en clase es una pérdida de tiempo porque no aprendemos mucho inglés.				
<b>A.14.</b> Con el uso de las TIC en inglés podemos aprender al mismo tiempo sobre otras materias.				
<b>A.15.</b> Creo que el contacto con el profesor sería más efectivo si utilizáramos también las TIC (correo electrónico, blog, red social).				
<b>A.16.</b> Las TIC fomentan mi imaginación y hacen que tenga una mayor iniciativa propia para seguir aprendiendo.				
<b>A.17.</b> Las TIC me permiten aprender de mis errores justo en el momento en el que los cometo.				
<b>A.18.</b> El uso de las TIC hace que me distraiga y no preste atención a los contenidos.				
<b>A.19.</b> Considero que las TIC han contribuido a mejorar considerablemente mi rendimiento académico.				
<b>A.20.</b> ¿Qué recursos TIC te motivan más? (Hot potatoes, Jclie, VoiceThread, Broadcastr...) ..... .....				
<b>A.21.</b> De los siguientes aspectos, ¿cuáles son los que más te gustan de poder trabajar con las TIC? Ordénalos del 1 al 6. Posibilidad de comunicarme en inglés con otros estudiantes <input type="checkbox"/> Facilidad para trabajar en grupo <input type="checkbox"/> Posibilidad de utilizar gran cantidad de recursos con actividades <input type="checkbox"/> Acceso a material auténtico en inglés <input type="checkbox"/> Posibilidad de comprobar mi propia pronunciación <input type="checkbox"/> Acceso a mayor cantidad de información <input type="checkbox"/>				
<b>A.22.</b> ¿Cuáles son los principales problemas con los que os encontraréis en clase a la hora de utilizar las TIC? ..... ..... .....				
<b>A.23.</b> En líneas generales, mi valoración del uso de las TIC es: (del 1 al 10). Justifica tu respuesta: ..... ..... .....				



**APPENDIX III: CUESTIONARIO DE OPINIÓN DEL PROFESORADO DE SECUNDARIA  
SOBRE LA IMPLEMENTACIÓN DE LAS TIC EN LA CLASE DE INGLÉS**

Rellene el siguiente cuestionario conforme a la siguiente escala: **1** totalmente en desacuerdo; **2** en desacuerdo; **3** de acuerdo; **4** totalmente de acuerdo; y conteste a las preguntas cuando proceda.

	1	2	3	4
<b>P.1.</b> Entiendo perfectamente las implicaciones del proyecto Escuela TIC 2.0				
<b>P.2.</b> He recibido una formación inicial sobre las TIC antes de su implementación				
<b>P.3.</b> Estoy satisfecho/a con la calidad de la misma pues ha contribuido a que adquiera las competencias necesarias				
<b>P.4.</b> Hago uso de las TIC para fomentar mi labor de investigador/a e innovar dentro del aula				
<b>P.5.</b> Cuento con tiempo suficiente fuera del aula para preparar recursos educativos innovadores				
<b>P.6.</b> Las TIC se han convertido en una pieza fundamental de mis clases y las uso diariamente				
<b>P.7.</b> He adaptado mi metodología al cambio metodológico que Escuela TIC 2.0 implica (aprendizaje significativo, constructivismo, conectivismo, didáctica específica, competencias básicas)				
<b>P.8.</b> Utilizo la red como recurso didáctico en cada U.D. y los contenidos se practican de forma interactiva				
<b>P.9.</b> En clase se realizan no solo actividades off-line (guadalinux) sino también actividades online				
<b>P.10.</b> Hago uso de las TIC para que mis alumnos puedan grabarse y mejorar su pronunciación				
<b>P.11.</b> Uso las TIC para acercar a mis alumnos a diferentes culturas de habla inglesa a través de material auténtico ¿Qué tipo de material? .....				
<b>P.12.</b> Aprovecho el valor educativo de los juegos multimedia para aumentar la motivación del alumnado				
<b>P.13.</b> Conozco fuentes fiables y enseño a mis alumnos cómo utilizarlas para que busquen información y practiquen de forma autónoma fuera del centro (aprender a aprender)				
<b>P.14.</b> Las TIC nos permiten interactuar e intercambiar experiencias con otros compañeros del área, del centro e incluso de otros centros educativos externos al nuestro (aprendizaje colaborativo)				
<b>P.15.</b> Considero que el tiempo efectivo de mis clases se ve perjudicado por la utilización de recursos TIC				
<b>P.16.</b> Aprovecho las TIC para trabajar muchos de los contenidos de forma interdisciplinar				
<b>P.17.</b> Las TIC me permiten mantener un contacto más cercano con cada uno de los alumnos				
<b>P.18.</b> Las TIC favorecen el desarrollo de la imaginación y aumentan la iniciativa del alumnado				
<b>P.19.</b> Considero que las TIC han contribuido a mejorar considerablemente el rendimiento académico				

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**P.20.** ¿Qué recursos TIC utiliza con mayor frecuencia en clase? .....

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**P.21.** Ordene los siguientes posibles obstáculos para la implementación de las TIC desde su punto de vista (del 1 al 6)

Falta de formación	<input type="checkbox"/>	Falta de tiempo	<input type="checkbox"/>	Dificultades técnicas	<input type="checkbox"/>
Escasez de recursos	<input type="checkbox"/>	Resistencia al cambio	<input type="checkbox"/>	Falta de materiales y modelos curriculares	<input type="checkbox"/>

**P.22.** Con respecto a las ventajas de las TIC, ¿podría mencionar los tres aspectos principales de los que puede beneficiarse en clase?

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**P.23.** En líneas generales, mi valoración del uso de las TIC es: (del 1 al 10)

Justifique su respuesta:.....

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