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"THE IMPACT OF THE INTERACTIVE WHITEBOARD ON STUDENTS' MOTIVATION IN A 5TH LEVEL CLASS OF ENGLISH AS A FOREIGN LANGUAGE AT PUCE IN QUITO-ECUADOR"

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To Jesus Christ, the center of my life; and to my parents, Alfredo e Isabel

Ad Maiorem Dei Gloriam

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Abstract

This research reports on a study of the impact of an Interactive Whiteboard (IWB) in an English as a Foreign Language (EFL) class from a private university in Ecuador. Data were collected once a week during six weeks. Data collected included class instructor observations, questionnaires, and experimenter reflections. The research conclusion stated that learners responded in a favorable manner in relation to the integration of technology into the classroom.

Resumen

Esta investigación reporta el estudio del impacto de una pizarra interactiva (IWB) en una clase de inglés como lengua extranjera (EFL) de una universidad privada en el Ecuador. La recolección de datos se la hizo una vez a la semana durante seis semanas. Los datos recolectados incluyeron las observaciones del instructor de la clase, los cuestionarios, y las reflexiones del experimentador. La conclusión de la investigación indicó que los estudiantes respondieron de una manera favorable a la integración de la tecnología en la clase.

I. INTRODUCTION

1.1 Overview of the Study

The current research deals with the evaluation of the use of an IWB in an English as a Foreign Language class at the Pontifical Catholic University of Ecuador (PUCE) in the capital city, Quito. The research consisted of several parts, such as: methodology, results, and discussion. Those three aspects will be briefly covered below.

Regarding methodology, *materials*, *learners* and *procedure* were part of it. As materials, six lesson plans were elaborated and executed; the class instructor filled in six observation sheets; the learners answered ten questionnaires; and the experimenter wrote six experimenter reflections. Fourteen learners, who belonged to an EFL class at PUCE, participated in the procedure.

The results were tabulated and discussed in different sections of the study. In the results, the information, especially numerical information, was treated carefully. In relation to the open questions, some information was taken literally. Finally, the discussion part dealt with an analysis of the results.

On the one hand, according to one of the class instructor's comments, learners liked the last lesson in which *vocabulary review* was covered, as well as

both the IWB and Mimio Studio Software were on the *stage*. Also, they liked the use of IWB, as it allowed them to work directly on the traditional board. On the other hand, the global learners' evaluation in relation to the class was satisfactory. Finally, learners showed a positive attitude towards to this technology device, and were favorably motivated by its usage in the English as a Foreign Language classroom.

1.2 Justification of the Study

Beauchamp and Kennewell (2010), cited by Cutrim Schmid and Whyte (2012), "value the potential of the IWB in fostering communal work and learning from mistakes, two key aspects of current second language teaching " (p. 68). Since all the learners in a class can see the projection, they have the opportunity to engage in the lesson. For instance, in a matching exercise, a learner can go to the board and work on that while the rest of the class work on that individually, and/or help the one on the board when asked by the experimenter. During the work on said exercise, the learner can, of course, make some mistakes, which can indicate that learning is taking place.

Nowadays, it is considered that both new Information technology devices and education should go hand in hand since technology has been evolving at a fast pace during the last decade. In a classroom, the board is one of the components that can be found. However, have you ever stopped to think about the changes that the board has experienced? Dudeney and Hockly (2007) mentioned, "Technology in language teaching is not new. Indeed, technology has been around in language teaching for decades – one might argue for centuries, if we classify the blackboard as a form of technology" (p. 7). From what can be remembered, the board has showed itself as a blackboard, a green board, a whiteboard and lately, as an interactive one.

Nevertheless, what is critical is that a lack of supplementary studies on the impact of technology in education, specifically English Language Teaching, has been predominant. K. Moore (2009) concluded:

> Further research is needed on the impact of different uses of technology and on uses that promote English acquisition over time. Given the rapid rate of innovations in software and Internet access, long-term research studies are needed to understand more about the role and impact of using technology with adults learning English (p. 4).

It is also that the stakeholders, that is, the learners feel content in the classroom. Teaching the learners with some certain technology can be beneficial in the learning-teaching process. On the whole, it is a form to keep up-to-date with the demands of the new generation of stakeholders.

1.3 Objectives of the Study

General Objective

To evaluate the impact of the use of an interactive whiteboard, IWB, in an intermediate EFL course.

Specific Objectives

To evidence, based on empirical data, the influence of the IWB on learners' motivation

To incorporate technology into an EFL class as a way of facilitating learning and teaching

General Goal of Research

The general goal of this research was to appraise learners' perception with respect to the usage of an IWB and a few software applications, such as Mimio Studio and Hot Potatoes, in an EFL learning-teaching setting from different perspectives: the class instructor, the one in charge of teaching the EFL class; the learners, the ones attending the EFL class; the experimenter, the one implementing the IWB in the EFL class.

1.4 Research Question

Will the usage of an Interactive Whiteboard have a positive or negative influence on the learners' motivation?

II. LITERATURE REVIEW

2.1 The Interactive Whiteboard (IWB) as Part of CALL

Cutrim Schmid & Whyte (2012) agreed with Kern (2006, p. 200) on considering technology-based language teaching not as a method, but as an incorporation into several pedagogical approaches (p. 65).

Since the Interactive Whiteboard (IWB) requires a computer to work, the computer is an assistant device in the teaching-learning process. In other words, the IWB is part of CALL (Computer-Assisted Language Learning).

Technology is considered as a tool, which is applied with a method or with an approach. Regarding the former, one can find the Grammar Translation Method, Communicative Language Teaching, and so on; and regarding the latter, the Presentation Practice and Production or the Task-based Learning, for instance. It is worth mentioning that the two terms mentioned above, that is, method and approach belong to the growing context of English Language Teaching (ELT).

Cutrim Schmid and Whyte (2012) made reference to the distinction between interactive technology and interactive pedagogy: interactive technology can require students to press buttons and/or to drag figures on the screen (Beauchamp and Kennewell, 2008, p. 313). On the other hand, interactive pedagogy "is more challenging for both teacher and [students]" (Cutrim Schmid and Whyte, 2012, p. 68).

Cutrim Schmid & Whyte (2012) claimed that "Gray's objections aside, most IWB studies in school settings highlight the potential of this tool for stimulating interaction among learners, a major element of modern communicative language teaching" (p. 69).

2.2 IWBs, Getting the Balance Right

Bax (2006) posed a question whether IWBs would end up remaining somewhere collecting dust or they would become a component of every language classroom, which he called as *normalized* (p. 1).

From a personal point of view, in relation to technology, specifically the IWB, it is essential to get the balance right. In other words, the equilibrium between the two extreme points that Bax (2003), cited by Bax (2006), mentioned: "We also have what I have described as the 'fear/awe' phenomenon, where people are excessively terrified of the technology, or else believe with equal exaggeration that it will completely revolutionize what we do" (p. 2).

On the one hand, Bax (2006) wrote three reasons why Gavin Dudeney suggested the IWB would fail: the cost (Dudeney 2006b), the weakness of available ELT content (Dudeney 2006b) and the lack of adequate training (Dudeney 2006a) (p. 3).

On the other hand, Bax himself (2006) considered that the cost of the IWB would decrease due to early adopters and increase demand (p. 4). Additionally, Bax (2006) made reference to the second Dudeney's issue, that is, materials:

> […] on a recent visit to Bahrain, I saw Bahraini English teachers using IWBs not with published materials but with their own simple interactive activities [which] they themselves had created for use in their classes, and they were amazing in their simplicity and effectiveness (p. 4).

Numerous state school UK teachers, Bax (2006), do not use IWB for whole lessons. Instead, they use it at the beginning or end of the lesson, in activities, such as: discussion, presentation, feedback, among others (p. 4).

Bax (2006) as well stated that IWBs offered a fascinating example of a technology entering the language education, and that the normalization of them is possible in language classrooms (p. 6).

2.3 Providing Feedback

Harmer (2007) mentioned, "most students want and expect us to give them feedback on their performance" (p. 143). What Harmer indicated is important because he makes us (teachers) aware of the needs of the learners. Personally, when studying English as a Foreign Language, I liked the action of being corrected. Why? Because correction contributed to language improvement.

Nevertheless, it can be highlighted that too much correction of mistakes could not motivate the learner in the English language learning process. Therefore, Harmer (2007) recommended being subtle when both feedback and correction come into play, regarding group and individual preferences (p. 144).

Regarding oral activities, one question can arise: when to correct? Lynch (1997), who is cited by Harmer (2007), answered to that question: "… the best answer to the question of when to intervene in learner talk is: as late as possible" (p. 143).

2.4 Making Comprehension Checks

One of the potential problems a teacher can find in the classroom is to observe that some learners are not working on what they were expected to do. What might have been the reason for such performance? Some possible reasons could be that the instructions were not clear enough, the learners were distracted, the teacher's volume was low, etc. Regarding instructions, Scrivener (1994) provided a solution, which consisted of asking one or two learners to repeat the instructions given to the whole class; for instance: *So, José, what are you going to do?*

(p. 17). The teacher then can clarify the instruction if it has not been understood, and proceed with the activity of the lesson.

2.5 Dynamics and Technology in the Classroom

One of the key aspects in learning a language is that of interaction and dynamics. Interaction may be between student and student, student and students, or teacher and student while dynamics may include how that interaction takes place in the classroom atmosphere. Technology provides a new and dynamic chance for teachers and students to interact (K. Moore, 2009, p.1).

In addition to what K. Moore (2009) mentioned, "Today, CALL typically involves use of the computer, internet, or software programs to provide authentic and interactive opportunities for language learning" (p. 1), the term *hardware* may be included. The *interactive whiteboard* is an example of hardware.

Both Lam (2000) and Reynard (2003) cited by K. Moore (2009) claimed, "Teachers need to be able to adapt curricula so that technology use support learning goals, and technology is used as a tool and not as a substitute for instruction" (p. 3).

K. Moore (2009) considered that more research on the impact of technology with adults learning English was required (p. 4).

2.6 Information and Communications Technology (ICT)

The board has experienced some changes. From what one can remember, the board has showed itself as a blackboard, a green board, a whiteboard and lately as an interactive one. Dudeney and Hockly (2007) mentioned, "Technology in language teaching is not new. Indeed, technology has been around in language teaching for decades – one might argue for centuries, if we classify the blackboard as a form of technology" (p. 7).

Computer Assisted Language Learning, the Internet and web-based tools are part of ICT (Information and Communications Technology). ICT is gradually being adopted by teaching, especially, English Language Teaching. Nevertheless, Dudeney and Hockly (2007) stated:

> A general lack of ICT training for teachers also means that we still have some way to go until the normalization of technology in language teaching, where the use of technology in teaching becomes as natural as the use of books or pens and paper (p. 8).

In the technology setting, Dudeney and Hockly (2007) classified people in four groups: technophobes, those who are cautious towards technology; digital natives, who are in contact with technology since early years of their lives; digital immigrants, those who are old [approximately seventy years] and a bit in contact with technology; and the techno geeks, who are really interested and immersed in technology (p. 8-9).

Regarding the preceding paragraphs, the number of learners can be a barrier to implement ICT in the classroom. Nevertheless, Dudeney and Hockly (2007) suggested "Large classes, with more than 30 students, can be divided into two groups – while one group is doing online computer room work, the other group is doing paper-based work. The two groups then change over." (p. 12).

Dudeney and Hockly (2007) recommended the following skills and equipment to implement ICT in the classroom: for the former, how to use a word processing program, how to use email, and how to use the Internet; for the latter, a class may need one computer, Internet connection, a printer, an audio card in the computer, a headset, and basic software (a word processing program, a web browser, and an email program) (p. 13).

Dudeney and Hockly (2007) expressed "using websites is one of the easiest and least stressful ways of getting started with technology in the classroom" (p. 27). Just by using an Internet browser, the teacher can access to a website, which may contain a variety of activities there. For example, a video can be used at the beginning of the lesson, or some lyrics as well. In those cases the teacher does not have to worry too much on how to deal with technology. Also, the teacher can make use of two types of websites: the ELT websites and the authentic websites. The first one is intended for educational purposes while the second one is designed for the public in general. In addition, four aspects are taken into account, Dudeney and Hockly (2007), at the moment of evaluating websites: accuracy, the content is reliable; currency, the content is updated; content, attractive and interesting for teacher and students; and functionality, the loading speed and/or the function of links in the website (p. 34).

Dudeney and Hockly (2007) prefer to split the typical web-based lesson in three parts: *warmer*, which prepares the students for what will come in the *web* stage; *web*, the website task the learners can do; and the *what next* stage, the report of what has been done in the previous stage as well as the continuation with follow-up activities (p. 35).

According to Dudeney and Hockly (2007) the Internet-based project work implies the use of the Internet over a series of lessons (p. 44).

They (2007) present four reasons why the Internet-based project work is used in the classroom (p. 44):

1. Internet-based project works are a structured way for teachers to begin to incorporate the Internet into the language classroom, on both a short-term and a long-term basis.

2. More often than not, they are group activities and, as a result, lend themselves to communication and sharing knowledge, two principal goals of language teaching itself.

3. They can be used simply for language learning purposes, but can also be interdisciplinary.

4. They encourage critical thinking skills.

Dudeney and Hockly (2007) provided the steps to prepare an Internet-based project work: choosing the project topic, making the task clear, finding the resources, and deciding on the outcome (p. 45).

Dudeney and Hockly (2007) affirmed "the success of this technology (IWB) is largely due to the fact that it uses a very familiar metaphor -the board- and consigns the computer to a secondary or almost invisible role in the classroom" (p. 148).
The acronym RSS stands for Really Simply Syndication. Dudeney and Hockly (2007) recommended the time-saver (RSS) to keep up-to-date with specific new information in blogs and websites (p. 149).

An alternative to traditional learning is online learning. The acronym VLE stands for Virtual Learning Environment. Nonetheless, in the language teaching setting, Dudeney and Hockly (2007) expressed "at the moment organizations tend to use a VLE to deliver online learning, but these services can often be sterile in terms of providing the kind of communication opportunities we usually consider vital to the language learning process" (p. 152).

2.7 Second Language Acquisition (SLA)

The acronym SLA stands for Second Language Acquisition. Blake (2008) defined SLA as "the process of learning another language other than your mother

tongue (L1), [and which] is both an intensive and time-consuming activity" (p. 1). Bialystok and Hakuta (1994) cited by Blake (2008) expressed "After years of experience in training field agents, the Foreign Service Institute (FSI) estimates that anywhere from 700 to 1,320 hours of full-time instruction are needed to reach a level of high fluency" (p. 1). A learner who has travelled to the country of the target language can also achieve the high level of fluency. However, Davidson (2007) cited by Blake (2008) warned, "less than three percent of our university students go abroad on either academic or internship programs" (p. 2). It is worth mentioning what Blake (2008) added "Technology, then, if used wisely, could play a major role in enhancing L2 learners' contact with the target language, especially in the absence of study abroad" (p. 2).

Blake (2008) posed the Internet as an ideal tool for the learners to get access to authentic L2 information (p. 4). Lenhart, Madden, and Hitlin (2005) cited by Blake (2008) reported "More important 84 percent of teenagers today, who will be the college language learners of tomorrow, use the Internet primarily as a tool for communications …" (p. 5).

Blake (2008) stated, "By offering an L2 culture course supplemented by art or other forms of culture available in the form of web materials, language departments can recapture student interest" (p. 8). Nonetheless, Blake (2008) pointed out "it is important not to raise unrealistic expectations with respect to technology's possible contribution to the L2 curriculum" (p. 8).

Blake (2008) presented four myths about technology which are: first, technology as a monolithic (either all good or all bad); second, technology constitutes a methodology; third, today's technology is all we need to know; fourth, technology will replace teachers (pp. 8-9).

2.8 Computer Assisted Language Learning (CALL)

Computer Assisted Language Learning means that the instruction is mostly carried out with the help of the computer. In the first CALL programs, According to Dudeney and Hockly (2007) the learners were asked to respond to stimuli on the screen and do some activities such as filling in the gaps, matching half sentences and multiple choice items (p. 7). Consequently, they (2007) stated that CALL has reached beyond those programs to the use of the Internet and web-based tools (p. 7).

The Internet is one of the most usual tools for communication and education. Blake (2008) claimed "the impact of the Internet is the central focus of CALL because of its prominent role in today's FL classroom and in the lives of the students" (p. 49). At the beginning of the development of CALL programs, they were focused on stimulus-response activities. In addition, the learners were conceived as a blank slate. Nevertheless, Blake (2008) reflected on an appropriate CALL program, which required learner's previous knowledge in constructivism (p. 52).

Kern and Warschauer (2000) cited by Blake (2008) argued "the ideal CALL activity is the one that encourages the L2 learner to become an agent in the learning process" (p. 53). The Integrative CALL, Blake (2008), implies activities in which the computer serves as a mean of interaction among persons (p. 53).

Garrett (1991) cited by Blake (2008) defined a template as "a program that would allow nonprogrammers, which is the case for most FL teachers, the ability to create CALL exercises with relative ease" (p. 58). In the current project, Hot Potatoes software is an authoring tool. Blake (2008) mentioned about it "The Hot Potatoes Software consists of a suite of six cross-platform templates [...] that stood the test of time and heavy use by language teachers" (p. 59).

According to Blake (2008) CMC stands for Computer-Mediated Communication, which can be synchronous (real time) or asynchronous (deferred time) (p. 70). In relation to the Asynchronous Computer-Mediated Communication, he (2008) defined two generation tools: e-mail as a first-generation CMC tool (p. 71) and both blogs and wikis as second-generation CMC tools (p. 74).

Blake (2008) pointed out "early attempts at using Synchronous CMC programs for language teaching were carried out in chat rooms where large groups or even a whole class would log on and chat at once, usually from the same language lab." (p. 75). Also, he took Skype as an example of Synchronous CMC (p. 78).

However, in a technology and education setting, finding a source, which includes both theory and practice in scope, may not be an easy task. Kletzien (2013) mentioned that although theory is focused in his book, it is likely to be complemented with practical applications regarding CALL (p. 43).

Kletzien (2013) stated that both knowledge on computers and the Internet from the part of teachers and learners might be taken for granted (p. 43). Also, he (2013) highlighted that "Many hyperlinks are given …, but the reader is only told what can be found at that particular site and is left to explore it on their own" (p. 44). More than hyperlinks (URL-Universal Resource Locator) could be provided to the learners. In other words, they can be given with an explanation of what they talk about, along with a teacher's guided experience of the site.

Kletzien (2013) made reference to two standards: the National Standards in Foreign Language Education Project and the International Society for Technology in Education (p. 44). In addition, he (2013) said that although those standards are US-based, they can be adopted by those who wish to integrate technology (p. 45).

CALL and assessment have a close relationship because CALL programs can be used to assess learners. Kletzien (2013) assured that "Chapter 9 centers on

computer-based testing, from formative tools that teachers can create and use in their own classes, to summative commercially available assessments" (p. 45).

2.9 Intrinsic Motivation and Extrinsic Motivation

Both types of motivation were discussed by H. Douglas Brown (2002). On the one hand, intrinsic motivation refers to the action of the person in doing something because he or she wants to do it. In that motivation, an external reward is not needed. On the other hand, extrinsic motivation refers to the influence from outside the person. In that motivation, someone or something pushes the person to do something (p. 19).

2.10 Method, Approach, and Technique

Brown (2007) defined method, approach, and technique as: method is the general classroom specifications regarding teacher and student roles towards the accomplishment of linguistic objectives. Approach is the application of positions about the nature of language and language learning to pedagogical contexts. And finally, technique relates to the use of exercises and tasks to achieve the lesson objective in the language classroom (p. 17).

2.11 English Language Teaching (ELT) Methods

Based from experience as a learner, approximately fourteen years ago, the lessons delivered in a classroom were focused on the teacher rather than the learners. In other words, the lessons were teacher-centered. However, nowadays the learners play a key role in the classroom. In general, the lessons tend to be learner-centered. On that account, Brown (2007) mentioned that learner-centered instruction included (p. 52):

1. Techniques that focus on or account for learners' needs, styles, and goals.
2. Techniques that give some control to the student.
3. Curricula that include the consultation and input of students and that do not presuppose objectives in advance.
4. Techniques that allow for student creativity and innovation.
5. Techniques that enhance a student's sense of competence and self-worth.

It is important to bear in mind that each learner is unique, and that he or she has his or her own learning style. What can be useful for one learner cannot be useful for another learner. The system, in the past, conceived the teacher as the one who knew almost the entire subject, and that the learners had to accept that conception. Nevertheless, ideally it is possible to have a kind of negotiation between the learners and the teacher. By providing that atmosphere, it is feasible to create the condition for creativity and innovation. Although it can be strange for some teachers to provide some power to the learners, Brown (2007) considered that by giving the learners some choices, it helped them to obtain a sense of ownership of their learning (p. 53).

In relation to Cooperative Learning, it would be interesting to compare a soccer team with a group of learners working in a classroom. In the soccer team, the players have to communicate among themselves; they have to work towards a goal, and so on. Likewise, in the classroom, the group of learners has to work as a team to achieve a goal, to complete a task, and so forth. In that context, Oxford (1997), cited by Brown (2007), mentioned some factors from the advantage of cooperative learning as "promoting intrinsic motivation, … heightening self-esteem, … creating caring and altruistic relationships, and lowering anxiety and prejudice" (p. 53).

Nevertheless, there might be some problems in a group of learners. Possible disadvantages may appear in relation to cooperative learning. Crandall (1999), cited by Brown (2007), gave some information on those issues "Some of the challenges of cooperative learning are accounting for varied cultural expectations, individual learning styles, and personality differences and an overreliance on the first language" (p. 53).

The field of English Language Teaching has experienced several tendencies through centuries, ranging from translation, repetition to communication. Interaction is part of communication; therefore, it is important to focus on interactive learning in which one learner is the source of the message, and another one is the receiver of that message. Furthermore, in that communication, there is a negotiation of meaning in which learning takes place. Brown (2007) listed what most interactive classes will be doing (p. 54) when applying this method:

- Doing a significant amount of pair work and group work.
- Receiving authentic language input in real-world contexts.
- Producing language for genuine, meaningful communication.
- Performing classroom tasks that prepare them for actual language use "out there".
- Practicing oral communication through the give and take and spontaneity of actual conversations.
- Writing to and for real audiences, not contrived ones.

Harmer (2007) provided some advantage of the Grammar Translation Method when he pointed out "But most language learners translate in their heads at various stages anyway, and they (and we) can learn a lot about a foreign language

by comparing parts of it with parts of our own mother tongue" (p. 49). In addition, it can be difficult for a teacher to explain the meaning of a certain word. Thus, he or she can translate that word into the L1 of the learner. On the other hand, the Grammar Translation Method can be criticized in terms of communication. Brown (2007) stated, "It [Grammar Translation Method] does virtually nothing to enhance a student's communicative ability in the language" (p. 19).

The audio-lingual method focuses on the repetition of words or phrases even dialogues in L2. That repetition is referred to as a drill. The drill can be performed in different manners, such as: individual or choral. This method can be useful when a problem with pronunciation occurs. In spite of that, Harmer (2007) informed that the learning of a language went beyond than habits (p. 49).

Another method is the one called CLT which stands for Communicative Language Teaching. It has two principles: Harmer (2007) states, "the first is that language is not just patterns of grammar with vocabulary items slotted in, but also involves language functions" (p. 50). As language functions, one can mention the following: inviting, apologizing, accepting, etc. Besides, the exponents are present in the CLT. For instance, if somebody wants to invite someone for a drink, the exponent would be: Would you like some coke? Regarding the second principle, Harmer (2007) emphasized, "The second principle of Communicative Language Teaching is that if students get enough exposure to language, and opportunities for language use –and if they are motivated- then language learning will take care of itself" (p. 50).

2.12 ELT Approach

The acronym PPP stands for Presentation, Practice and Production. Harmer (2007) defined PPP as the course of action in which the teacher presented the language, then got the learners to practice with the new language, to finally the language production stage from the learners (p. 280).

In the PPP approach, the learning-teaching process makes use of the deductive approach. Harmer (2007) explained what the deductive approach consisted of "deductive approach is a name given to procedures where students first learn rules and then try to make sentences on the basis of those rules" (p. 272).

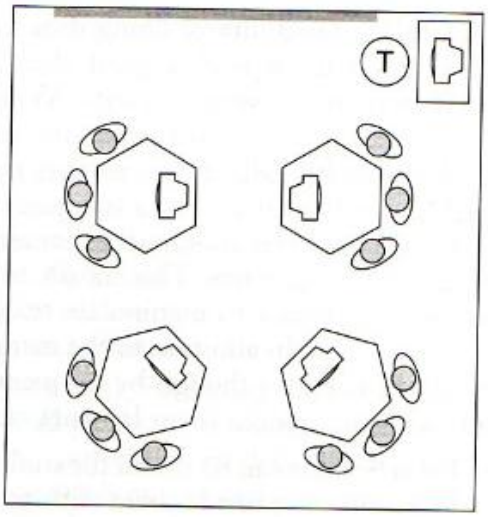
Spratt et al. (2005) provided a lesson in which the *Presentation, Practice* and *Production* stages are included. However, for the purpose of this work, the focus is on the *Practice* stage of the lesson. Spratt et al. (2005) wrote the aim of the lesson as "students learn the difference between countable and uncountable nouns, and when to use *a* and *some* with them" (p. 61). Taking that aim into account, in the *practice* stage of the lesson, Spratt et al. (2005) mentioned "students do a written gap-fill exercise, filling the gaps with *a* or *some*" (p. 62). That exercise provides an opportunity to make use of the Hot Potatoes Software, which was previously mentioned by Blake.

2.13 The Internet in the ELT Class

The classroom has several tools at hand, such as: the board, markers, eraser, etc. But, also, the Internet is considered as a tool. This tool is intangible, but it is still there, in the classroom. Let us focus on the Internet classroom. Teeler (2000) stated, "… it is crucial that the layout and set-up of the room itself reinforce, rather than dictate, your approach to language teaching" (p. 54). Besides, Teeler (2000) listed the three steps to bear in mind when initiating an Internet classroom: planning, set-up and maintenance (p. 54).

The class sitting arrangement plays a key role in the Internet classroom, especially at the moment of interaction. One arrangement is that one similar to orderly rows, and another one is that of individual learners with a computer on the sides of the classroom facing the wall. Those arrangements may not contribute to interaction among learners. Nevertheless, Teeler (2000) proposed the modular

arrangement as one that is beneficial to interaction in language teaching (p. 55) as in the graph below:



Source: Teeler, D. (2000). *How to use the Internet in ELT.* England: Longman.

In order to take advantage of the Internet potential, Teeler (2000) listed some components: a printer, CD-ROM drive, speakers, headphones, microphones, a projector, a scanner, a digital camera, and a video camera (pp. 56-58). Another aspect to keep in mind is the Internet connection. Several Internet Service Providers (ISP) have offered different types of connection: ranging from telephone to Wi-Fi (wireless fidelity). Teeler (2000) expressed that "as prices [regarding fast Internet access] continue to drop and technology continues to improve, the potential of the Internet as a tool for English Language Teaching continues to grow" (p. 59).

Teeler (2000) suggested practical training on basic computer skills for both the learners and the teacher (pp. 59-60). Additionally, learner-learning styles should be taken into account in the Internet classroom.

All these tendencies and approaches can benefit from the use of new technologies and an attitude from both the learner and the teachers.

III. METHODOLOGY

3.1 ***Materials.*** The materials consisted of six lesson plans, six observation sheets, ten questionnaires, and six experimenter reflections.

3.1.1 *Lesson Plans*

Each lesson plan chart contained four columns (from left to right), *Timing, Experimenter Activity, Learner Activity, and Interaction.* See Appendix A.

The first lesson plan was executed on 30 October 2013 with the topic: *Article 'the' vs. no article.* The objective of the lesson was that the learners were able to know when to use the article 'the' and when not to use it. Among the resources that were used during the lesson were: Open Mind textbook (Teacher's Edition)-Level 3-Unit 3, Open Mind (Workbook)-Level 3-Unit 3, English Grammar in Use (intermediate) by Raymond Murphy, Mimio Teach, Hot Potatoes Software (JMatch), a computer, and a data projector. The total amount of time for the first lesson was forty-five minutes. Ten minutes were assigned to the use of the interactive whiteboard along with the JMatch software, that is, twenty-two percent of the total amount of time for the first lesson.

The second lesson plan was executed on 6 November 2013 with the topic: *Revision of-Indirect Questions, Present Perfect vs. Present Perfect Progressive, and Used to.* The objective of the lesson was that the learners were able to become more familiar with the topics of the revision. Among the resources that were used during the lesson were: Open Mind textbook(Teacher's Edition)-Level 3-Unit 3, Worksheet of *Indirect Questions Exercise* by Bob Wilson, Mimio Teach, Hot Potatoes Software, a computer, and a data projector. The total amount of time for the second lesson was forty-five minutes. Fifteen minutes were assigned to the use of the interactive whiteboard along with the Hot Potatoes software, that is, thirty-three percent of the total amount of time for the second lesson.

The third lesson plan was executed on 13 November 2013 with the topic of passive causatives or *have/get something done.* The objective of the lesson was that the learners were able to differentiate when to use "have or get something done". Among the resources that were used during the lesson were: Open Mind textbook (Teacher's Edition)-Level 3-Unit 4, Open Mind (Workbook)-Level 3-Unit 4, English Grammar in Use (intermediate) by Raymond Murphy, Mimio Teach, Hot Potatoes Software (JMatch), a computer, and a data projector. The total amount of time for the third lesson was forty-five minutes. Ten minutes were assigned to the use of the interactive whiteboard along with the JMatch software, that is, twenty-two percent (same as in lesson one) of the total amount of time for the third lesson.

The fourth lesson plan was executed on 20 November 2013 with the topic: *reported questions.* The objective of the lesson was that the learners were able to report questions. Among the resources that were used during the lesson were: Open Mind textbook (Teacher's Edition)-Level 3-Unit 5, Top Grammar by R. Finnie et al., Worksheet from *La Famille de Mafalda*-Tome 7-p. 7, Mimio Teach, Hot Potatoes Software (JQuiz), a computer, and a data projector. The total amount of time for the fourth lesson was forty-five minutes. Ten minutes were assigned to the use of the interactive whiteboard along with the JQuiz software, that is, twenty-two percent (same as in lessons one and three) of the total amount of time for the fourth lesson.

The fifth lesson plan was executed on 27 November 2013 with the topic: *second conditional.* The objective of the lesson was that the learners were able to build and use second conditional sentences. Among the resources that were used during the lesson were: Open Mind textbook (Teacher's Edition)-Level 3-Unit 6, How English Works: A Grammar Handbook with Readings by A. Raimes, Grammar Practice Activities: a practical guide for teachers by Penny Ur, a wireless Logitech mouse, Mimio Teach & Mimio Studio Software, Hot Potatoes Software (JMix), a computer, and a data projector. The total amount of time for the fifth lesson was forty-five minutes. Fifteen minutes were assigned to the use of the interactive whiteboard along with both Mimio Studio Software and the JMix software, that is,

thirty-three percent (same as lesson two) of the total amount of time for the fifth lesson.

The sixth lesson plan was executed on 3rd December 2013 with the topic: *Vocabulary review of units one* and *five.* The objective of the lesson was that the learners were able to identify and make use of collocations. Among the resources that were used during the lesson were: Open Mind textbook (Teacher's Edition)-Level 3-Units 1 & 5, worksheet by Kobold Muhely, a wireless Logitech mouse, Mimio Teach and Mimio Studio Software, Hot Potatoes Software (JMatch), a computer, and a data projector. The total amount of time for the sixth lesson was forty minutes. Twenty-two minutes were assigned to the use of the interactive whiteboard along with both Mimio Studio Software and the JMatch software, that is, fifty-five percent of the total amount of time for the sixth lesson.

3.1.2 *Observation Sheet*

The observation sheet to be used was taken from the book *A Course in Language Teaching: Practice and Theory* by Penny Ur (see Appendix B). The observation sheet format was the same for the six lessons. It contained the following information: class instructor's name, date, time, topic, and level; the observation sheet chart had three columns (from left to right): *time, events, and comments/questions.* The class instructor's name is Edison Santacruz, who was also the observer. These results are discussed in future pages.

3.1.3 *Questionnaires*

Ten questionnaires were used throughout the execution of the six lessons. The first and last questionnaires were elaborated between the director of this dissertation and the experimenter. Questionnaires from *two* to *nine* were slightly adapted from the book *Strategies for Success: A Practical Guide to Learning English*

by H. Douglas Brown. All questionnaires, except for the first one, required demographic information from the learners.

The first questionnaire consisted of five questions. Questions one, two and four were multiple choice while question three was combined, i.e., multiple choice and open question. The last question was completely open.

The topic of questionnaire two was *Learner Preferences.* The questionnaire comprised six multiple-choice questions; the topic of questionnaire three was *Slow or Fast?* The questionnaire consisted of eleven multiple-choice questions; the topic of questionnaire four was *Left-Brain and Right-Brain Processing*. The questionnaire consisted of nine multiple-choice questions; the topic of questionnaire five was *Two Kinds of Motivation*. The questionnaire was composed of eleven multiple-choice questions; the topic of questionnaire six was *Language Ego*. The questionnaire contained eight multiple-choice questions; the topic of questionnaire seven was *Pronunciation*. The questionnaire comprised seventeen multiple-choice questions; the topic of questionnaire eight was *The Individual Learner*. The questionnaire incorporated seventeen multiple-choice questions; and, the topic of questionnaire nine was *Extroversion and Introversion*. The questionnaire included ten multiple-choice questions.

The last questionnaire comprehended five questions. Questions one, two and four were multiple choice while question three was combined, i.e., multiple choice and open question. The variation between the first questionnaire and the last questionnaire is that, in the former, the third question was *Do you think this kind of technology should be used more often in the classroom? Why, or why not?* while, in the latter, the third question was *Do you think you learn better with an interactive whiteboard? Why, or why not?* The last question was completely open.

3.1.4 *Experimenter's Reflection*

In each of the six experimenter's reflections, the experimenter wrote relevant information based on the execution events of the lesson. No formal format was used when writing the reflections. In other words, a free-writing style was used.

3.2 ***Learners.*** Fourteen native speakers of Spanish, who were enrolled in: Accounting, Administration, Bio analysis, Biology, Business, Engineering, Human Nutrition and Microbiology studies at the Pontifical Catholic University of Ecuador in Quito, participated in the research. From the fourteen learners: nine learners were female, that is, sixty-four percent while five learners were male, that is, thirty-six percent. All were university learners ranging in age from seventeen to twenty-five years old. The more frequent ages were: nineteen and twenty; the less frequent ages were: seventeen and twenty-five. In relation to the English language program at The Pontifical Catholic University of Ecuador in Quito, it provides eight levels, two per one of the following denominations: elementary, pre-intermediate, intermediate, and higher intermediate. The fourteen learners belonged to the fifth level, which was an intensive level and it corresponds to intermediate. The learners attended the English class from Monday through Friday, from seven am to nine am, with a total of eighty class hours.

3.3 ***Procedure.*** Before the execution of each lesson plan, the class instructor and the experimenter met to determine the topic to be covered, research on it, adjust the execution time in the regular daily class, and the logistics. *Grammar* was the general point covered during lessons one to five while *Vocabulary* was assigned for the last lesson. The experimenter elaborated a lesson plan and activities in which technology (hardware and software) was utilized. Each lesson plan was carried out a day a week (mostly Wednesdays) with an average time of forty-five minutes per each lesson.

At the end of the lesson, the learners filled in the questionnaire. All questionnaires did not require the learner's name in order to avoid bias.

The class instructor finally gave the observation sheet back to the experimenter, who then wrote the experimenter reflection without previously having watched the observation sheet so as to avoid bias.

IV. RESULTS

4.1 *Lesson Plans*

Six charts are presented below. Each of them contains a summary of the corresponding lesson plan (from one to six). Also, the chart provides detailed information about: timing, experimenter activity, learner activity, and interaction.

4.1.1 Lesson Plan One

Timing	Experimenter Activity	Learner Activity	Interaction
45'	The experimenter, with the use of the resources, proceeded to give the lesson. It dealt with *article the vs. no article.* A lead-in was applied; then, the comparison was explained on the board.	Learners worked on the workbook, and they made use of JMatch and IWB to play the matching game.	Experimenter to learners, learner to learners and pairs.

Chart 1: Lesson plan one summary

4.1.2 *Lesson Plan Two*

Timing	Experimenter Activity	Learner Activity	Interaction
45’	The experimenter elicited information during the warm-up. Comprehension check was done. And, he monitored the digital exercises.	Learners worked on the worksheet. They used the IWB when working in gap-fill exercise, and dragging and dropping boxes to build a sentence.	Experimenter to learners, learner to learners and individual.

Chart 2: Lesson plan two summary

4.1.3 *Lesson Plan Three*

Timing	Experimenter Activity	Learner Activity	Interaction
45’	Eliciting took place in the lead-in part. On the board, the topic was explained. The experimenter monitored the JMatch digital exercise.	Learners took notes on the explanation, and used IWB.	Experimenter to learners and learner to learners.

Chart 3: Lesson plan three summary

4.1.4 *Lesson Plan Four*

Timing	Experimenter Activity	Learner Activity	Interaction
45’	In the warm-up stage, the description activity was facilitated. The digital quiz was monitored, and then explanation and examples of the topic took place.	Learners volunteered with solving the quiz.	Pairs, learner to learners and experimenter to learners.

Chart 4: Lesson plan four summary

4.1.5 *Lesson Plan Five*

Timing	Experimenter Activity	Learner Activity	Interaction
45’	An explanation of the topic was given. Then, examples were provided. A chain of events activity was conducted.	Learners worked with JMix exercise; next they participated in the chain of events activity.	Experimenter to learners and learner to learners.

Chart 5: Lesson plan five summary

4.1.6 *Lesson Plan Six*

Timing	Experimenter Activity	Learner Activity	Interaction
40’	In the lead-in part, information on collocations was elicited. The experimenter conducted the matching exercise. Cloze conversation and a dialogue were showed. And then, a worksheet was delivered.	Learners responded to the matching exercise. They worked on the conversation and the dialogue. They then completed the worksheet individually.	Experimenter to learners, learner to learners and individual.

Chart 6: Lesson plan six summary

4.2 *Observation Sheets*

Six charts are presented below. Each of them contains relevant information from each observation sheet (from one to six). The chart provides specific information about: date, events, comments/questions, and other.

4.2.1 *Observation Sheet One*

Dd.mm.yy	Events	Comments/Questions	Other
30.10.13	He does not exploit the text. Learners work with the designed exercise (HotPot). Pair work with a worksheet (Murphy).	Good rapport with learners (mimio and HP exercise). The screen (the font) was too small.	He needs to provide more examples. He needs to make comprehension checks. In general, he needs to be more assertive when giving instructions.

Chart 1: Observation sheet one relevance

4.2.2 *Observation Sheet Two*

Dd.mm.yy	Events	Comments/Questions	Other
06.11.13	Drag and drop exercise 'used to' Present Perfect and P.P. Continuous cloze	Exercise did not work with IWB. Too slow. 3 sentences in 5 minutes Slow, only a few people participate.	The IWB allows learners to work directly on the board. They like it. Sort of slow until learners get used to it.

Chart 2: Observation sheet two relevance

4.2.3 *Observation Sheet Three*

Dd.mm.yy	Events	Comments/Questions	Other
13.11.13	Digital exercise (computer problem-*Displays Preferences*)	Too low volume (me). Needs to use American English intonation and more examples.	

Chart 3: Observation sheet three relevance

4.2.4 *Observation Sheet Four*

Dd.mm.yy	Events	Comments/Questions	Other
20.11.13	Comic strip to be described in pairs.	Needs to project his voice while giving instructions (?). Needs to ask more than one group. Needs to make transitions from one activity to another.	

Chart 4: Observation sheet four relevance

4.2.5 *Observation Sheet Five*

Dd.mm.yy	Events	Comments/Questions	Other
27.11.13	Dictation on questions to preview an image. Work in the text. Rehearse a dialogue and infer	Clear instructions (?). Needs to check questions asking 2 learners. Should have asked for more examples.	

	conditionals. Exercises on conditional; choral repetition.	Prepare different forms of clauses for the topic (?). Freddy needs to cover possible questions (?) and previous knowledge. More examples of situations are needed.	

Chart 5: Observation sheet five relevance

4.2.6 *Observation Sheet Six*

Dd.mm.yy	Events	Comments/Questions	Other
03.12.13	Explains individual work on vocabulary Check exercise written (worksheet ex. 2) Group work (second conversation)	Should have modified the Hungarian version to a Spanish version. Too much time for 11 sentences. Only one example Seems he didn't read previous observations. Should ask learners for their own examples. A good lesson that can be improved!!	

Chart 6: Observation sheet six relevance

4.3 *Learners' Feedback*

The chart below shows the learners' evaluation of each class during six weeks. A common query was included in the questionnaires the learners received. That question was: *How would you evaluate the class today?*

Week	**1** (Very low)	**2**	**3**	**4**	**5** (Very high)
One			7.14%	28.57%	64.29%
Two			16.67%	58.33%	25%
Three			15.38%	53.85%	30.77%
Four			27.27%	45.45%	27.27%
Five				18.18%	81.82%
Six				36.36%	63.64%

4.4 *Experimenter Reflections*

4.4.1 *Experimenter Reflection One*

Although I tried not to spend much time in setting up the technology, it took me some minutes to do it. So, the class instructor lent me a hand with the learners while I was setting up the technology. However, the learners cooperated well while working on the IWB. Unfortunately, I tried to skip the revision of exercise three (Murphy). Finally, careful monitoring was needed when learners were working in pairs.

4.4.2 *Experimenter Reflection Two*

First, I felt that I needed more time. Second, I did not realize that I had to distribute the handouts to the learners individually. On the other hand, it was a shame that the dragging function was not possible to be used on the IWB with the exercise of 'used to'. Thus, the learners had to come to the laptop to use the track pad. However, they were able to write with the Stylus in order to complete the fill-in the gap exercise, which in this case was a dialogue. Finally, it is necessary that the learner, who is writing on the IWB, be placed to his/her left, so that the 'writing pad' can be easily seen.

4.4.3 *Experimenter Reflection Three*

I have to mention that there was an inconvenient with technology in class. All the equipment was ready to be used, but the image of the desktop was frozen on the

board. Therefore, I had to allow the learners to use the laptop, so that they could practice with the exercise using Jmatch. Then, I have to mention that the learners cooperated well at the time of eliciting in the lead-in. Finally, I liked the moment I was explaining the difference between having something done and getting something done.

4.4.4 *Experimenter Reflection Four*

The warm-up was kind of long. That is, it was planned for five minutes, but it took more than ten minutes. On the other hand, the learners participated answering the questions from the digital quiz using the IWB. Then, after having given them the worksheets, I was monitoring and answering individual questions from the learners, as required. Nevertheless, the class instructor took over the class suddenly and proceeded to check the answers with the whole class; of course, I felt uncomfortable, but I managed the situation. Also, when I was trying to give the questionnaires to the learners, I was not allowed to do so; instead, the class instructor administered the questionnaires the next day.

4.4.5 *Experimenter Reflection Five*

The class instructor recommended that the learners should have practiced the dialogue from the book orally. So, I managed to do it in pairs. Also, I was about to teach the second conditional, but the class instructor mentioned that I should make use of previous knowledge. Then, that is what I did when asking them about zero, first, second, third, and mixed conditionals. Because of time constraints, only one

learner did the digital exercise of dragging and dropping by using the wireless mouse. Finally, the learners really enjoyed the activity called 'Chains of events' by Penny Ur.

4.4.6 *Experimenter Reflection Six*

I had to make a change at the beginning of the class: to use the worksheet in the lead-in part. The objective was to save time and get all the equipment ready to use. The learners responded well to the matching exercise. In the first conversation, I could write with the stylus device the answers of the learners. In the second conversation, I could circle the answers of the learners. Also, I liked the activity of the first conversation because I could identify some mistakes of the learners when speaking, and then I could give them feedback (when the learner finished speaking, I underlined the mistakes with the stylus, so that the feedback was given to the whole class as well, the words were: entrance, step and love). Finally, I can say that, in this last lesson, I was more comfortable and confident. One suggestion of the class instructor was that I had to adapt the worksheet taken from an author to the context of the class, and also to take advantage of the whole page with exercises.

4.5 *Questionnaires*

As it was previously explained, the learners filled in the questionnaire. Then, each learner questionnaire was assigned a number (from one to fourteen), which was written at the right-top corner of the paper.

4.5.1 *Questionnaire One (Pre-survey)*

This form elicited information on the use of *Technology in ELT*.

Question	**1** (Very low)	**2**	**3**	**4**	**5** (Very high)	**Over 5**
1. How would you evaluate the usage of an IWB in the class?				14.29%	85.71%	4.85
2. Dou you think this kind of technology should be used more often in the classroom?			14.29%	7.14%	78.57%	4.64
3. Do you agree or disagree with the following statement? Technology has a negative impact when learning English.	(Strongly Disagree) 35.71%	(Disagree) 28.57%	(Neutral) 7.14%	(Agree) 14.29%	(Strongly Agree) 14.29%	2.43

In response to question one: *How would you evaluate the usage of an Interactive Whiteboard in the class?* Twelve learners (85.71%) answered *very high,* and two learners (14.29%), *high.* In response to question two: *Dou you think this kind of technology should be used more often in the classroom?* Eleven learners (78.57%) answered *very high,* one learner (7.14%), *high*; and two learners (14.29%), *neutral.* In response to question three: *Dou you agree or disagree with the following statement? Technology has a negative impact when learning English.* Five learners (35.71%) answered *strongly disagree,* four learners (28.57%), *disagree,* one learner (7.14%), *neutral,* two learners (14.29%), *agree;* and two learners (14.29%), *strongly agree.*

Another question was: *What is your opinion about using technology in the English classroom? Can you provide examples of the kinds of technology you could benefit from?*

In general terms, the learners' responses were positive opinions. For example, learner one mentioned, "*I like too much this technology. This is very interesting and new option for teachers. The class should be dynamic and funny …*" In addition, learner five said, "*I think the technology is very important in the English classroom, in the administration classroom, in all classrooms. Today we have a technology world*". Regarding some examples: learner six mentioned the Internet. Also, learner nine proposed cellphones.

The following questionnaires, two to nine, have been taken from *Brown, H. Douglas, 2002, pp. [2-61]*:

4.5.2 *Questionnaire Two*

This questionnaire elicited information on *Learner Preferences* when learning English. For example, attitudes, feelings, either group work or solo work (Brown, 2002, p. 2).

	A	**B**	**C**	**D**	
1. I don't mind if people laugh when I speak English.	41.67%	50%	8.33%		I get embarrassed if people laugh when I speak English.
2. I study English outside class, on my own.	25%	58.33%	16.67%		I study English in class only, when the teacher tells me to.
3. I like to get the general idea when I read or listen to English.	41.67%	33.33%	25%		I must understand every word when I read or listen to English.
4. When I make a mistake, I don't get upset because I can learn from my mistakes.	41.67%	25%	33.33%		When I make a mistake, I get upset and feel that I have failed.
5. I enjoy working in groups.	58.33%	16.67%	16.67%	8.33%	I prefer to work alone.

4.5.3 *Questionnaire Three*

This form elicited information on *Slow or Fast?* (Brown, 2002, p. 7). That is the speed of the learner when working on his or her English.

Scale:

1 Very fast

2 Fast

3 In between

4 Slow

5 Very slow

How fast or slow I usually am when I ...	**1**	**2**	**3**	**4**	**5**
1. Read books, magazines, and newspapers in English	8.33%		66.67%	25%	
2. Read textbooks, articles, and reports in English, in my academic field		33.33%	33.33%	25%	8.33%
3. Write an essay or composition in English		8.33%	58.33%	25%	8.33%
4. Take multiple-choice tests in English	8.33%	25%	58.33%	8.33%	
5. Answer tests in English that ask for written sentences or paragraphs		16.67%	66.67%	16.67%	

6. Answer a direct question to me from the teacher, in my English class	25%	50%	25%		
7. Raise my hand when the teacher asks a question in my English class	8.33%	16.67%	58.33%	16.67%	
8. Volunteer to say something in class, when the teacher has not asked me	8.33%	25%	50%	8.33%	8.33%
9. Speak up in a small group in English, in class	16.67%	16.67%	58.33%	8.33%	
10. Answer a question in English from someone outside my classroom		33.33%	58.33%		8.33%

4.5.4 *Questionnaire Four*

This questionnaire elicited information on *Left-Brain and Right-Brain Processing* (Brown, 2002, p. 13).

	1	**2**	**3**	**4**	
1. I try to make decisions based on facts.	7.69%	46.15%	46.15%		I make decisions based on my feelings.
2. I like rules and exact information.	15.38%	46.15%	38.46%		I like general guidelines and uncertain information.
3. I like to solve a problem by first looking at all its parts.	7.69%	30.77%	30.77%	30.77%	I like to solve a problem by looking at the whole problem.
4. I read slowly and try to carefully analyze what I am reading.	30.77%	30.77%	38.46%		I read fast and try to get the general meaning of what I am reading.
5. I like teachers to tell me exactly what to do.	23.08%	30.77%	38.46%	7.69%	I like teachers to give me a lot of freedom to choose what I can do.
6. I like mathematics and science.	30.77%	46.15%	23.08%		I like literature and art.
7. When I listen, I pay attention to people's exact words.	7.69%	23.08%	53.85%	15.38%	When I listen, I pay attention to the overall message.
8. I like multiple-choice tests.	38.46%	38.46%	15.38%	7.69%	I like open-ended essay tests.

4.5.5 *Questionnaire Five*

This form elicited information on *Two Kinds of Motivation* as it is a key factor when learning a foreign language (Brown, 2002, p. 18).

Scale:

4 I strongly agree

3 I somewhat agree

2 I somewhat disagree

1 I strongly disagree

	4	**3**	**2**	**1**
1. I want to learn English well so that I can talk with native speakers of English.	46.15%	38.46%	7.69%	7.69%
2. I have set my own goals for learning English and want to be successful in reaching those goals.	46.15%	23.08%	30.77%	
3. English will help me to get a good job someday.	46.15%	46.15%		7.69%
4. English will help me to be successful in my studies.	53.85%	23.08%	15.38%	7.69%
5. I hope to meet (or have already met) a special friend who speaks English.	38.46%	46.15%	15.38%	
6. I am studying English because it is a required course in my school or university.	61.54%	23.08%	15.38%	
7. I need to pass an English proficiency test (like the TOEFL or an entrance exam).	38.46%	7.69%	46.15%	7.69%
8. My parents want me to learn English, so I'm here to please them.	8.33%	66.67%		25%

9. I am studying English because I want to please my teacher and get good grades.	38.46%	15.38%	30.77%	15.38%
10. I am studying English because most of my friends are good in English.	23.08%	15.38%	46.15%	15.38%

4.5.6 *Questionnaire Six*

This questionnaire elicited information on *Language Ego* (Brown, 2002, p. 31). Brown (2001) summarized the language ego principle as:

> As human beings learn to use a second language, they also develop a new mode of thinking, feeling, and acting –a second identity. The new "language ego," intertwined with the second language, can easily create within the learner a sense of fragility, a defensiveness, and a raising of inhibitions (p. 61).

	1	**2**	**3**	**4**	
1. I don't want to make mistakes because people will laugh at me.	9.09%	27.27%	63.64%		Everyone makes mistakes, so it's ok to try out my English.
2. I must speak perfectly or no one will understand me.	18.18%	63.64%	18.18%		Other people will not care if I make mistakes.
3. If my English is bad, I feel very stupid.		25%	75%		If my English is bad, I still have strong confidence in myself.
4. Classmates who speak English better than I do really bother me.	8.33%	25%	41.67%	25%	Classmates who are better than I am don't bother me.

5. A bad score on a test means that I am not intelligent.	8.33%	8.33%	41.67%	41.67%	A bad score on a test means that I need to study harder next time.
6. When my teacher corrects me, I feel ashamed.	8.33%	41.67%	25%	25%	When my teacher corrects me, I don't feel ashamed.
7. I hate making a fool of myself.	16.67%	16.67%	66.67%		I don't mind making a fool of myself.

4.5.7 *Questionnaire Seven*

This form elicited information on *Pronunciation* (Brown, 2002, p. 43). That pronunciation of the English language learner in relation to: stress (in words), intonation (rising or falling), sounds (in consonants), etc.

Scale:

4 I'm really good here.

3 I'm okay here, but I could work a little on this.

2 I'm not so good here and need to work on this quite a bit.

1 I'm very bad here and need lots of work on this.

	4	**3**	**2**	**1**
1. Pronouncing the words *seat* and *sit*	9.09%	36.36%	45.45%	9.09%
2. Pronouncing the words *sit* and *set*	27.27%	45.45%	18.18%	9.09%
3. Pronouncing the words *set* and *sat*	18.18%	63.64%	9.09%	9.09%
4. Pronouncing the words *not* and *note*	27.27%	54.55%	9.09%	9.09%
5. Pronouncing the words *look* and *Luke*	9.09%	45.45%	36.36%	9.09%
6. Pronouncing the words *nut* and *not*	27.27%	45.45%	27.27%	

7. Pronouncing words with *l* in them (*glass, low, yellow*)	36.36%	36.36%	18.18%	9.09%
8. Pronouncing words with *r* in them (*grass, row, arrow*)		72.73%	27.27%	
9. Pronouncing words with voiced *th* in them (*this, other*)	36.36%	36.36%	18.18%	9.09%
10. Pronouncing words with unvoiced *th* in them (*thin, author*)	9.09%	63.64%	18.18%	9.09%
11. Pronouncing words with *b* in them (*berry, labor*)	9.09%	27.27%	63.64%	
12. Pronouncing words with *v* in them (*very, ever*)	27.27%	36.36%	27.27%	9.09%
13. Pronouncing words with *f* in them (*far, offer, if*)	20%	50%	30%	
14. Putting the correct stress on words like *information, proficiency, capitalize, interesting*		54.55%	36.36%	9.09%
15. Giving correct intonation to questions like *Are you sure?*	9.09%	72.73%	9.09%	9.09%
16. Giving correct intonation to questions like *Where is he?*	9.09%	63.64%	18.18%	9.09%

4.5.8 *Questionnaire Eight*

This questionnaire elicited information about the frequency of using individual learning strategies (Brown, 2002, p. 54), such as: watching movies, practicing pronunciation, reading aloud, and so on.

Scale:

5 Always

4 Often

3 Sometimes

2 Seldom

1 Never

	5	**4**	**3**	**2**	**1**
1. Watch television, listen to radio, and so on (news, other programs)	16.67%	41.67%	33.33%	8.33%	
2. Watch movies, plays, and so on	8.33%	58.33%	25%	8.33%	
3. Listen to other people's conversations	9.09%	18.18%	45.45%	18.18%	9.09%
4. Listen for specific sounds in English when people speak to me		41.67%	41.67%	8.33%	8.33%
5. Listen for specific grammar points (verb tenses, articles, and so on)	8.33%	33.33%	41.67%	16.67%	
6. Practice conversations by myself	25%	33.33%	25%	16.67%	
7. Repeat language from an audiotape		16.67%	58.33%	25%	

8. Practice pronunciation of specific sounds		33.33%	50%	16.67%	
9. Read aloud	8.33%	8.33%	66.67%	16.67%	
10. Skim for the overall topic and message before reading	8.33%	16.67%	58.33%	16.67%	
11. Scan a passage quickly to find specific information	8.33%	16.67%	75%		
12. Figure out the meaning of an unclear passage		20%	70%	10%	
13. Guess meanings of words from the context	8.33%	25%	58.33%	8.33%	
14. Free write on my own (diary, journal, e-mail)		25%	33.33%	16.67%	25%
15. Write several drafts of an academic paper	16.67%		58.33%	25%	
16. Proofread my written work	8.33%	33.33%	33.33%	25%	

4.5.9 *Questionnaire Nine*

This form elicited information about *Extroversion and Introversion* (Brown, 2002, p. 61), which refer to the preferences or characteristics (extroverted or introverted) of the learners in a classroom and outside.

	a	**b**
1. I usually like	Working with other people. 91.67%	Working alone. 8.33%
2. I'm	Easy for people to talk with. 83.33%	Somewhat shy. 16.67%
3. I'm happiest when I'm	With other people. 83.33%	Alone. 16.67%
4. At a party, I	Start conversations with people I don't know. 75%	Wait for someone to talk with me. 25%
5. I solve problems better by	Talking with others about it. 41.67%	Analyzing them on my own. 58.33%
6. In my free time, I prefer	To go out with other people. 66.67%	To stay at home by myself. 33.33%
7. Talking with people I don't know	Is interesting and exciting. 83.33%	Is difficult and makes me tired. 16.67%

8. When I'm by myself I usually feel	Lonely and anxious. 33.33%	Peaceful and calm. 66.67%
9. In a classroom I prefer	Group work with other students. 58.33%	Individual work on my own. 41.67%

4.5.10 *Questionnaire Ten (Post-survey)*

This questionnaire elicited information on the use of *Technology in ELT*.

Question	1	2	3	4	5	Over 5
1. How would you evaluate the usage of an IWB in the class?	(Very low)		9.09%	9.09%	(Very high) 81.82%	4.73
2. Do you think you learn better with an IWB?	(Strongly Disagree)	(Disagree)	(Neutral)	(Agree) 45.45%	(Strongly Agree) 54.55%	4.55
3. Do you agree or disagree with the following statement? Technology has a negative impact when learning English.	(Strongly Disagree) 18.18%	(Disagree) 27.27%	(Neutral) 9.09%	(Agree) 18.18%	(Strongly Agree) 18.18%	2.9

In response to question one: *How would you evaluate the usage of an Interactive Whiteboard in the class?* Nine learners (81.82%) answered *very high,* one learner (9.09%), *high*; and one learner (9.09%), neutral. The response to question two was: six learners (54.55%) answered *strongly agree,* and five learners (45.45%), *agree.* In response to question three: *Dou you agree or disagree with the following statement? Technology has a negative impact when learning English.* Two

learners (18.18%) answered *strongly disagree,* three learners (27.27%), *disagree,* one learner (9.09%), *neutral,* two learners (18.18%), *agree;* and two learners (18.18%), *strongly agree.* One learner (9.09%) did not answer question three.

Another question was: *What is your opinion about using technology in the English classroom? Can you provide examples of the kinds of technology you could benefit from?*

The learners' responses showed a favorable attitude towards this kind of technology, e.g., learner two stated, "*I think using technology is very good because we can learn better with the practice of some exercises in the web*". Furthermore, learner eight replied, "*I think that is good because is more interactive with the learners and it is more funny*". Afterward, learner five mentioned *tablets* as an example of the kinds of technology he or she could benefit from.

V. DISCUSSION

The chapter is composed of five sections. First, the six lessons are described and commented. Then, a discussion summary of them is provided. Second, all observations (6) are described and commented as well. They are then followed by the discussion summary. Third, the description and comments of the learners' feedback is followed by its corresponding summary. Fourth, the learners' questionnaires (from 2 to 9) are described and commented, and of course, they are with their own discussion summary. Finally, this chapter finishes with the description, comments, and summary of both pre-survey and post-survey.

5.1 *Lesson Plans*

5.1.1 *Description and Salient Comments*

For lesson plan one, the lead-in contributed to get into the mood of the class, with having the learners to provide responses. Even though the IWB was at hand, the traditional board was used to teach the difference between article *the* and *no article*. At the moment of installing all the components, so that the IWB could work, especially in calibrating, the learners expressed the *awe* phenomenon as Bax (2006) expressed. Learners worked on a worksheet with exercises that related to the grammar point. Nevertheless, comprehension check was not taken into consideration as Scrivener (1994) suggested. A learner at the IWB solved the digital

exercise. To do so, he or she made use of previous knowledge as Blake (2008) stated.

For lesson plan two, comprehension checks were taken into account as the class instructor suggested and as Scrivener (1994) recommended. For example, *Ricardo, what are you going to do?* When the experimenter was monitoring the work on the worksheet, he could find that some learners had problems with indirect questions. Thus, the experimenter managed to give feedback to some learners, Harmer (2007). Two digital exercises were presented to the learners. The first one, which was on *present perfect vs. present perfect progressive*, was demanding for them. On the contrary, regarding the second exercise about *used to*, the learners demonstrated fast and accurate performance.

For lesson plan three, an example of interactive learning took place when authentic language input was provided. Interactive learning implies the participation of learners, but it also occurs in the participation of learners and the experimenter. In the lead-in part of the lesson, one of the learners asked: How do you say 'cortar el césped'? Then, experimenter's immediate response was *cutting the grass*. In addition, the class instructor mentioned *to mow the lawn*. At that moment, the reception of authentic language input was a constituent of interactive learning, Brown (2007). Five learners answered ten matching sentences. Approximately, two answers were mistaken.

For lesson plan four, a digital quiz, along with the IWB were used. Usually, IWBs are used with published material; however, the experimenter created said quiz as Bax (2006) suggests. The quiz topic was *reported speech* even though the topic of the lesson was *reported questions*. The objective of the digital quiz was to make use of previous knowledge, Blake (2008), from the learners' background. During the solution of the quiz, each learner answered one question from it. In general, there was no difficulty with the solution except for question eight, which asked for the replacement of the word *now* when reporting speech. In relation to exercise three of the worksheet, there was no problem with the matching, except that one vocabulary question from a learner arose. The question was *what is the meaning of vet?* The answer was provided.

For lesson plan five, the topic was explained with the aid of Mimio Studio Software. Regarding the topic, that is, second conditional, the learners showed a positive attitude towards the explanation because the examples were personalized. When participating in the JMix exercise, the learners managed to put the boxes in order from left to right, so that the sentence was syntactically correct. Once a learner made a mistake, he or she received some help from their peers. In the *chain of events* activity, which was learner-centered, learners demonstrated their creativity, Brown (2007).

For lesson plan six, the matching exercise, which related to collocations, was presented to learners. They, in general, showed no difficulty with matching the parts

of the collocations. While working on the cloze conversation, one learner made some pronunciation mistake (the words were: *entrance* and *sport*). Consequently, the experimenter intervened as late as possible as Harmer (2007) suggested. In that case, he waited until the learner finished the activity in order to provide some feedback. Some advantage of cooperative learning, such as altruistic relationships were seen when pairs of learners were working in the creation of a conversation as Brown (2007) expressed.

5.1.2 *Discussion Summary*

When calibrating the IWB, learners expressed the *awe* phenomenon as Bax (2006) expressed. They then collaborated voluntarily while working with it. Also, a voluntary learner was both surprised and cautious at the moment of filling in the gap exercise with the *stylus* (electronic pen). Nevertheless, a laptop configuration problem occurred in one of the lessons. So, the IWB could not be used at that moment.

A learner made a mistake when answering one of the questions from the digital quiz. Then, he or she could receive instant feedback with the IWB. Furthermore, some learners showed a positive attitude towards a personalized digital exercise in one of the last lessons. In the end, from one of the class instructor's comments, learners liked the last lesson in which *vocabulary review* was covered, and both the IWB and Mimio Studio Software were on the *stage*.

5.2 *Observations*

5.2.1 *Description and Salient Comments*

In observation one, good rapport with learners was mentioned. Both remembering and using the names of the learners influenced on that rapport. Also, the experimenter's conception towards the learners considering them as human beings rather than learners ended up in a good rapport with them as well. The size of the letters in the projection of the digital exercise was small. To solve that inconvenient, the experimenter managed to use the keys *command* and *+*. The use of comprehension checks was suggested. Taking that into consideration, what Scrivener (1994) mentioned was applied in subsequent lessons.

In observation two, it was mentioned that learners liked the IWB, and it allowed them to work directly on the board. However, it took them some time to get used to it. It can be inferred that due to that reason, one observation dealt with the slow execution in the present perfect and present perfect progressive exercise, mentioning that a few learners worked on the activity. Also, it was highlighted that a digital exercise did not function. That is right because the dragging and dropping function could not be used when working on the IWB. There was no explanation on what was the cause for that inconvenient with the web-based exercise, which was the software as Moore (2009) stated in the provision of authentic and interactive chances to the learners.

In observation three, the digital exercise was not possible to be projected on the board, so that the learners could have worked on it. Only the desktop projection could be seen, but it was frozen. At that moment, it was not possible to detect the problem. However, the learners could work on the exercise by lending them the laptop in order for them to proceed with the digital exercise. Finally, after the lesson execution, accessing the *Displays Preferences* dialog box and making the corresponding change solved the inconvenient. On the other hand, it was stated that the experimenter's volume was too low. Hence, it could be an indicator of shyness, respect, or personality feature. Also, it was demanded that the experimenter needed to use American English intonation. It should be taken into account that teachers have their own unique characteristics such as the usage of British English intonation.

In observation four, the learners were given a comic strip. They worked in pairs during the activity, which asked them to describe the twelve situations presented on the strip. The activity demanded from the learners to make use of their creativity as Brown (2007) mentioned in learner-centered instruction. It was then recommended that the experimenter should have asked more than one group when learners were giving their descriptions. That observation was helpful because learners might have more time for language practice.

In observation five, before watching an image, learners were asked to listen and copy some questions the experimenter dictated. The class instructor

recommended that those questions needed to be checked by asking two learners. The recommendation might avoid getting wrong answers because of mistakes at the moment of listening to and writing down the experimenter's dictation. Even though Blake (2008) made reference to previous knowledge in a CALL program, the activation of previous knowledge could also be applied in a non-technological stage thanks to the class instructor's suggestion.

In observation six, the learners were given a worksheet which contained some exercises in Hungarian and English languages. Consequently, the class instructor suggested that the worksheet could have been modified to an English version entirely. Besides, regarding the worksheet, the class instructor considered that too much time was given to the learners when working on exercise two of the worksheet. Therefore, it is now understood that the experimenter sets the pace for the learners to work on an activity in the classroom. On the other hand, through the execution of the lessons, the intention of providing or asking for more examples was constant; nevertheless, time-issue attention played a key role, indeed. Eventually, the class instructor indicated that it was a good lesson that could be improved. There is a personal agreement in that sense since things are subject to change and improvement.

5.2.2 *Discussion Summary*

The letters size of digital exercise projection was small. In order to solve that inconvenient, a combination of specific keywords was needed. Even so, learners liked the IWB, and it allowed them to work directly on the traditional board. In one of the lessons, the IWB could not be used due to a laptop configuration issue. On the other hand, a specific activity was used in order to take advantage of the time spent on whole equipment installation. Ultimately, in relation to the activation of previous knowledge, it was applied before using a digital-jumbled-sentence exercise.

5.3 *Learners' Feedback*

5.3.1 *Description and Salient Comments*

There has been a tendency for the learners to evaluate the class in the interval from 3 (neutral), 4 (high) to 5 (very high) during the six weeks. In the evaluation as *neutral*, the highest percentage (27.27%) occurred in week four while the lowest (7.14%), in week one. In the evaluation as *high*, the highest percentage (58.33%) occurred in week two while the lowest (18.18%), in week five. In the evaluation as *very high*, the highest percentage (81.82%) occurred in week five while the lowest (25%), in week two.

In general, 11.08% of the learners evaluated the class as *acceptable*; 40.12% of the learners evaluated the class as *high*; and what is more, 48.80% of the learners evaluated the class as *very high*.

5.3.2 *Discussion Summary*

The evaluations had ranged along an interval between *neutral* and *very high* options. Overall, approximately half of the learners evaluated the class as very high. Also, a considerable amount of learners assessed the class as *high*. To sum up, the global learners' evaluation towards the class was satisfactory.

5.4 *Learners' Questionnaires*

5.4.1 *Description and Salient Comments*

With respect to questionnaire two, which dealt with *Learner Preferences*: 75% of the learners enjoyed working in groups while 25% of the learners preferred to work alone; for that majority, it could be beneficial to work in group activities. A really high percentage, 91.67% of the learners did not mind if people laughed when they spoke English while 8.33% of the learners got embarrassed if people laughed when they spoke English. It meant that, according to Brown (2002), they (91.67%) were indicating they were comfortable taking risks and trying out their English. With reference to motivation, 83.33% studied English outside class, on their own.

With respect to questionnaire three, which dealt with *Learning Styles*: the questionnaire basically measured how fast or slow the learners were. The class obtained 29 out of 50, which meant that, in general, they had *impulsive* style. Brown (2002) provided some advantages and disadvantages for *impulsive style:* for the former - more willing to speak in class, faster reading and better in timed tests; and, for the latter – less accurate in speaking, less accurate in reading and act without thinking enough.

With respect to questionnaire four, which dealt with *Left Brain and Right Brain*: the questionnaire determined the side of the brain of the learners used in an academic setting. The class obtained 20 out of 32, which showed that there was no specific preference for any side. In other words, the learners showed a balance in the usage of the two sides of the brain. Brown (2002) maintained that, "Most of the time, when we are learning something, we use both the left and right brain" (p. 15). For example, when the learners were reading for gist, they used the right side. On the other hand, when the learners were reading for specific information, they used the left side of the brain.

With respect to questionnaire five, which dealt with *Two Kinds of Motivation*, it determined whether the learners were intrinsically motivated or extrinsically motivated. For the first part of the questionnaire, questions 1 to 5, the learners obtained 19 out of 20. It meant that the learners were highly self-motivated. Ninety-two point thirty percent (92.30%) of the learners considered English would help

them to get a good job someday. For the second part of the questionnaire, questions 6 to 10, the learners obtained 15 out of 20. It meant that the learners were not strongly motivated by what others wanted them to do. In general, Brown (2002) highlighted that, "Motivation is one of the most important factors in your success in English" (p. 17).

With respect to questionnaire six, it dealt with *Learning to Take Risks (Language Ego)*. Brown (2002) defined *language ego* as "the way language helps you to understand and express yourself" (p. 30). In this particular case, English is the language taken into account. In general, the learners got 20 out of 28, which was considered as moderate language ego. As an example, 25% considered that if their English was bad, they felt somewhat unintelligent while 75% considered that if their English was bad, they still had strong confidence. On the other hand, 83.34% of the learners mentioned that a low grade on a test meant they needed to study harder for the future. It implied that they were both responsible, and that they were motivated.

With respect to questionnaire seven, it dealt with *The Influence of Your Native Language (pronunciation)*. As a whole, the learners got 47 out of 64, which according to Brown (2002) meant that their pronunciation was good; however, they still had some areas to be worked on (p. 44). For instance, 72.73% of the learners mentioned that they were good at pronouncing *Are you sure?* But they were in need of working on correct intonation. Likewise, 63.64% mentioned that they were good with pronouncing *where is he?* But they were in need of working on correct

intonation as well. In Communicative Language Teaching, there is no emphasis on pronunciation. Thus, it is not a matter of content.

With respect to questionnaire eight, which dealt with *The Individual Learner*, it evaluated the learners in relation to individual learning strategies applied outside classrooms. In general, the learners scored 52 out of 80, which indicated that the learners sometimes used individual strategies. As some examples, 58.33% repeated language from an audiotape; 50% practiced pronunciation of specific sounds; and 66.67% read aloud. Since those three individual learning strategies took place outside class, it could be inferred that there was a motivation level.

With respect to questionnaire nine, *Extroversion and Introversion*, the learners, in general, obtained a score of 7 out of 9, which meant they were somewhat extroverted. For instance, 58.33% preferred group work in a class while 41.67% preferred individual work. Thus, in that case, activities that included group work may function well for the majority. Besides, since 83.33% found interesting and exciting to talk with people they did not know, making use of Communicative Language Teaching may be productive for those English language learners.

5.4.2 *Discussion Summary*

A considerable percentage of learners showed that they were motivated. They then also reflected to be a group with the characteristic of being impulsive, but

with an indicator showing that the usage of the two sides of their brain was in a balance. In relation to intrinsic and extrinsic motivation, learners were high intrinsically motivated, whereas they were not strongly extrinsically motivated.

The vast majority of learners showed to be still confident in English even when making mistakes. Their pronunciation was in a level considered as good. Due to specific English activities done outside class, it could be inferred that learners were motivated. Lastly, learners demonstrated to be extroverted to a moderate extent.

5.5 *Pre-Survey and Post-Survey*

5.5.1 *Pre-Survey: Description and Salient Comments*

For question one, learners were asked to evaluate between 1 (very low) and 5 (very high) the usage of an IWB in the class. The average was 4.85. For question two, they were asked to select a number from 1 (very low) to 5 (very high) when thinking if that kind of technology should be used more often in the classroom. Then, the average was 4.64. For question three, an average of 2.43 was given in the range from 1 (strongly disagree) to 5 (strongly agree) when learners were asked if technology had a negative impact in learning English. In the last question, learners generally gave positive opinions about using technology in the English classroom;

the Internet and *cellphones* were examples of the kind of technology they could benefit from.

5.5.2 *Post-Survey: Description and Salient Comments*

For question one, learners were asked to evaluate between 1 (very low) and 5 (very high) the usage of an IWB in the class. The average was 4.73. For question two, they were asked to select a number from 1 (strongly disagree) to 5 (strongly agree) after thinking if they learned better with an IWB. Then, the average was 4.55. For question three, an average of 2.90 was given in the range from 1 (strongly disagree) to 5 (strongly agree) when learners were asked if technology had a negative impact in learning English. For the last question, learners showed a favorable attitude about using technology in the English class; *tablets* were an example of the kind of technology they could benefit from.

5.5.3 *Pre-Survey and Post-Survey: Discussion Summary*

In question one (how would you evaluate the usage of an IWB in the class?), the average evaluation decreased 0.12 (4.85/5 in pre-survey and 4.73/5 in post-survey). For question two (do you think you learn better with an IWB?), the average result was 4.55 over 5. In contrast to question one, in question three (does technology have a negative impact when learning English?), the average number increased 0.47 (2.43/5 in pre-survey and 2.90/5 in post-survey). All in all, learners

showed a positive attitude towards technology and were motivated by the usage of it in the English classroom.

VI. CONCLUSIONS AND LIMITATIONS

6.1 *Conclusions*

Motivation was present in many learners. It was high in relation to intrinsic motivation. In general, motivation remained constant in all sessions. Based on their writings in the first and last questionnaires, learners demonstrated such a feeling of motivation by the usage of positive expressions.

Learners showed favorable attitude towards this technology device usage in class. They used to participate voluntarily and happily to the board even though they were afraid of making mistakes with the technology. The learners' general class evaluation was satisfactory. In other words, learners liked the lessons executed by the experimenter.

The IWB allowed learners to work directly on a traditional board; therefore, learners could use both normal board and eraser. Also, they could make use of the Stylus and no eraser because there was the option to use it virtually on the board. With the dragging and dropping functions, learners could work on some activities by performing those functions directly with the aid of the Stylus.

Learners may have preferred vocabulary lesson than grammar in an English technological class. It seemed that for the learners, they learned vocabulary faster

and more joyfully than grammatical aspects of the language. For instance, the fast and fun learning that may have taken place in collocations rather than in conditionals.

In relation to the Research Question, which is, *Will the usage of an Interactive Whiteboard have a positive or negative influence on learners' motivation?* The conclusion is that *the usage of an Interactive Whiteboard had a positive influence on learners' motivation* because the indicators obtained in questions *three* and *five* of the pre- and post- questionnaires are high.

The impact of the interactive whiteboard, IWB, in the intermediate EFL course was positive. The learners provided feedback that showed their careful attention to the IWB. Even though the awe phenomenon was really audible at the beginning of the execution of the lessons, learners showed a constant motivation until the last lesson in the EFL classroom.

With the results obtained throughout the questionnaires, it could be perceived the influence of the IWB on learners' motivation. Learners showed two types of motivation, such as intrinsic and extrinsic motivation. The IWB could be conceived as extrinsic motivation factor on learners' motivation. The incorporation of new technology into the EFL class has been a challenge for the experimenter. However, the majority of learners considered that they learned better with an IWB.

Last but not least, the experimenter *does* consider the IWB as a facilitator tool in the learning and teaching process.

6.2 *Limitations of the Study & Suggestions for Future Research*

The study included only an experimental group. It would have been a better study if a control group had been included as well.

The number of learners was fourteen in the study. However, it could have been a larger number of them, so that a wide variety of responses might have been obtained.

PUCE is a private university in Ecuador. Private and public university learners could behave differently in the classroom. Thus, the variety of learners may be included in the study.

The treatment applied could have been done during two or three months at least. Also, the time allowed for each lesson plan execution was forty-five minutes. It could have been good to have a sixty-minute class. The time for the treatment was not exactly adequate.

Learners, who were technology friendly, could have found no problems with the integration of the technology into the class, whereas learners, who had not been familiar with it, may have had difficulties in the class.

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Appendix A (Six Lesson Plans)

Lesson Plan for Week One (30 October 2013)

Topic: Article *the* vs. no article

Objective: Students will be able to know when to use the article 'the' and when not to use it.

Level: Fifth

Resources:

- Open Mind (Teacher's Edition), Level 3, Unit 3
- Open Mind (Workbook), Level 3, Unit 3
- English Grammar in Use (intermediate)
- Mimio Teach
- Hot Potatoes Software (JMatch)
- Computer and Data Projector

Timing	Teacher Activity	Student Activity	Interaction
5'	Lead-in: Elicit information (Student Book Ex. A) Where is he from? How old is he? What is he doing?		T→SS
10'	Board: I don't like ads. I don't like the ads in my neighborhood.	(Student Book Ex. B)	T→SS
10'	Hot Potatoes Exercise using JMatch. Exercise to be monitored.	Student answers on the IWB	S→SS
15'	Deliver handout on Grammar and monitor.	Students work in pairs	S→S
5'	Handout student survey	Students fill in the survey	

Lesson Plan for Week Two (6th November 2013)

Topic: Revision of- *Indirect Questions*, *Present Perfect vs. Present Perfect Progressive* and *Used to*-.

Objective: Students will be able to be more familiar with the topics of the revision.

Level: Fifth

Resources:

- Open Mind (Teacher's Edition), Level 3, Unit 3
- Worksheet *Indirect Questions Exercise* by Bob Wilson
- Mimio Teach
- Hot Potatoes Software
- Computer and Data Projector

Timing	Teacher Activity	Student Activity	Interaction
5'	Warm up: Elicit information and examples on the topics of the revision. • Indirect Questions • Present Perfect vs. Present Perfect Progressive • Used to		T→SS
15'	NB **Make comprehension checks** Deliver handout on *Indirect Questions Exercise* Monitor and Check answers	Students work individually	S→S
10'	Hot Potatoes Exercise on *Present Perfect vs. Present Perfect Progressive*.	Student answers on the IWB	S→SS
5'	Exercise about *used to*	Student answers on the IWB	S→SS
10'	Give student surveys	Students fill in the surveys	S→S

Lesson Plan for Week Three (13 November 2013)

Topic: have/get something done

Objective: Students will be able to differentiate when to use have/get something done.

Level: Fifth

Resources:

- Open Mind (Teacher's Edition), Level 3, Unit 4
- Open Mind (Workbook), Level 3, Unit 4
- English Grammar in Use (intermediate)
- Mimio Teach
- Hot Potatoes Software (JMatch)
- Computer and Data Projector

Timing	Teacher Activity	Student Activity	Interaction
5'	Lead-in: Eliciting 'Give me examples of jobs in the home you do yourself: cleaning, cooking, vacuuming, etc.' 'Give me examples of jobs you pay someone else to do: cutting your hair, repairing electronic equipment, etc.' 'Why don't you do these jobs yourselves?'		T→SS
15'	(Student Book Ex. A p. 39) (Image and title): 'What does this place offer?' 'Read the ad and answer questions 1 & 2 in B' Board: I had my appendix taken out. (HSD) I'm going to get my nails manicured. (GSD)	Students take notes on the explanation on the board.	T→SS
10'	Give worksheet (Murphy Ex. 1, 2, 3), monitor and check answers	Students work on the grammar worksheet	S→S
10'	Hot Potatoes Exercise using JMatch.	Students work on the IWB	S→SS
5'	Give student surveys		

Lesson Plan for Week Four (20 November 2013)

Topic: reported questions

Objective: Students will be able to report questions.

Level: Fifth

Resources:

- Open Mind (Teacher's Edition), Level 3, Unit 5
- Finnie, R. et al. (2010). Top Grammar. Helbling Languages.
- Worksheet from *La famille de Mafalda,* Tome 7, p.7
- Mimio Teach
- Hot Potatoes Software (JQuiz)
- Computer and Data Projector

Timing	Teacher Activity	Student Activity	Interaction
5'	Warm-up: Describing the situations in the pictures (12).		S→S
10'	Digital quiz using JQuiz.	Students work on the IWB	S→SS
15'	Grammar explanation and examples about reported questions.	Students take notes and ask questions.	T→SS
10'	Give worksheet (Rachel Finnie Ex. 1, 2, 3), monitor and check answers	Students work with the worksheet	S
5'	Give surveys to the students		

Lesson Plan for Week Five (27 November 2013)

Topic: second conditional

Objective: Students will be able to build and use a second conditional sentence.

Level: Fifth

Resources:

- Open Mind (Teacher's Edition), Level 3, Unit 6
- Raimes, A. (1990). *How English Works: A Grammar Handbook with Readings.* USA: CUP.
- Ur, P. (1988). *Grammar practice activities: a practical guide for teachers.* UK: CUP.
- Wireless Logitech mouse
- Mimio Teach and Mimio Studio Software
- Hot Potatoes Software (JMix)
- Computer and Data Projector

Timing	Teacher Activity	Student Activity	Interaction
5'	Lead-in: Eliciting from the image. Where are these two people? Who are they? What are they going to do? What are they talking about? How do they feel?		T→SS S
2'	Exercise A: "Read the dialogue and answer the question: Why is Austin worried?"		S
5'	Exercise B: "Underline *if sentences* from dialogue and complete the table"		S
5'	Grammar explanation and examples using Mimio Studio Software.		T→SS
10'	Digital exercise using JMix.	Students work on the IWB	S→SS
10'	Oral exercise worksheet from A. Raimes	Students work with the worksheet	S→S
3'	Chains of events activity from Penny Ur		S→SS
5'	Give surveys to the students		

Lesson Plan for Week Six (3rd December 2013)

Topic: Vocabulary review of units 1 and 5

Objective: Students will be able to identify and to make use of collocations.

Level: Fifth

Resources:

- Open Mind (Teacher's Edition), Level 3, Units 1 and 5
- Worksheet by Kobold Muhely, 2008.
- Wireless Logitech mouse
- Mimio Teach and Mimio Studio Software
- Hot Potatoes Software (JMatch)
- Computer and Data Projector

Timing	Teacher Activity	Student Activity	Interaction
3'	Lead-in: Eliciting information about collocation.		T→SS S→S
3'	Monitoring digital exercise using JMatch.	Students work with the IWB	S→SS
2'	Show cloze conversation		S→SS
10'	Provide guidelines for creating a conversation. Monitor and check.		S→S
7'	Present the dialogue for appropriate words to be circled		S→SS
10'	Give worksheet on collocations	Students work with the worksheet	S
5'	Give surveys to the students		

Appendix B (Observation Sheet Format)

BOX 22.1.1: OBSERVATION SHEET 1

Time	*Events*	*Comments/Questions*

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Source: Ur, P. (1996). *A Course in Language Teaching: Practice and Theory*. Cambridge, UK: Cambridge University Press.